Walkerville C & D Disposal Site

Walkerville, Pictou County, Nova Scotia

Surface Water and Groundwater Monitoring

Annual Report for Year of 2012

presented to:

Marinus Verhagen Enterprises Ltd.

W.G. Shaw & Associates Ltd.
Consulting Geoscientists
December 28, 2012

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1.0 Introduction

1.1 Introduction

W.G. Shaw & Associates Ltd. has been commissioned by Marinus Verhagen Enterprises Ltd. to conduct the surface water and groundwater quality monitoring within the vicinity of the Walkerville C & D Facility (Facility) located near Walkerville, Pictou County, Nova Scotia. The water monitoring began in the fall of 1999 and the results have been provided to the operator in a series of quarterly and annual reports.

This report is designed to fulfill Section 1.0 - Site Assessment and Design of Appendix 1 of the Terms and Conditions of NSDoE Approval Number 2005-044876-R01.

1.2 Location, Current Property Ownership and Use

The Walkerville C & D Facility is located immediately south of Highway 104, approximately two (2) kilometres east of the Town of New Glasgow, Pictou County, Nova Scotia (Figures #1 and #2).

The property consists of approximately 6 hectares of land that is under lease to Verhagen Enterprises Ltd. of Linacy, Pictou County, Nova Scotia.

1.3 Scope of Project

This report utilized the following sources of information and data.

- site plans and air photos
- information on file with regulatory agencies
- hydrologic, geologic and hydrogeologic maps and reports
- soils reports
- discussions with the C & D site manager
- test pit records
- monitoring well records
- groundwater and surface water information collected from the fall of 1999 to the Winter of 2012

