De Beers
Group of Companies

Memorandum

TO: [redacted]
FRO[redacted]
RE: Water Quality of North and South Granny Creek
DATE: 31 May 2014
CC:

Greetings:

There has been a concern raised that the Victor Mine has affected the water quality of North and South Granny Creek (Granny Creeks) and that the water is not safe to drink. This letter and the data provided in the attachments are provided to show that the water quality in the Granny Creeks generally meets accepted drinking water standards for Ontario. However, it should be noted that no water in Ontario should be directly consumed from any river, creek, or lake unless some type of water treatment occurs. This is because the water may have bacteria, giardia, viruses and other organisms, which may adversely affect the quality of water and cause harm to humans. The general rule of thumb is that river/lake water should be boiled for a minimum of 1 minute to make it safe to drink.

There are many different guidelines for water in Ontario. Below is a discussion of some of the guidelines and objectives.

PWQO – Provincial Water Quality Objectives (Ontario) – PWQO is based on the lowest effect concentration reported for any of the above endpoints with an added safety factor. Additional information on taste and odor in water, tainting of fish flesh, impacts on wildlife and recreation, if available, is taken into consideration and may influence the final PWQO value. Draft scientific criteria documents for the development of PWQOs are distributed for international scientific peer review.

IPWQO – Interim Provincial Water Quality Objectives (Ontario) – Interim PWQO is established when there is insufficient toxicological information to prepare a PWQO.

CEQG – Canadian Environmental Quality Guidelines – Guidelines put

forth by the Canadian Council or Resource and Environment Ministers for the guideline for the protection of freshwater life, agricultural water use for irrigation, drinking water, recreational water, aesthetics and industrial water supplies.

CDWQ – Canadian Drinking Water Quality Guidelines – The guidelines are based on current, published scientific research related to health effects, aesthetic effects, and operational considerations. Health based guidelines are established based on comprehensive review of the known health effects associated with each contaminant on exposure levels and on the availability of treatment and analytical technologies.

ODWQO – Ontario Drinking Water Quality Objectives – These objectives are based primarily on the CDWQ but Ontario has established some unique Aesthetic Objectives for colour, DOC, sulphates etc.

MAC – Maximum Acceptable Concentration

IMAC – Interim Maximum Acceptable Concentration

An excel spread sheet has been prepared for the samples taken at the confluence of the Granny Creeks just upstream from where they discharge into the Naysh. When De Beers samples this water, they do not sample the water for drinking water parameters rather the water is sampled as per permit conditions set forth by the Ministry of Environment. For normal drinking water samples, De Beers would sample for bacteria such as E-Coli and Total Coliform.

The data indicates that the majority of the elements meet the 7 different standards in the spreadsheet. For TSS or Total Suspended Solids, the sample on July 3, 2012 was 37.2 mg/L versus the Provincial Water Quality Objective (PWQO) of 15 mg/L. Elevated TSS in the creeks and rivers around Victor are common and are not an indication of poor water quality but are indicative of erosion of the stream banks. It is also apparent that the Iron levels at the confluence are elevated and are above the PWQO. This is also common in the area as muskeg is naturally high in iron and the water from the Granny Creeks drains from muskeg. The upstream sampling locations at the Granny Creeks, Naysh River and the Attawapiskat River are all naturally high in Iron. Iron is considered an aesthetic water quality component. It causes laundry to

turn red and some individuals do not like the taste of elevated iron in their drinking water. Two samples have silver concentrations over the PWQO with the rest of the samples below detection limits. It is common for background samples to have elevated silver concentrations above PWQO in the creeks and rivers around Victor. With the samples at the confluence being slightly above PWQO, this would not negatively affect the water quality of the Creek.

Total Mercury (unfiltered) and Methyl Mercury (unfiltered) levels for the confluence of the Granny Creeks are substantially lower than all of the objectives and guidelines indicated in the spreadsheet (refer to graphs). The Canadian Council Ministries of Environment (CCME) Protection of Aquatic Life produces a guideline for Total Mercury and Methyl Mercury and the sampling results are 1/10th of the guidelines. For the Canadian Drinking water Quality Summary, the Total Mercury is about 1/100th of the guideline. This data indicates that the Total Mercury and Methyl Mercury values at the confluence are substantially lower than any Provincial or Federal guidelines.

