Assessment Study of Water and Wastewater Systems and Associated Water Management Practices at the Nak'azdli First Nation Community

for the
Indian and Nothern Affairs Canada
BC Region

December, 2001

Appendix C

Water Quality Test Results

NAK'AZDLI - WELL WATER SUPPLIED BY VILLAGE OF FT. ST. JAMES

Sampling Year : : 2001

s.19(1)

DATE	LOCATION	GB	TC	FC
01/30/01		52	0	0
06/12/01		0	0	0
06/12/01	Health Centre	0	0	0
06/12/01		10	0	0
06/12/01		0	0	0
06/12/01		0	0	0
07/16/01		0	0	0
07/16/01		0	0	0
07/16/01		160	0	0
07/16/01		142	0	0
07/16/01		2	0	0
07/16/01		10	0	0
07/16/01		0	0	0
07/24/01		0	0	0
08/13/01		0	0	0
08/13/01		680	0	0
08/13/01		1	0	0
08/13/01		50	0	0
08/13/01		0	0	0
08/13/01		0	0	0
08/13/01		1204	0	0
08/23/01		0	0	0
08/23/01		4	0	0

NAKAZDLI 1A - WELL WATER AT WILLIAMS PRAIRIE

Sampling Year : : 2001

s.19(1)

06/12/01	[redacted]		0	0	0
01/30/01			0	0	0

NAK'AZDLI - WELL WATER SUPPLIED BY VILLAGE OF FT. ST. JAMES

Sampling Year : : 2000

s.19(1)

DATE	LOCATION	GB	TC	FC
02/10/00		0	0	0
02/10/00		0	0	0
02/10/00		1554	0	0
02/10/00		0	0	0
10/25/00		0	6	0
10/25/00		0	4	0
10/25/00		2	0	0
10/25/00		80	6	0
10/25/00		2	0	0
10/25/00		62	0	0
10/25/00		0	0	0
10/25/00		252	8	0
10/25/00		0	0	0

NAKAZDLI 1A - WELL WATER AT WILLIAMS PRAIRIE

02/10/00		0	0	0
10/25/00		26	0	0
05/17/00		0	0	0

RESULTS OF ANALYSIS - Water

File No. K3563

s.19(1)

			Main Village				Williams Prairie
			[illegible] End User Nakazdli 99 02 16	[illegible] 1st User Nakazdli 99 02 16	[illegible] Mid User Nakazdli 99 02 16	[illegible] End User Nakazdli 99 02 16	4mi Well Nakazdli IA 99 02 16
Physical Tests							
Colour		(CU)	<5	<5	<5	<5	<5
Conductivity		(umhos/cm)	607	620	622	620	682
Total Dissolved Solids			338	343	345	347	381
Hardness		CaCO3	331	337	328	323	273
pH			7.52	7.65	7.72	7.72	7.77
Turbidity		(NTU)	6.0	1.1	4.6	3.3	1.0
Dissolved Anions							
Alkalinity-Total		CaCO3	319	321	316.	312	304
Chloride	Cl		0.5	0.6	-	-	3.6
Fluoride	F		0.04	0.10	-	-	0.13
Sulphate	SO4		46	46	51	50	78
Total Metals							
Aluminum	T-Al		<0.005	<0.005	-	-	<0.005
Arsenic	T-As		0.0049	0.0037	-	-	0.0014
Barium	T-Ba		0.058	0.060	-	-	0.035
Boron	T-B		<0.05	<0.05	-	-	0.16
Cadmium	T-Cd		<0.0002	<0.0002	-	-	<0.0002
Calcium	T-Ca		52.0	53.4	51.3	50.2	40.8
Chromium	T-Cr		<0.001	<0.001	-	-	<0.001
Copper	T-Cu		<0.001	<0.001	<0.001	<0.001	0.006
Iron	T-Fe		0.53	0.17	0.56	0.36	<0.03
Lead	T-Pb		<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium	T-Mg		48.9	49.6	48.5	47.9	41.5
Manganese	T-Mn		0.031	0.027	0.030	0.030	0.016
Mercury	T-Hg		<0.00005	<0.00005	-	-	0.00011
Potassium	T-K		3.13	3.32	-	-	2.27
Selenium	T-Se		<0.001	<0.001	-	-	<0.001
Sodium	T-Na		13.7	13.6	-	-	55.6
Uranium	T-U		0.00016	0.00016	-	-	0.00181
Zinc	T-Zn		<0.005	<0.005	-	-	0.095

Remarks regarding the analyses appear at the beginning of this report.
Results are expressed as milligrams per litre except for pH. Colour (CU). Conductivity (umhos/cm), and Turbidity (NTU).
< = Less than the detection limit indicated.

Eco-Tech LABORATORIES LTD.