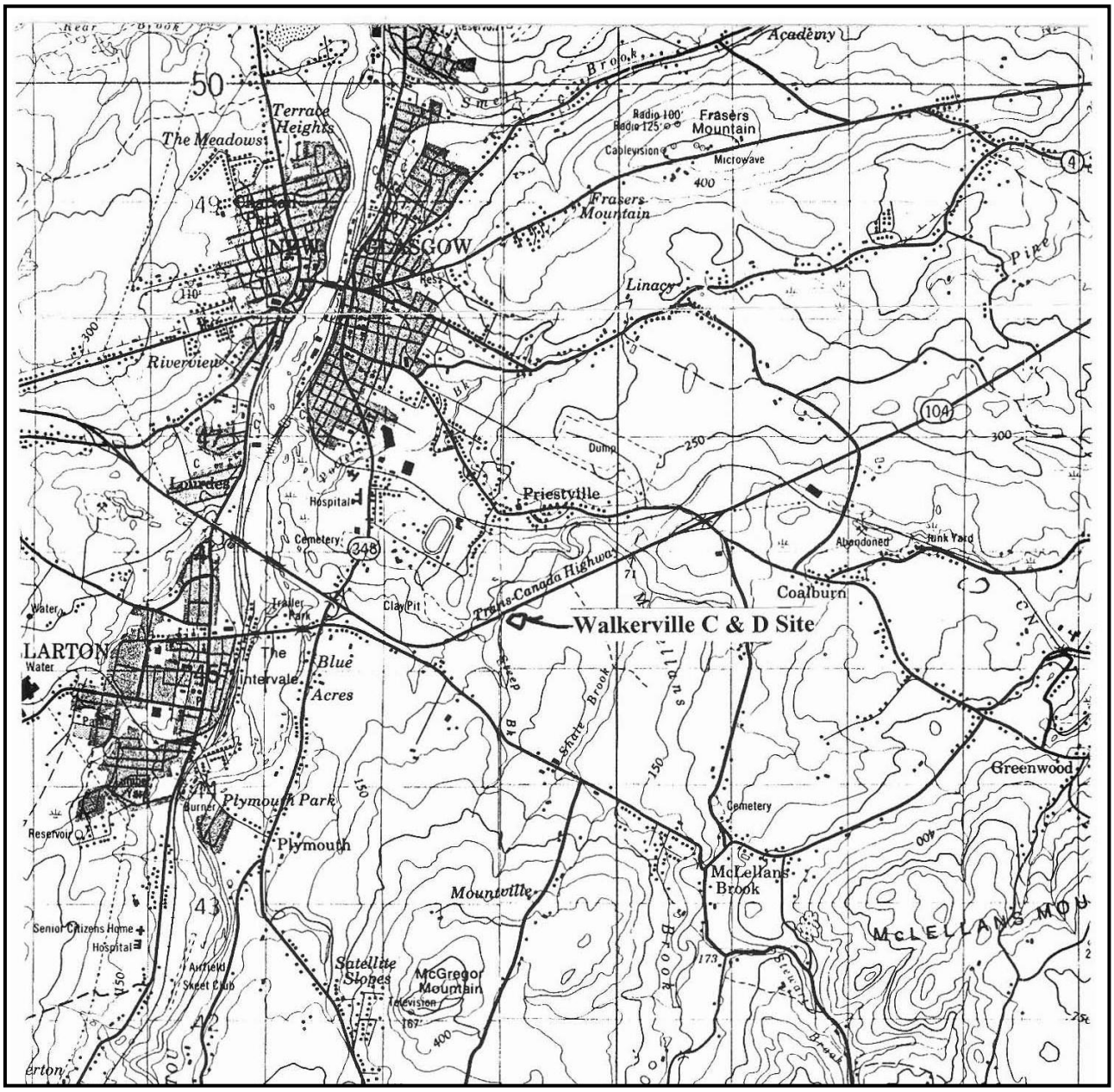


Figure #1 Location of Walkerville C & D Site

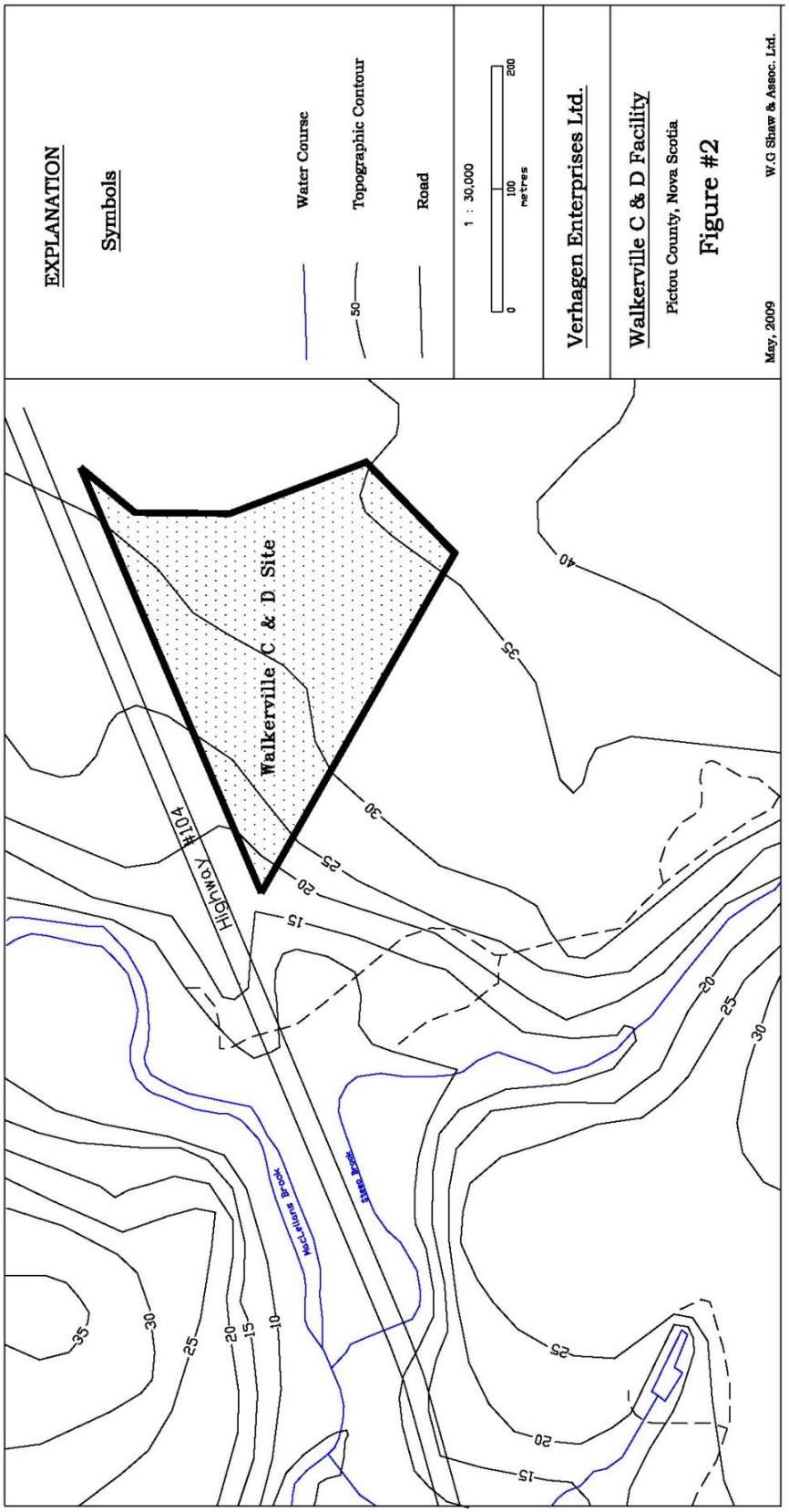


Figure #2 Location of Walkerville C & D Property

2.0 Description of the C & D Operation

The Walkerville C&D Facility encompasses a 6 hectares property that is approximately 300 metres long by 180 metres wide (Figures #2 and #3). The property is the former location of a small, borrow pit and has been subjected to historical wood harvesting.

In the fall of 1999, use of the property as a C & D facility was initiated. The operation is characterized as an above-ground cell-fill style where the C&D material is deposited on the natural ground surface and progressively capped with locally-derived sediment.

Authorized C & D material includes the following:

- wood
- asphalt shingles
- styrofoam insulation
- fibreglass insulation
- plastic sheeting and framing
- PVC materials
- soil (uncontaminated)
- form steel
- aluminium
- metallic materials of various compositions
- paper products used in the construction industry

3.0 General Notes on Landfill Leachate

Leachate is generated at all waste disposal facilities. The type of leachate developed at any given site depends primarily on the composition of the refuse. Municipal waste disposal facilities have many components in common and, as a result, the components of the leachate produced from the refuse zone has common components. Landfill leachate is generated from three (3) primary sources:

1) liquids migrating out of the refuse mass,
2) dissolution of soluble components of the refuse mass, and
3) dissolution of components of the soil and bedrock surrounding the refuse due to changes in the physical and chemical characteristics of subsurface water.

Leachate is developed by downward migrating precipitation or groundwater migrating through the refuse zone. Once leachate leaves the refuse zone, the rate and direction of migration is controlled by the following factors.

- hydraulic conductivity of the solid media (sediments, bedrock)
- effective porosity of the medium
- hydraulic gradient
- heterogeneity within the media

Once leachate is generated, the degree of attenuation of the leachate as it migrates down-gradient from the refuse zone is controlled by the following factors:

- hydrodynamic dispersion
- chemical diffusion
- cation exchange and adsorption reactions on surfaces of clay minerals
- microbial biodegradation
- partial pressure of CO_2
- redox processes

The following are typical solutes that are found in elevated concentrations in surface water and groundwater that has been impacted by landfill leachate.

Major Indicators of Landfill Leachate

bicarbonate	heavy metals
chemical oxygen demand	iron
calcium	nitrogen (nitrate)
carbon (organic)	phosphorous (phosphate)
chloride	potassium
hardness	sodium
total dissolved solids	sulphate
	ammonia

4.0 Description of the Natural Environment

4.1 Landscape and Topography

The Walkerville C & D Facility is located near the middle of the Pictou River Hills Natural Landscape which is characterized by a gently rolling topography that is dissected by dendritic watercourses at elevations of from just above sea level to 40 metres. The site is situated on a gentle, northwest-facing slope and approximately 300 metres south of MacLellan's Brook.

4.2 Climate and Precipitation

Climate

The Walkerville area has a humid, temperate, continental climate that is modified by the proximity to the Northumberland Strait. The mean annual temperature is 6.8 C^{o}. The warmest temperatures are generally in July, with a mean of 18 C^{o}, and the coldest temperatures are in February with a mean of – 6^{o}.