In conclusion, the water at the confluence meets Provincial Water Quality Objectives for the parameters listed on the excel spreadsheet with the exception of Iron and in two instances of Silver. Iron and silver are historically higher than PWQO in back ground conditions around the Victor Mine site and in the James Bay lowlands. These two parameters are not monitored under drinking water standards.

Water Quality at the Confluence of North/South Granny Creek

Date	pH-L	pH-IH	Temp-Field °C	Chloride-Lab mg/L	Sulphate mg/L	P-T mg/L	N-NH3 mg/L	NH3 un-ion mg/L	TDS mg/L	TSS mg/L	As-D mg/L	As-T mg/L	Be-D mg/L	Be-T mg/L	Cd-D mg/L	Cd-T mg/L	Ca-D mg/L	Ca-T mg/L	Co-D mg/L	Co-T mg/L
28-Jan-10	6.93	6.7	-1	6.52	2.1	0.0214	0.11	<0.002	160	1.3	<0.001	<0.001	<0.005	<0.005	<0.0001	0.00012	20.5	22.6	<0.0001	0.00021
8-May-10	7.04	7.1	1.3	1.6	<1	0.0774	0.027	<0.002	70	7.4	<0.001	<0.001	<0.005	<0.005	<0.0001	<0.0001	7.39	7.15	<0.0001	<0.0001
7-Jul-10	6.93	7.3	23	3.36	<1	0.011	0.021	<0.002	70	3	<0.001	<0.001	<0.005	<0.005	<0.0001	<0.0001	19.5	19.1	<0.0001	0.00017
10-Oct-10	7.47	7.66	6.7	4.25	2.6	0.0063	<0.01	<0.002	50	2.2	<0.001	<0.001	<0.005	<0.005	<0.0001	<0.0001	10.2	11	<0.0001	0.00014
26-Jan-11	7.37	6.65	-0.1	3.64	1.3	0.0042	0.051	<0.002	140	2.4	<0.001	<0.001	<0.005	<0.005	<0.0001	<0.0001	19.6	20.6	<0.0001	0.00014
5-Apr-11	7.77	7.15	-0.9	5.3	2.7	0.008	0.068	<0.002	230	6	<0.001	<0.001	<0.005	<0.005	<0.0001	<0.0001	27.4	30.7	0.00010	0.00019
5-Jul-11	7.87	7.25	18.6	5.67	5.4	<0.002	0.044	<0.002	130	3	<0.001	<0.001	<0.005	<0.005	<0.0001	<0.0001	18.3	20.1	0.00082	0.00071
13-Oct-11	7.64	7.79	11.0	5.03	1.2	0.012	0.041	<0.002	100	4.5	0.0019	<0.001	<0.005	<0.005	<0.0001	<0.0001	13.4	18.5	<0.0001	0.00017
10-Jan-12	7.68	7.42	-0.9	6.6	3.1	0.012	0.071	<0.002	260	3	<0.001	<0.001	<0.005	<0.005	<0.0001	<0.0001	29	31.5	<0.0001	0.00014