ASSAYING
GEOCHEMISTRY
ANALYTICAL CHEMISTRY
ENVIRONMENTAL TESTING

10041 E. Trans Canada Hwy., R.R. #2, Kamloops, B.C. V2C 6T4
Phone (250) 573-5700 Fax (250) 573-4557
email: ecotech@direct.ca

ANALYTICAL RESULTS - #: E077

DISTRICT OF FORT ST. JAMES
Drawer 640
FORT ST. JAMES, BC
V0J 1P0

4-Feb-00

ATTENTION: Lars Sabbe

SAMPLE IDENTIFICATION: 1 Water Sample Received: January 25, 2000
Sample Dated: January 24, 2000
Labelled: Not Labelled

PARAMETERS	1
pH (units)	7.66
Conductivity (umhos/cm)	610
Color (Co/Pt units)	8
Turbidity (NTU)	7.9
Total Dissolved Solids	387
Hardness (as $CaCO_3$)	289
Alkalinity, Carbonate (as $CaCO_3$)	321
Alkalinity, Bicarbonate (as $CaCO_3$)	<1
Chloride	<0.5
Fluoride	0.10
Nitrogen, NO_2 & NO_3 (as N)	<0.003
Nitrogen, Nitrate (NO_3-N) (as N)	<0.003
Nitrogen, Nitrite (NO_2-N) (as N)	<0.003
Sulfate (as SO_4)	38
Total Coliform (CFU/100mL)	0*
Fecal Coliform (CFU/100mL)	0

NOTE: ** = 22 non-coliform colonies present*

DISTRICT OF FORT ST. JAMES
Results Continued

4-Feb-00
Et.No. E077

PARAMETERS		*CDWG*
DISSOLVED METALS:		
Aluminum	<0.05	-
Antimony	0.04	-
Arsenic	<0.01	*0.025*
Barium	0.04	*1*
Beryllium	<0.001	-
Bismuth	<0.05	-
Boron	3.76	*5*
Cadmium	<0.0005	*0.005*
Calcium	46.4	-
Chromium	<0.004	*0.05*
Cobalt	<0.003	-
Copper	<0.005	*≤1.0*
Iron	<0.03	*≤0.3*
Lanthanum	<0.001	-
Lead	<0.001	*0.01*
Magnesium	42.1	-
Manganese	0.025	*≤0.05*
Molybdenum	<0.005	-
Nickel	<0.01	-
Phosphorus	<0.08	-
Potassium	2.4	-
Selenium	<0.01	*0.01*
Silicon	5.59	-
Sodium	13.2	*≤200*
Silver	<0.01	-
Strontium	0.47	-
Tin	<0.06	-
Titanium	<0.04	-
Vanadium	<0.03	-
Yttrium	<0.005	-
Zinc	<0.002	*≤5.0*

NOTE: ***Results expressed in mg/L unless otherwise indicated.***
CDWG = Canadian Drinking Water Guidelines

ECO-TECH LABORATORIES LTD.
Tom Fletcher, BSc.
Environmental Lab Manager

QUALITY CONTROL DATA

Methods used are based upon those found in "Standard Methods for the Examination of Water and Wastewater" 19th Edition, published by the American Public Health Association, or on US EPA methods from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW846) third Edition. Any other procedures are based on methods accepted by the B.C. Ministry of Environment.

1. QC SOLUTION RUNS:

Parameter	*Method*	*Expected (mg/L)*	*Observed (mg/L)*	*%Deviation*
Conductivity	Conductivity bridge	2.070	1,932	-6.7
Alkalinity	Titration	1,000	1,019	+1.9
Chloride	Titration	55	58.4	+6.2
Fluoride	Colourimetric	0.40	0.409	+2.3
Nitrate + Nitrite	Technicon	0.227	0.228	+0.4

2. DUPLICATE RUNS:

Parameter	*Method*	*Sample ID*	*Run 1 (mg/L)*	*Run 2 (mg/L)*	*Deviation*
Nitrate + Nitrite	Technicon	1	<0.003	<0.003	0

3. Blank Runs:

All blanks for each parameter were found to be less than its detection limit.

NOTE:

The control criteria for reagent blank are that the observed value for each analyte to be determined is less than its detection limit. If this is not achieved during analysis, the process will be terminated and will not be continued until the problem is solved.

End of Report

PARAMETERS	1	*CDWG*
TOTAL METALS:		
Aluminum	<0.05	-
Antimony	0.04	-
Arsenic	<0.01	*0.025*
Barium	0.04	*1*
Beryllium	<0.001	-
Bismuth	<0.05	-
Boron	3.96	*5*
Cadmium	<0.0005	*0.005*
Calcium	46.4	-
Chromium	<0.004	*0.05*
Cobalt	<0.003	-
Copper	0.005	*≤1.0*
Iron	0.575	*≤0.3*
Lanthanum	<0.001	-
Lead	<0.001	*0.01*
Magnesium	42.4	-
Manganese	0.027	*≤0.05*
Molybdenum	<0.005	-
Nickel	<0.01	-
Phosphorus	<0.08	-
Potassium	2.4	-
Selenium	<0.01	*0.01*
Silicon	6.05	-
Sodium	13.3	*≤200*
Silver	<0.01	-
Strontium	0.47	-
Tin	<0.06	-
Titanium	<0.04	-
Vanadium	<0.03	-
Yttrium	<0.005	-
Zinc	0.002	*≤5.0*

NOTE: ***Results expressed in mg/L unless otherwise indicated.***
CDWG = Canadian Drinking Water Guidelines