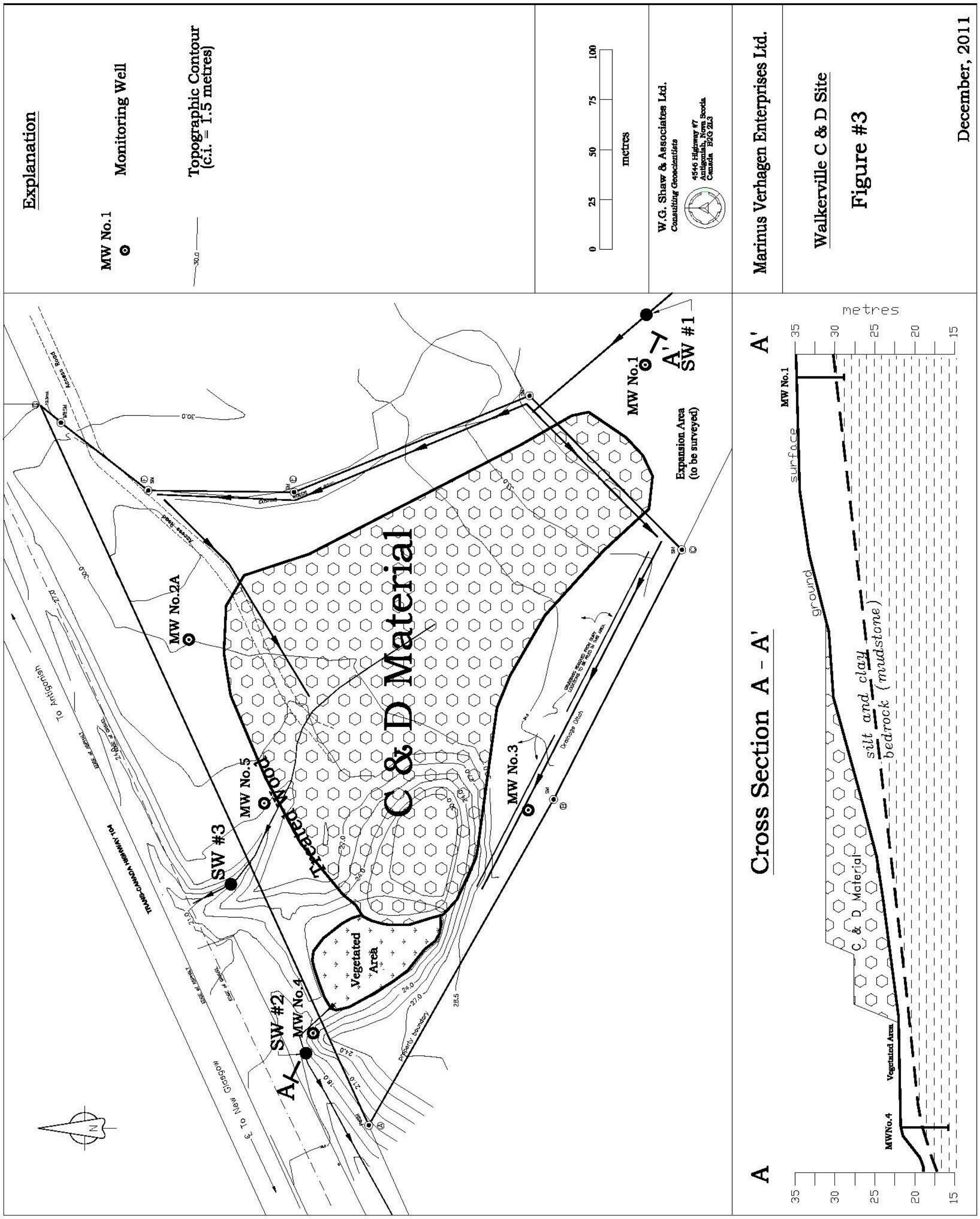
Precipitation

The Walkerville area receives total annual precipitation of 120 to 150 centimetres with a mean annual figure of 138 centimetres. Much of the precipitation and moisture surplus occurs within one distinct wet season from mid-November to mid-March. Snowfall events occur between late November to early April with typical total yearly snowfall accumulations in the order of 3.1 metres. A warming trend from March through April releases the snow pack, and eliminates the frost cover to generate a major surface water runoff and groundwater recharge event from March to May. There is generally a significant dry season that lasts from June to mid-September. The summer season is generally relatively dry with rainfall accumulations of less than 10 centimetres common for the months of June, July and August. The representative weather station for the site is located in Environment Canada Caribou, Pictou County.

4.3 Surface Water

4.3.1 Surface Drainage

Surface runoff from the C&D Facility is by overland flow toward the west and northwest into a swampy area (a fen) that is located at the extreme northwest corner of the C & D Site (Figure #3). This fen serves the purpose of a settling pond by filtering suspended solids from surface water as this water


Explanation
MW No.1
Monitoring Well
Topographic Contour
(c.i. = 1.5 metres)
30.0
0 25 50 75 100
metres
W.G. Shaw & Associates Ltd.
Consulting Geoscientists
Marinus Verhagen Enterprises Ltd.
Walkerville C & D Site
Figure #3
December, 2011
C & D Material
Treated Wood
Vegetated Area
Expansion Area
(to be surveyed)
MW No.1
MW No.2A
MW No.3
MW No.4
MW No.5
SW #1
SW #2
SW #3
A
A'
To Antigonish
To New Glasgow
Trans Canada Highway 104
Access Road
Drainage Ditch
Property Boundary
Cross Section A - A'
metres
35
30
25
20
15
ground surface
silt and clay
bedrock (mudstone)
C & D Material
Vegetated Area
MW No.1
MWNo.4

flows toward the northwest discharge point at SW#2. From the fen, surface runoff is within the highway ditch flowing toward the southwest immediately south of Highway #104 which ultimately discharges into Steep Brook located about 300 metres southwest of the C & D Facility.

4.3.2 Surface Water Quality

Sampling

The three surface water sample locations (SW#1, SW#2 and SW#3) were examined for suitability for sample collection on March 15, June 15, September 18 and December 04 of 2012. Surface water location SW#1 was dry on June 15 and September 18 and SW#2 was dry on June 15. The samples were collected in the appropriate bottles supplied by Maxxam Analytics Inc. and shipped to Maxxam Analytics in Sydney, Nova Scotia for quantitative chemical analyses. The analytical results are provided in tabulated format in Appendix A and the laboratory reports for the December 04, 2012 sampling event are provided in Appendix B.

Background Surface Water Quality

The analysis of water samples collected from location SW#1 during Year 2012 reveals this water to be a fresh (TDS = 13 - 19 mg/L), soft (hardness = 5 – 10 mg/L), slightly acidic (pH = 5.8 – 6.5), calcium-sulphate type of water. All parameters, with the exception of pH, aluminium and iron conform to the Canadian Guidelines for Freshwater Aquatic Life.