3-Apr-12	7.26	6.54	-0.3	3.31	3.7	0.0272	0.019	<0.002	<25	4	<0.001	<0.001	<0.005	<0.005	<0.0001	<0.0001	11.5	12.4	<0.0001	<0.0001
3-Jul-12	7.62	7.79	18.5	1.9	1.8	0.0242	<0.01	<0.002	50	37.2	<0.001	<0.001	<0.005	<0.005	<0.0001	<0.0001	9.94	11.9	<0.0001	0.00052
9-Oct-12	7.45	7.47	4	7.34	11.8	0.002	<0.01	<0.002	80	4.60	<0.001	<0.001	<0.005	<0.005	<0.0001	<0.0001	13.7	16.2	<0.0001	<0.0001
7-Jan-13	7.62	7.01	-1	4.16	4.3	0.0104	0.092	<0.002	130	5.4	<0.001	<0.001	<0.005	<0.005	<0.0001	<0.0001	20.2	22.4	<0.0001	<0.0001
2-Apr-13	7.53	7.27	-0.7	6.55	3.6	0.0109	0.037	<0.002	100	4.2	<0.001	<0.001	<0.005	<0.005	<0.0001	0.00012	28.6	30.8	0.00013	0.00019
2-Jul-13	7.27	7.54	21.2	2.96	3.2	0.0194	0.018	<0.002	120	3	<0.001	<0.001	<0.005	<0.005	<0.0001	<0.0001	12.3	13	0.00023	0.00032
11-Oct-13	7.71	7.73	7.3	14.6	9.1	0.0145	<0.01	<0.002	140	0.8	<0.001	<0.001	<0.005	<0.005	<0.00009	<0.00009	21.5	21.6	<0.0001	<0.0001
14-Jan-14	7.98	7.12	-0.8	6.23	2.5	0.015	0.066	<0.002	120	3.6	<0.001	<0.001	<0.005	<0.005	<0.00009	<0.00009	26.4	24.5	<0.0001	0.00020
PWQO								0.02		15		0.1		0.01/1.1		0.0002				0.0009
IPWQO												0.005				0.0001/0.0005				
CEQG								0.019				0.005				0.000017				
CDWQ (MAC)												0.01				0.005				
ODWQO (MAC)																0.005				
ODWQO (IMAC)												0.025								
CCME Protection Aquatic Life																				
Minimum	6.93	6.54	-1	1.6	1	0.002	0.01	0.002	25	0.8	0.001	0.001	0.005	0.005	0.00009	0.00009	7.39	7.15	0.0001	0.0001
Average	7.479	7.26	6.2294118	5.23647059	3.55294	0.0163	0.041	0.002	116	5.6235	0.00105	0.001	0.005	0.005	9.88235E-05	0.000101176	18.2	19.7	0.000152	0.000212
Maximum	7.98	7.79	23	14.6	11.8	0.0774	0.11	0.002	260	37.2	0.0019	0.001	0.005	0.005	0.0001	0.00012	29	31.5	0.00082	0.00071