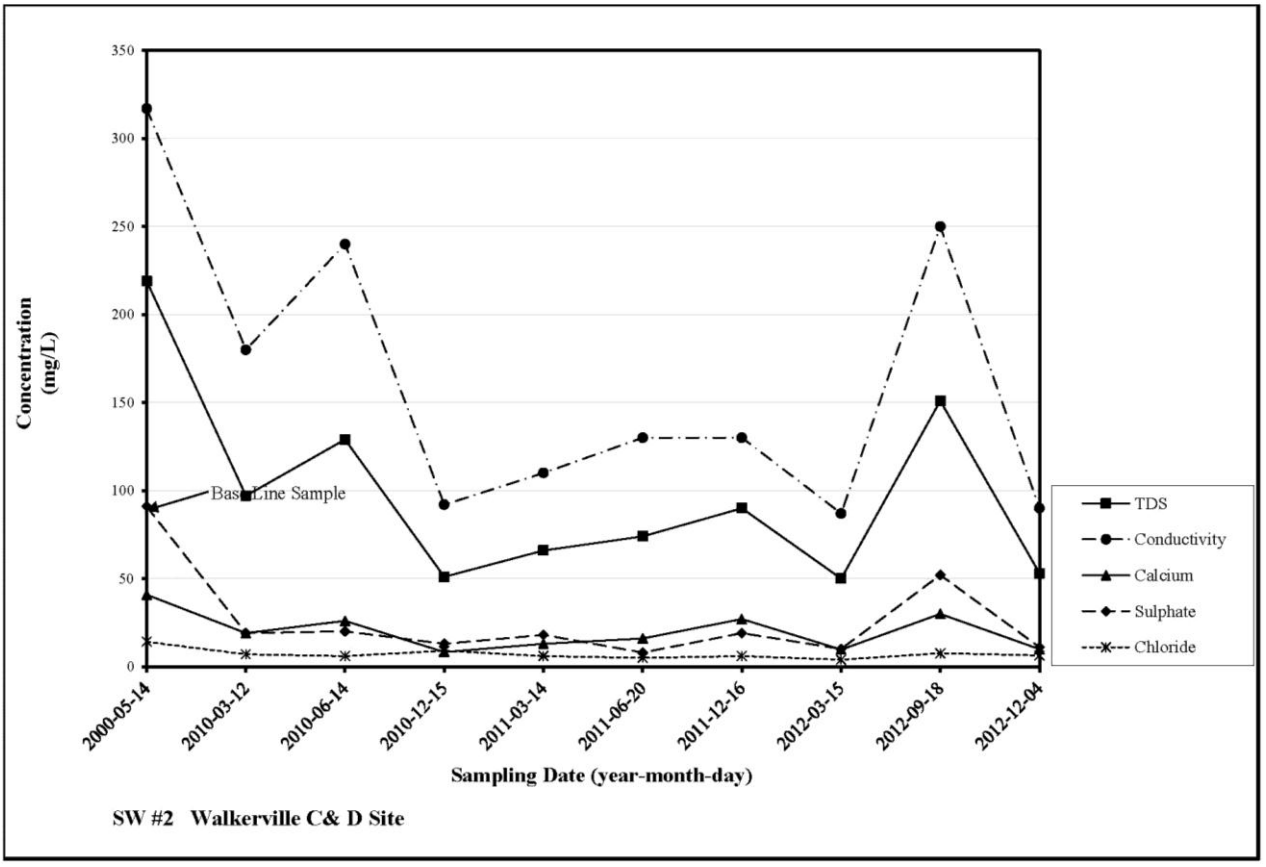
Down-gradient Surface Water Quality

The analyses of water samples collected from SW#2 during Year 2012 indicate this water is a fresh (TDS = 50 – 151 mg/L), soft to moderately soft (hardness = 34–100 mg/L), slightly basic (pH = 7.5 – 7.7), calcium+magnesium-sulphate+bicarbonate type of water.

The analyses of water samples collected from SW#3 during Year 2012 indicate this water is a fresh (TDS = 1,390 – 2,340 mg/L), very hard (hardness = 780 – 1,100 mg/L), slightly basic (pH = 7.8 – 8.0), calcium+magnesium-sulphate+bicarbonate type of water.

With respect to SW#2 and SW#3, all water quality parameters, with the exception of slight and sporadic exceedances of ammonia, aluminium, iron, copper and selenium conform to the Canadian Guidelines for Freshwater Aquatic Life. The elevated concentrations of some of the major inorganic ions in samples collected from SW#3, particularly calcium and sulphate, are probably due to increased contribution from baseflow and from contact with soluble C & D material on the site such as gyproc and concrete.

Graphic Plot #1 provides an illustration of the historical water quality indicators for SW#2. Graphic plots for all surface water locations are provided in Appendix #1.



Graphic Plot #1 Historical Water Quality for SW#2

(Graphic plots for all of the surface water sampling locations are provided in Appendix A)

MW No.1 and SW #1 (facing SE)

MW No.4 (facing W)

MW No.2 (facing NE)

SW #2 (facing W)

MW No.3 (facing S)

SW #3 (facing E)

MW No.4 (facing NE)

4.4 Hydrogeology of the Site

4.4.1 Surficial Sediments (Soils)

The surficial sediments at the facility vary in thickness from 2.4 to 4.0 metres (Figures #3 and #4). These sediments consist predominantly of reddish-brown coloured, silt and clay which contains minor amounts of sand, pebbles and cobbles. Table #1 lists the subsurface material types with the corresponding hydraulic conductivity values.

A podzol zone (true soil) is developed over most of the site and is from 0.1 to 0.5 metres thick.

Table #1 List of hydrogeologic units with corresponding hydraulic conductivity values

Hydrogeologic Unit (HU)	Hydraulic Conductivity cm/sec	Source
Silt & Clay (surficial)	1.7×10^{-7} - 7.9×10^{-6}	shelby tube falling head permeameter
mudstone (bedrock)	2.0×10^{-5} - 6.0×10^{-5}	piezometer response

4.4.2 Bedrock

The bedrock in the map area consists of dark grey to black coloured mudstone and siltstone. These strata are part of the regionally extensive Stellarton Formation which is known to be approximately 2,000 metres thick in this area.

The results of our piezometer response tests indicates hydraulic conductivity values of 2.0×10^{-5} - 6.0×10^{-5} cm/second for the mudstone.

4.4.3 Groundwater Flow Regime

On December 04, 2012 the water level elevations in piezometers were measured and are listed in Table #1. The data indicate the potentiometric surface (watertable) within the bedrock unit is from 0.76 (MW No.4) to 3.90 (MW No.2A) below the ground surface. The derived elevation data from these measurements illustrate a groundwater flow field that is a subdued replica of the topographic contour field (Figure #4). Groundwater flow direction is toward the northwest down a gradient of 0.05 (I_h). Using our maximum measured hydraulic conductivity value of 6.0 x 10^{-5} cm/second for the mudstone HU, and an estimated effective porosity of 3%, groundwater flow velocity would be in the order of 3 to 4 metres per year.