PWQO - Provinicial Water Quality Objective (Ontario)

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ODWQO (1994) - Ontario Drinking Water Quality Objectives

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Water Quality at the Confluence of North/South Granny Creek

Date	Cr-D mg/L	Cr-T mg/L	Cu-D mg/L	Cu-T mg/L	Fe-D mg/L	Fe-T mg/L	Total Mercury UnFiltered ng/L	Total Mercury Filtered ng/L	Methyl Mercury UnFiltered ng/L	Methyl Mercury Filtered ng/L	Mg-D mg/L	Mg-T mg/L	Mn-D mg/L	Mn-T mg/L	Mo-D mg/L	Mo-T mg/L	Ni-D mg/L	Ni-T mg/L	Pb-D mg/L	Pb-T mg/L
28-Jan-10	<0.0008	<0.0008	<0.001	<0.001	0.347	0.576	1.24	0.89	0.0889	0.3129	4.27	4.27	0.0117	0.0146	<0.001	<0.001	<0.001	0.0015	<0.001	<0.001
8-May-10	<0.0008	<0.0008	<0.001	0.0013	0.14	0.379	2.08	1.31	0.0932	0.07	1.08	1.17	0.0027	0.0096	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
7-Jul-10	<0.0008	<0.0008	<0.001	<0.001	0.16	0.393	1.2311	0.8345	0.1503	0.1124	3.1	3.41	<0.001	0.0185	<0.001	<0.001	0.001	0.0011	<0.001	<0.001
10-Oct-10	<0.0008	<0.0008	<0.001	<0.001	0.259	0.471	1.71	1.23	0.1358	0.1045	1.66	1.71	0.0048	0.0151	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
26-Jan-11	<0.001	<0.001	<0.001	<0.001	0.607	0.933	1.46	0.89	0.157	0.0783	1.72	2.4	0.0189	0.0206	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
5-Apr-11	<0.0008	<0.0008	<0.001	0.0011	0.334	1.17	1.28	1.19	non-dect	detect	4.72	5.17	0.0069	0.0246	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
5-Jul-11	0.0026	<0.0008	<0.001	<0.001	0.201	0.425	2.34	1.63	0.3865	0.0573	4.33	5.26	<0.001	0.0191	<0.001	<0.001	0.0040	0.0033	<0.001	<0.001
13-Oct-11	<0.0008	<0.0008	<0.001	<0.001	0.283	0.351		1.24		0.048	3.14	2.91	0.0085	0.0166	<0.001	<0.001	<0.001	0.0030	<0.001	<0.001
10-Jan-12	<0.0008	<0.0008	<0.001	<0.001	0.426	0.685	1.59	0.85	0.1707	0.0672	5.15	5.51	0.0189	0.0235	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
3-Apr-12	<0.001	<0.001	<0.001	<0.001	0.237	0.364	2.74	1.77	0.119	0.075	1.94	2.13	0.0085	0.0132	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
3-Jul-12	<0.001	0.0018	<0.001	0.0011	0.351	1.5	2.46	1.59	0.27	0.18	1.68	2.61	0.0033	0.0992	<0.001	<0.001	<0.001	0.0013	<0.001	<0.001
9-Oct-12	<0.0008	<0.0008	<0.001	<0.001	0.25	0.543	2.62	1.54	0.177	0.125	4.73	5.79	<0.001	0.0194	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.001
7-Jan-13	<0.0008	<0.0008	<0.001	<0.001	0.545	0.784	2.93	1.87	0.068	0.135	5.69	7.07	0.0207	0.0271	<0.001	<0.001	<0.001	<0.001	<0.0001	<0.001
2-Apr-13	0.0023	0.0010	<0.001	0.0019	0.344	0.688	0.95	0.53	0.102	0.057	5.88	6.35		0.0203	<0.001	<0.001	0.0025	0.0010	<0.0001	<0.001
2-Jul-13	<0.0008	<0.0008	<0.001	<0.001	0.401	0.701	1.66	1	0.273	<0.02	2.31	2.27	0.0049	0.0152	<0.001	<0.001	<0.001	<0.001	0.00033	<0.001
11-Oct-13	<0.001	<0.001	<0.001	<0.001	0.223	0.301	1.1	0.68	0.27	0.182	5.28	5.25	0.0021	0.0088	<0.001	<0.001	0.0010	0.0011	<0.0001	<0.001
14-Jan-14	<0.001	<0.001	<0.001	0.0015	0.336	1.2					5.71	5.75	0.0124	0.030	<0.001	<0.001	0.0012	0.0031	<0.0001	<0.001
PWQO				0.005		0.3	200											0.025		0.025
IPWQO				0.001/0.005																0.005
CEQG		0.0089		0.004		0.3	26		4									0.025-0.15		0.001-0.007
CDWQ (MAC)		0.05					1000													0.01
ODWQO (MAC)		0.05																		0.01
ODWQO (IMAC)																				
CCME Protection Aquatic Life							26		4											
Minimum	0.0008	0.0008	0.001	0.001	0.14	0.301	0.95	0.53	0.068	0.02	1.08	1.17	0.001	0.0088	0.001	0.001	0.001	0.001	0.0001	0.001
Average	0.001053	0.000918	0.001	0.00111	0.3202	0.6744	1.82607333	1.19028125	0.176	0.108	3.67	4.061	0.00796	0.0233	0.001	0.001	0.00128	0.0014353	0.0007	0.001
Maximum	0.0026	0.0018	0.001	0.0019	0.607	1.5	2.93	1.87	0.3865	0.3129	5.88	7.07	0.0207	0.0992	0.001	0.001	0.004	0.0033	0.001	0.001

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Water Quality at the Confluence of North/South Granny Creek