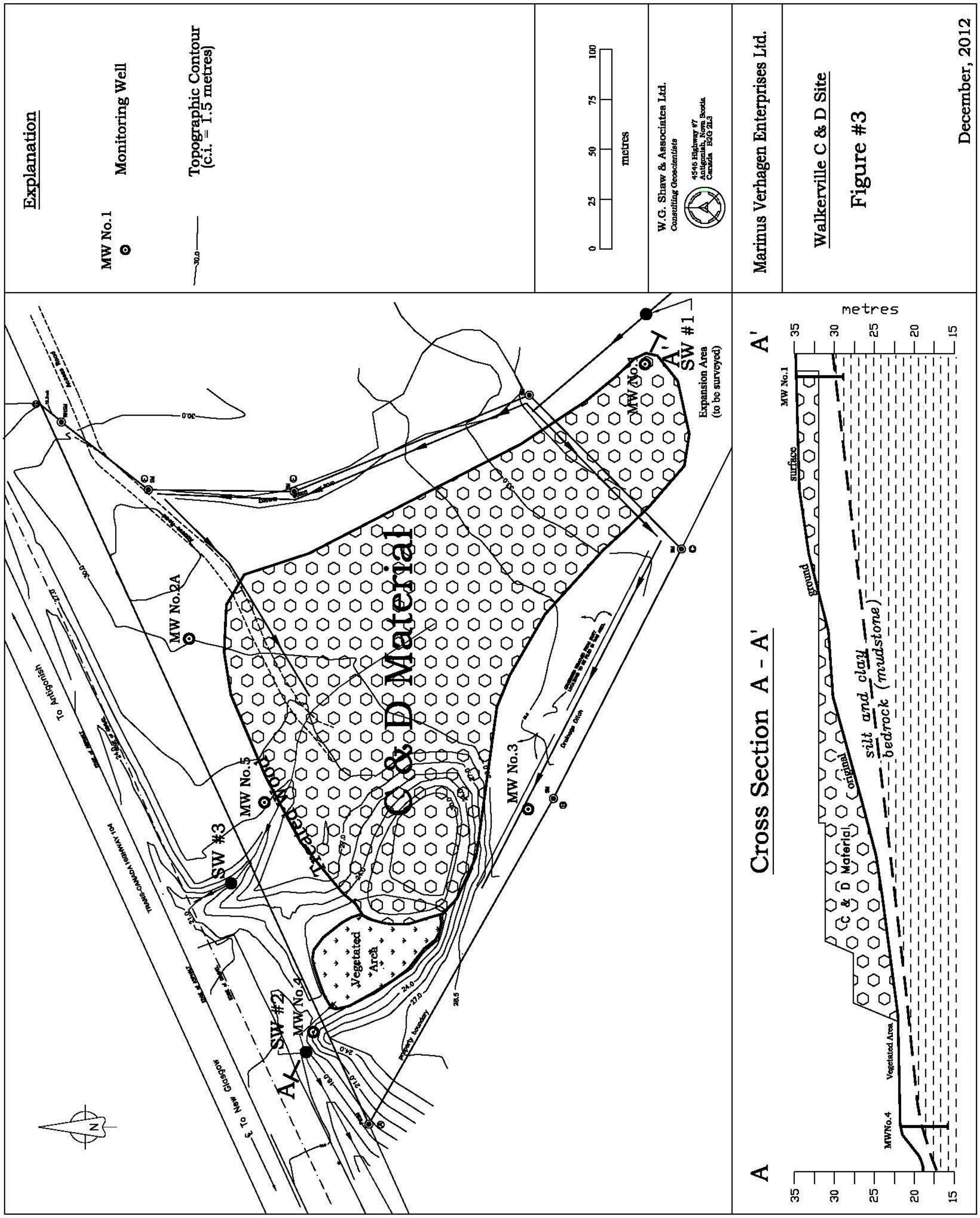
Table #1

Walkerville C & D Site

Monitoring Wells

Well	Date Constructed	Elevation	Total Depth	PVC Screen		Static Water Level			Geologic Log
	yr-mo	metres a.s.l.	metres	Depth metres	Diameter I.D. cm	Level metres	Elevation metres a.s.l.	Date yr-mo-day	
MW No. 1	1999-05	36.9	5.2	2.0 - 5.0	5.0	1.57	35.33	2012-12-04	clay soil : 0.0 - 2.4 m mudstone : 2.4 - 5.2 m
MW No. 2A	2010-01	30.9	12.0	9.0 - 12.0	5.0	3.94	26.96	2012-12-04	clay soil : 0.0 - 3.6 m mudstone : 3.6 - 12.0 m
MW No. 3	1999-05	31.1	5.2	2.0 - 5.0	5.0	3.08	28.02	2012-12-04	clay soil : 0.0 - 2.7 m mudstone : 2.7 - 5.2 m
MW No. 4	1999-05	19.8	5.8	2.6 - 5.6	5.0	0.76	19.04	2012-12-04	clay soil : 0.0 - 2.5 m mudstone : 2.5 - 5.8 m
MW No. 5	2010-01	29.7	12.0	9.0 - 12.0	5.0	3.90	25.80	2012-12-04	clay soil : 0.0 - 4.1 m mudstone : 4.1 - 12.0 m

Note: MW No.2 has been replaced by MW No.2A


Explanation
MW No.1
Monitoring Well
Topographic Contour
(c.i. = 1.5 metres)
0 25 50 75 100
metres
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Marinus Verhagen Enterprises Ltd.
Walkerville C & D Site
Figure #3
December, 2012
C & D Material
Vegetated Area
MW No.1
MW No.2A
MW No.3
MW No.4
MW No.5
SW #1
SW #2
SW #3
A
A'
Expansion Area
(to be surveyed)
To Antigonish
To New Glasgow
Drainage Ditch
property boundary
Cross Section A - A'
metres
35 30 25 20 15
surface
ground
original
silt and clay
bedrock (mudstone)
C & D Material
Vegetated Area
MWNo.4