Date	Ti-D mg/L	Ti-T mg/L	Ag-D mg/L	Ag-T mg/L	Na-D mg/L	Na-T mg/L	Sr-D mg/L	Sr-T mg/L	V-D mg/L	V-T mg/L	Zn-D mg/L	Zn-T mg/L	Alk-M mg/L	Cond-Lab µS/cm	Hard-T mg/L	N-NO3 mg/L	N-NO2 mg/L
28-Jan-10	0.0011	0.0033	<0.0001	<0.0001	5.9	5.8	0.0388	0.0401	<0.001	<0.001	0.0012	0.002	66.7	164	68.5	<0.1	<0.03
8-May-10	<0.001	0.011	<0.0001	<0.0001	2.56	2.37	0.138	0.136	<0.001	<0.001	<0.001	<0.001	24	55.1	25.7	<0.1	<0.03
7-Jul-10	<0.001	0.0041	<0.0001	<0.0001	4.16	4.29	0.0323	0.0358	<0.001	<0.001	<0.001	<0.001	51.3	126	58	<0.1	<0.03
10-Oct-10	<0.001	0.0038	<0.0001	<0.0001	4.78	4.63	0.0218	0.0216	<0.001	<0.001	0.0015	0.0012	36.4	94	34.1	<0.1	<0.03
26-Jan-11	0.0012	0.0042	<0.0001	<0.0001			0.025	0.028	<0.001	<0.001	0.0025	0.0056	57	122	68.1	<0.1	<0.03
5-Apr-11	<0.001	0.0089	<0.0001	<0.0001	6.75	5.77	0.0471	0.0483	<0.001	<0.001	0.0018	0.0033	89.4	221	94.9	0.21	<0.03
5-Jul-11	0.0044	0.0095	<0.0001	<0.0001	12	14.4	0.0408	0.0454	<0.001	<0.001	<0.001	<0.001	69.3	175	63	<0.1	<0.03
13-Oct-11	<0.001	0.0030	<0.0001	<0.0001	7.16	5.22	0.0364	0.0308	0.0010	<0.001	<0.001	0.0014	58.1	146	56.2	<0.1	<0.03
10-Jan-12	0.0015	0.0065	<0.0001	0.00058	5.6	5.91	0.0613	0.0709	<0.001	<0.001	0.0013	<0.001	91.4	223	103	0.1	<0.03
3-Apr-12	<0.001	0.0044	<0.0001	0.00075	3.05	3.31	0.0179	0.0229	<0.001	<0.001	<0.001	0.0011	38.2	112	31	<0.1	<0.03
3-Jul-12	0.0012	0.046	<0.0001	<0.0001	2.78	2.86	0.0143	0.0209	<0.001	0.0021	<0.001	0.0068	29.8	78.2	37.3	<0.1	<0.03
9-Oct-12	0.0012	0.0049	<0.0001	<0.0001	9.24	10.1	0.0532	0.0565	<0.001	<0.001	0.0010	0.0022	42.7	143	57.4	<0.1	<0.03
7-Jan-13	0.0012	0.0060	<0.0001	<0.0001	4.7	5.28	0.0606	0.0696	<0.001	<0.001	0.0018	0.0023	64.3	126	83	<0.1	<0.03
2-Apr-13	0.0012	0.0053	<0.0001	<0.0001	5.77	6.05	0.0587	0.0607	<0.001	<0.001	0.0027	0.0032	92.2	195	102	0.85	<0.03
2-Jul-13	0.0020	0.0051	<0.0001	<0.0001	5.41	5.37	0.0238	0.0246	<0.001	<0.001	0.0012	0.0012	37.7	101		<0.1	<0.03
11-Oct-13	<0.001	0.0019	<0.0001	<0.0001	10.3	10.2	0.0499	0.0481	<0.001	<0.001	<0.001	<0.001	72.7	219		<0.1	<0.03
14-Jan-14	0.0016	0.0075	<0.0001	<0.0001	5.92	6.1	0.0651	0.0645	<0.001	0.0012	<0.001	0.0050	129	226		<0.1	<0.03
PWQO				0.0001								0.03					
IPWQO												0.02					
CEQG												0.03					
CDWQ (MAC)																	
ODWQO (MAC)																	
ODWQO (IMAC)																	
CCME Protection Aquatic Life																	
Minimum	0.001	0.0019	0.0001	0.0001	2.56	2.37	0.0143	0.0209	0.001	0.001	0.001	0.001	24	55.1	25.7	0.1	0.03
Average	0.0014	0.008	0.0001	0.00017	6.01	6.1	0.0462	0.0485	0.001	0.0011	0.0014	0.0024	61.8	148.606	63.01	0.151	0.03
Maximum	0.0044	0.046	0.0001	0.00075	12	14.4	0.138	0.136	0.001	0.0021	0.0027	0.0068	129	226	103	0.85	0.03

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Drinking Water Treatment Methods for Backcountry and Travel Use

This document should only serve as a guide for individuals intending to use untreated or poorly treated water as a drinking water source. This document may also aid travelers and backcountry water users in researching drinking water treatment methods. Except for boiling, few of the water treatment methods are 100% effective in removing all pathogens.

Table Key for Pathogen Removal	
-	not effective
+	low effectiveness
++	moderate effectiveness
+++	high effectiveness
++++	very high effectiveness

Contaminant	Potential Health Effects from Ingestion of Water	Sources of Contaminant in Drinking Water	Methods that may remove some/all of the contaminant				
			REMEMBER: If boiling water is not a feasible option, the most effective pathogen reduction method in untreated or poorly treated drinking water is a combination treatment, using the appropriate filtration and disinfection methods.				
			Boiling (Rolling boil for 1 minute minimum) *	Filtration **	Disinfection***		Combination Filtration and Disinfection****
					Iodine or Chlorine	Chlorine Dioxide	
Protozoa- ***Cryptosporidium***	Gastrointestinal illness (e.g., diarrhea, vomiting, cramps)	Human and animal fecal waste	++++	+++ Absolute ≤ 1.0 micron filter (NSF Standard 53 or 58 rated "cyst reduction / removal" filter)	–	+ to ++	++++ Absolute ≤ 1.0 micron filter (NSF Standard 53 or 58 rated "cyst reduction / removal" filter)
Protozoa- ***Giardia intestinalis*** **(aka** ***Giardia lamblia*****)**	Gastrointestinal illness (e.g., diarrhea, vomiting, cramps)	Human and animal fecal waste	++++	+++ Absolute ≤ 1.0 micron filter (NSF Standard 53 or 58 rated "cyst reduction / removal" filter)	+ to ++	+++	++++ Absolute ≤ 1.0 micron filter (NSF Standard 53 or 58 rated "cyst reduction / removal" filter)
Bacteria- **(e.g.,** ***Campylobacter, Salmonella, Shigella, E. coli*****)**	Gastrointestinal illness (e.g., diarrhea, vomiting, cramps)	Human and animal fecal waste	++++	++ Absolute ≤ 0.3 micron filter	+++	+++	++++ Absolute ≤ 0.3 micron filter
Viruses- **(e.g., enterovirus, hepatitis A, norovirus, rotavirus)**	Gastrointestinal illness (e.g., diarrhea, vomiting, cramps)	Human and animal fecal waste	++++	–	+++	+++	+++

Treatment methods listed above:

* **Boiling** can be used as a pathogen reduction method that should kill all pathogens. Water should be brought to a rolling boil for 1 minute (at altitudes greater than 6,562 feet (>2,000 m), boil water for 3 minutes.)

****Filtration** can be used as a pathogen reduction method against most microorganisms, depending on the pore size of the filter, amount of the contaminant, particle size of the contaminant, and charge of the contaminant particle. Manufacturer's instructions must be followed. More information on selecting an appropriate water filter can be found at www.cdc.gov/crypto/factsheets/filters.html. Only filters that contain a chemical disinfectant matrix will be effective against some viruses.

*** **Disinfection** can be used as a pathogen reduction method against microorganisms. However, contact time, disinfectant concentration, water temperature, water turbidity (cloudiness), water pH, and many other factors can impact the effectiveness of chemical disinfection. The length of time and concentration of disinfectant varies by manufacturer and effectiveness of pathogen reduction depends on the product. Depending on these factors, 100% effectiveness may not be achieved. Manufacturer's instructions must be followed.

**** If boiling water is not possible, a **Combination of Filtration and Chemical Disinfection** is the most effective pathogen reduction method in drinking water for backcountry or travel use. Manufacturer's instructions must be followed.

Other treatment methods can be effective against some of the above pathogens:

- **Ultraviolet Light (UV Light)** can be used as a pathogen reduction method against some microorganisms. The technology requires effective prefiltering due to its dependence on low water turbidity (cloudiness), the correct power delivery, and correct contact times to achieve maximum pathogen reduction. UV might be an effective method for pathogen reduction in untreated or poorly treated water; there is a lack of independent testing data available on specific systems. Manufacturer's instructions must be followed.
- **MIOX®** systems use a salt solution to create mixed oxidants, primarily chlorine. As a result, refer to the category above for chlorine disinfection. Manufacturer's instructions must be followed.

Important: Water that has been disinfected with iodine is **NOT** recommended for pregnant women, people with thyroid problems, those with known hypersensitivity to iodine, or continuous use for more than a few weeks at a time.

In addition to using the appropriate drinking water treatment methods listed above, you can also protect yourself and others from waterborne illness by:

- **Burying human waste 8 inches deep and at least 200 feet away from natural waters.**
- **Practicing good personal hygiene. Wash hands before handling food, eating, and after using the toilet.**