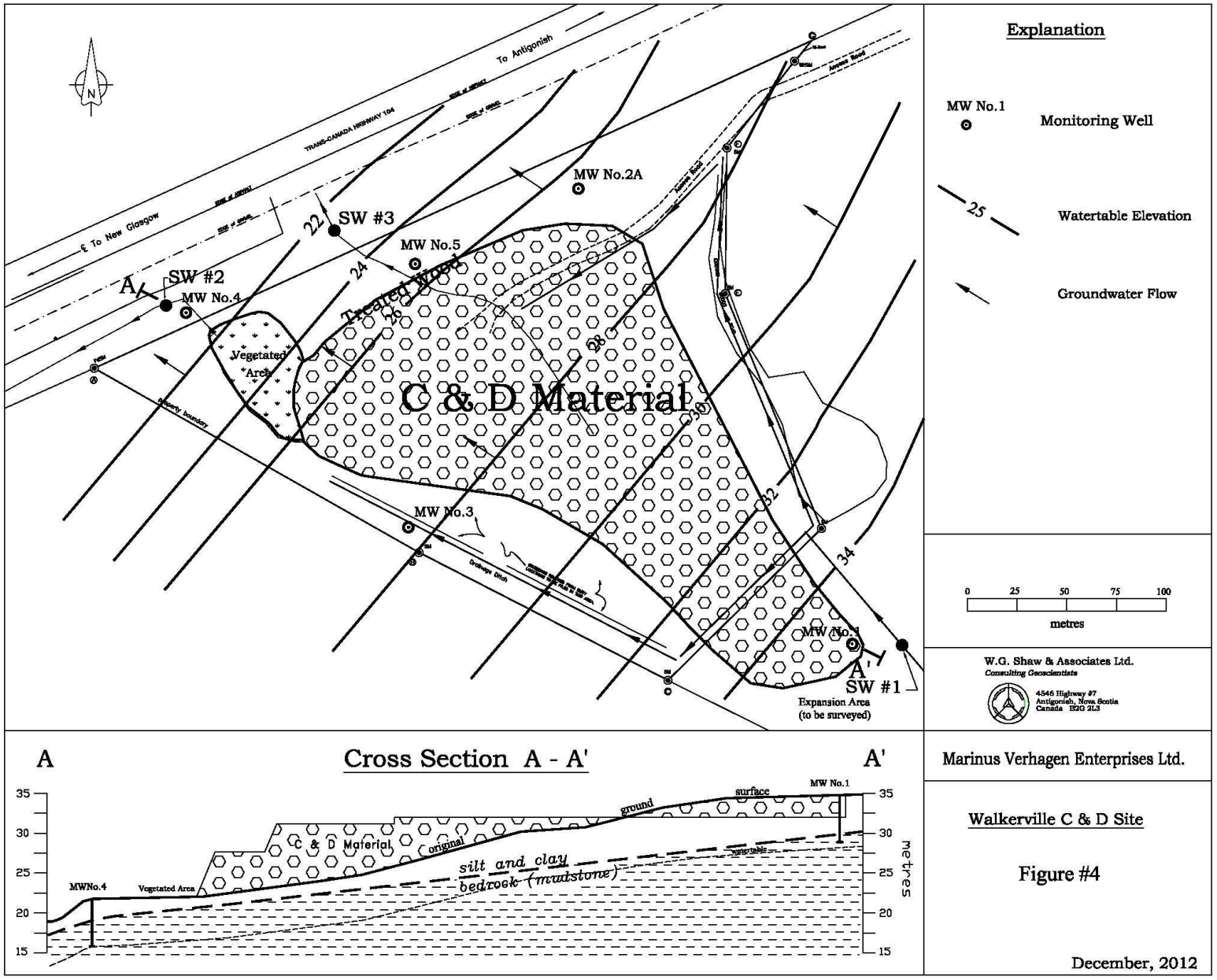
4.4.4 Groundwater Water Quality

Sampling

On March 15, June 15, September 18 and December 04 of 2012, groundwater samples were collected from the five (5) monitoring wells, following standard protocols of well purging. On December 04, MW No.1 was found to be destroyed due to the expansion of the C&D material. The samples were collected in the appropriate bottles supplied by Maxxam Analytics Inc. and promptly shipped to Maxxam Analytics in Sydney, Nova Scotia for quantitative chemical analyses. The results of Year 2012 water quality testing are provided in Appendix A.

Background Groundwater Quality

Background groundwater quality is represented by the analytical results of groundwater samples that were collected from the up-gradient monitoring wells - MW No.1 and MW No.3, during Year 2012. Groundwater collected from these wells is a fresh (TDS = 473 – 681 mg/L), moderately hard (390 – 610 mg/L), slightly basic (pH = 7.6 – 8.0), calcium/magnesium-bicarbonate + calcium-sulphate, type of water. These water samples have slight exceedances of total dissolved solids, iron and manganese. Naturally occurring high iron and manganese concentrations are common for groundwater in the bedrock hydrogeologic units of the area. Both background samples also have high colour and turbidity that exceed the Guidelines.


To Antigonish
TRANS-CANADA HIGHWAY 104
℄ To New Glasgow
Access Road
MW No.2A
SW #3
MW No.5
SW #2
MW No.4
A
Treated Wood
Vegetated Area
C & D Material
Property boundary
Drainage Ditch
MW No.3
MW No.1
A'
SW #1
Expansion Area
(to be surveyed)
22
24
26
28
30
32
34
Explanation
MW No.1
Monitoring Well
25
Watertable Elevation
Groundwater Flow
0
25
50
75
100
metres
W.G. Shaw & Associates Ltd.
Consulting Geoscientists
4546 Highway #7
Antigonish, Nova Scotia
Canada B2G 2L3
A
Cross Section A - A'
A'
MW No.1
surface
ground
C & D Material
original
silt and clay
bedrock (mudstone)
MWNo.4
Vegetated Area
water table
35
30
25
20
15
metres
Marinus Verhagen Enterprises Ltd.
Walkerville C & D Site
Figure #4
December, 2012

Down-Gradient Groundwater Quality

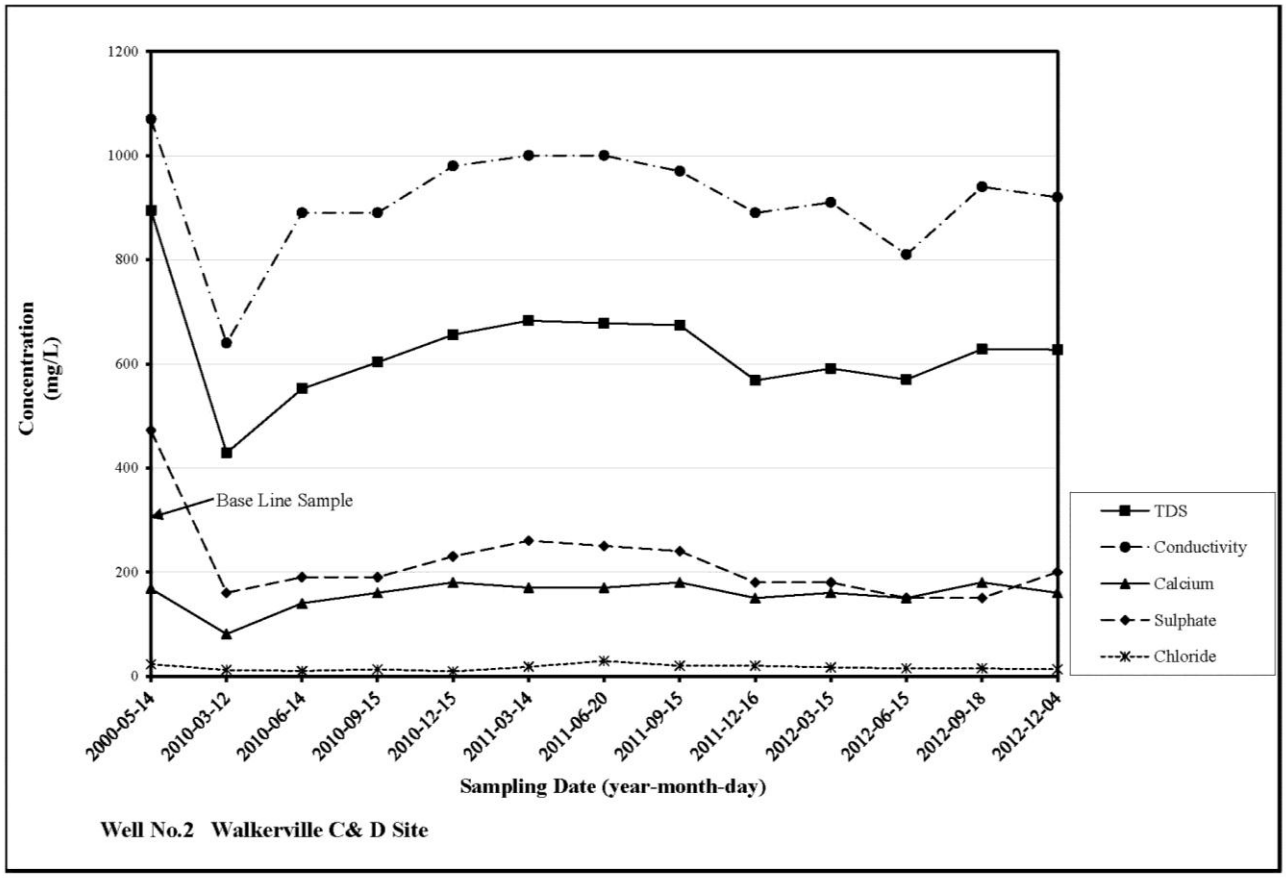
The water samples collected from the down-gradient wells, MW No.2A, MW No.4 and MW No.5, during Year 2012, have bulk water quality signatures that are similar to the up-gradient groundwater. Slight exceedances of total dissolved solids, iron and manganese in the down-gradient groundwater samples are similar to the up-gradient samples.

Elevated values for colour and turbidity, are typical for wells that are sampled intermittently.

The elevated concentrations of some of the major inorganic ions in samples collected from MW No.2A and MW No.5, particularly calcium, bicarbonate and sulphate, are probably due to contact with soluble C & D material on the site such as gyproc and concrete.

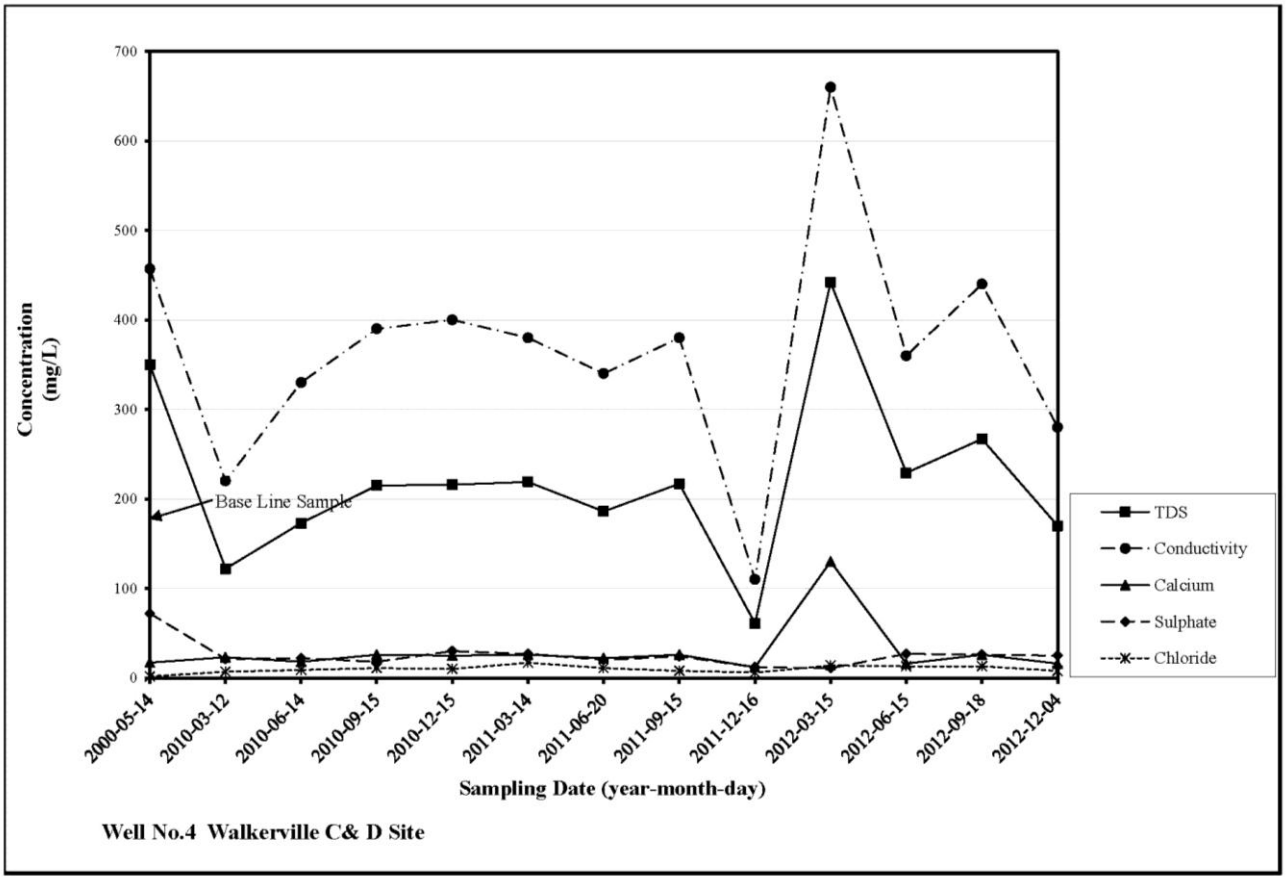
Generally, major ion, groundwater quality has not exhibited significant, year-to-year changes since the Walkerville C&D Facility was initiated in May of 2000 (See Graphic Plots #2 and #3 and Appendix A).

Graphic Plots #2 and #3 provide an illustration of the historical water quality indicators for MW No.2A and MW No.4. Graphic plots for all monitoring wells are provided in Appendix A.



Graphic Plot #2 Historical Water Quality for MW No.2A

(Graphic plots for all of the groundwater sampling locations are provided in Appendix A.)



Graphic Plot #3 Historical Water Quality for MW No.4

(Graphic plots for all of the surface water sampling locations are provided in Appendix A.)

5.0 Potential Receptors

5.1 Surface Water

In the event leachate is generated by the Walkerville C&D Site, there is the potential for this leachate to reach Steep Brook, which ultimately discharges into MacLellan's Brook. Our field observations of this watercourse in Year 2012 did not reveal visible evidence of leachate being introduced to these watercourses.

5.2 Groundwater

The closest water supply wells to the property are several house wells that are located from 500 to 1,000 metres northeast of the facility. These wells are up-gradient from the site and are not considered to be at risk of adverse effects. The closest down-gradient residences are located approximately 500 metres west of the facility. These residences derive their potable water from the Town of New Glasgow central water supply.

6.0 Conclusions

6.1 Surface Water Monitoring

Water samples collected from all of the surface water sample locations, during Year 2012, illustrate typical water quality characteristics of surface waters from the watershed. All parameters, with the exception of slight and sporadic exceedances of aluminium, iron, copper, zinc and nitrite+nitrate, conform to the Canadian Guidelines for Freshwater Aquatic Life. In the down-gradient water samples, the slightly elevated concentrations of some of the major inorganic ions, particularly calcium and sulphate, are probably due to increased contribution from baseflow and from contact with soluble C & D material in the facility such as gyproc and concrete. A comparison of the Year of 2012 water quality monitoring results at locations SW#2 and SW#3 with the historical results indicates there has not been any significant change in the general water quality (Graphic Plot #1 and Appendix A).

6.2 Groundwater Monitoring

The water quality of samples collected from the down-gradient monitoring wells (MW No.2, No.4 and No.5) have slight exceedances of total dissolved solids, iron and manganese which are similar to the up-gradient samples. Elevated values for colour and turbidity, are typical for wells that are sampled intermittently. The water quality of samples collected from the down-gradient monitoring wells indicates there is no significant degradation of groundwater quality due to leachate from the refuse pile.

A comparison of the Year of 2012 water quality monitoring results at the down-gradient well locations with the historical results indicates there has not been any significant change in the general water quality (Graphic Plots #2 and #3; Appendix A).

7.0 Recommendations

7.1 Surface Water Quality Monitoring

The current surface water monitoring locations and schedule adequately monitor water quality within, and surrounding, the Walkerville C&D Site. Quarterly water quality monitoring should be continued.

7.2 Groundwater Quality Monitoring

The decommissioned up-gradient monitoring well – MW No.1, should be replaced with a new monitoring well located approximately 50 metres to the southeast of the location of MW No.1. An additional groundwater monitoring well should be added to the current system to cover the expansion of the C&D Site to the east of its current location.

The two, new monitoring wells should be added to the current schedule of sampling and laboratory analysis.

Appendix A

Tabulated Water Quality Results for Year of 2012 (with historical data)

Walkerville C & D Site SW #1
Pictou County, Nova Scotia

Maxxam ID		Baseline	CH0107	EM9331	IF6805	IX9873	JX7088	MA5626	MV8304	PW4161		Canadian Freshwater Aquatic Life Guidelines
Sampling Date		2000-05-14	2009-04-22	2009-11-28	2010-12-15	2011-03-14	2011-06-20	2011-12-16	2012-03-15	2012-12-04		
COC Number			S 12422	S 11531	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510		
	Units	SW#1	SW#1	SW#1	SW#1	SW#1	SW#1	SW#1	SW#1	SW#1	RDL	
Calculated Parameters												
Anion Sum	me/L		0.140	0.210	0.450	0.200	0.200	0.170	0.110	0.200	N/A	
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	0.9	1.0	2.0	6	ND	ND	ND	ND	ND	1	
Calculated TDS	mg/L	25	13	20	30	16	20	16	13	19	1	
Carb. Alkalinity (calc. as CaCO3)	mg/L	0	ND	ND	ND	ND	ND	ND	ND	ND	1	
Cation Sum	me/L		0.230	0.380	0.490	0.280	0.430	0.320	0.290	0.390	N/A	
Hardness (CaCO3)	mg/L	11	5	10	14	6	9	8	5.8	9.6	1	
Ion Balance (% Difference)	%		24.3	28.8	4.26	16.7	36.5	30.6	45.0	32.2	N/A	
Langelier Index (@ 20C)	N/A		-5.34	-4.87	-3.42	NC	NC	NC	NC	NC		
Langelier Index (@ 4C)	N/A		-5.59	-5.12	-3.67	NC	NC	NC	NC	NC		
Saturation pH (@ 20C)	N/A		11.0	10.7	10.0	NC	NC	NC	NC	NC		
Saturation pH (@ 4C)	N/A		11.3	10.9	10.3	NC	NC	NC	NC	NC		
Inorganics												
Alkalinity (Total as CaCO3)	mg/L	0.9	1.0	2.0	6	ND	ND	ND	ND	ND	1	
Chloride (Cl)	mg/L	6.4	2.0	6.0	9	5	7	6	4.1	6.9	1	
Colour	TCU	72	160	200	110	99	340	170	160	100	5	
Nitrate (N)	mg/L		ND	ND	0.26	ND	ND	ND	ND	ND	0.06	13
Nitrite (N)	mg/L		ND	ND	ND	ND	ND	ND	ND	ND	0.06	0.06
Nitrite + Nitrate	mg/L	ND	ND	ND	0.26	ND	ND	ND	ND	ND	0.06	
Nitrogen (Ammonia Nitrogen)	mg/L	ND	0.16	ND	ND	ND	ND	ND	0.051	0.39	0.05	64
Total Organic Carbon (C)	mg/L	8.6	13.0	16.0	11.0	8.4	28	13	9.4 (1)	12	0.5	
Orthophosphate (P)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	0.06	0.3	
pH	pH	5.9	5.7	5.8	6.6	6.0	5.4	6.7	5.8	6.5	N/A	6.5 - 9.0
Silica (SiO2)	mg/L	2.1	2.2	4.7	3.2	2.0	4.1	3.4	2.7	4.2	0.1	
Sulphate (SO4)	mg/L	6	2	ND	3	3	ND	ND	ND	ND	2	
Turbidity	NTU	3.1	17.0	4.3	6.9	11	2.0	7.0	12	1.9	0.1	
Conductivity	uS/cm	37	24	37	52	30	36	34	26	42	1	
Metals												
Dissolved Aluminum (Al)	ug/L	292	390	610	410	270	790	510	560	300	5.0	100
Dissolved Antimony (Sb)	ug/L		0.40	ND	ND	ND	2.4	5.1	ND	ND	0.40	
Dissolved Arsenic (As)	ug/L	ND	ND	ND	ND	ND	1.1	ND	0.80	ND	0.60	50
Dissolved Barium (Ba)	ug/L	13	9.5	24	20	10	20	16	18	16	0.40	
Dissolved Beryllium (Be)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	0.50	
Dissolved Bismuth (Bi)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	2.0	
Dissolved Boron (B)	ug/L	20	ND	ND	ND	ND	ND	ND	ND	ND	100	1500
Dissolved Cadmium (Cd)	ug/L	ND	0.027	0.045	ND	ND	0.057	ND	0.056	0.026	0.017	0.8
Dissolved Calcium (Ca)	ug/L	2,200	1,300	2,400	3,100	1,400	2,200	2,100	1,400	2,200	100	
Dissolved Chromium (Cr)	ug/L	0.5	ND	3.4	ND	ND	ND	ND	ND	1.3	1.0	20
Dissolved Cobalt (Co)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	1.0	
Dissolved Copper (Cu)	ug/L	ND	ND	ND	ND	ND	ND	ND	2.2	ND	2.0	2
Dissolved Iron (Fe)	ug/L	270	170	840	170	300	1,900	790	860	480	100	300
Dissolved Lead (Pb)	ug/L		ND	ND	ND	ND	1.5	ND	1.0	ND	1.0	1
Dissolved Lithium (Li)	ug/L		ND	1.7	1.1	ND	ND	ND	ND	1.1	1.0	
Dissolved Magnesium (Mg)	ug/L	1,330	400	870	1,400	600	790	700	560	980	100	
Dissolved Manganese (Mn)	ug/L	590	30	70	67	37	60	62	45	48	4.0	
Dissolved Mercury (Hg)	ug/L	ND	0.03	ND			0.026				0.01	0.26
Dissolved Molybdenum (Mo)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	4.0	
Dissolved Nickel (Ni)	ug/L	1	ND	ND	ND	ND	3.2	ND	ND	ND	3.0	65
Dissolved Phosphorus (P)	ug/L		ND	ND	ND	ND	ND	ND	ND	130	100	
Dissolved Potassium (K)	ug/L	1200	800	780	1000	640	880	ND	730	ND	100	
Dissolved Selenium (Se)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	1
Dissolved Silver (Ag)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.10	0.1
Dissolved Sodium (Na)	ug/L	5,100	2,200	3,200	4,300	3,100	3,600	3,000	2,700	3,500	300	
Dissolved Strontium (Sr)	ug/L		6.4	13	18	7.7	12	12	8.3	12	2.0	
Dissolved Sulphur (S)	ug/L		800								500	
Dissolved Thallium (Tl)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	0.80	
Dissolved Tin (Sn)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	20	
Dissolved Titanium (Ti)	ug/L		ND	5.3	6.3	ND	4.3	6.8	5.4	ND	3.0	
Dissolved Uranium (U)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.15	
Dissolved Vanadium (V)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	2.0	
Dissolved Zinc (Zn)	ug/L	2	7.2	12	10	12	14	12	12	11	5.0	30
Chlorobenzenes												
1,2-Dichlorobenzene	ug/L		ND	ND	ND		ND	ND			0.5	2.5
1,3-Dichlorobenzene	ug/L		ND	ND	ND		ND	ND			1	2.5

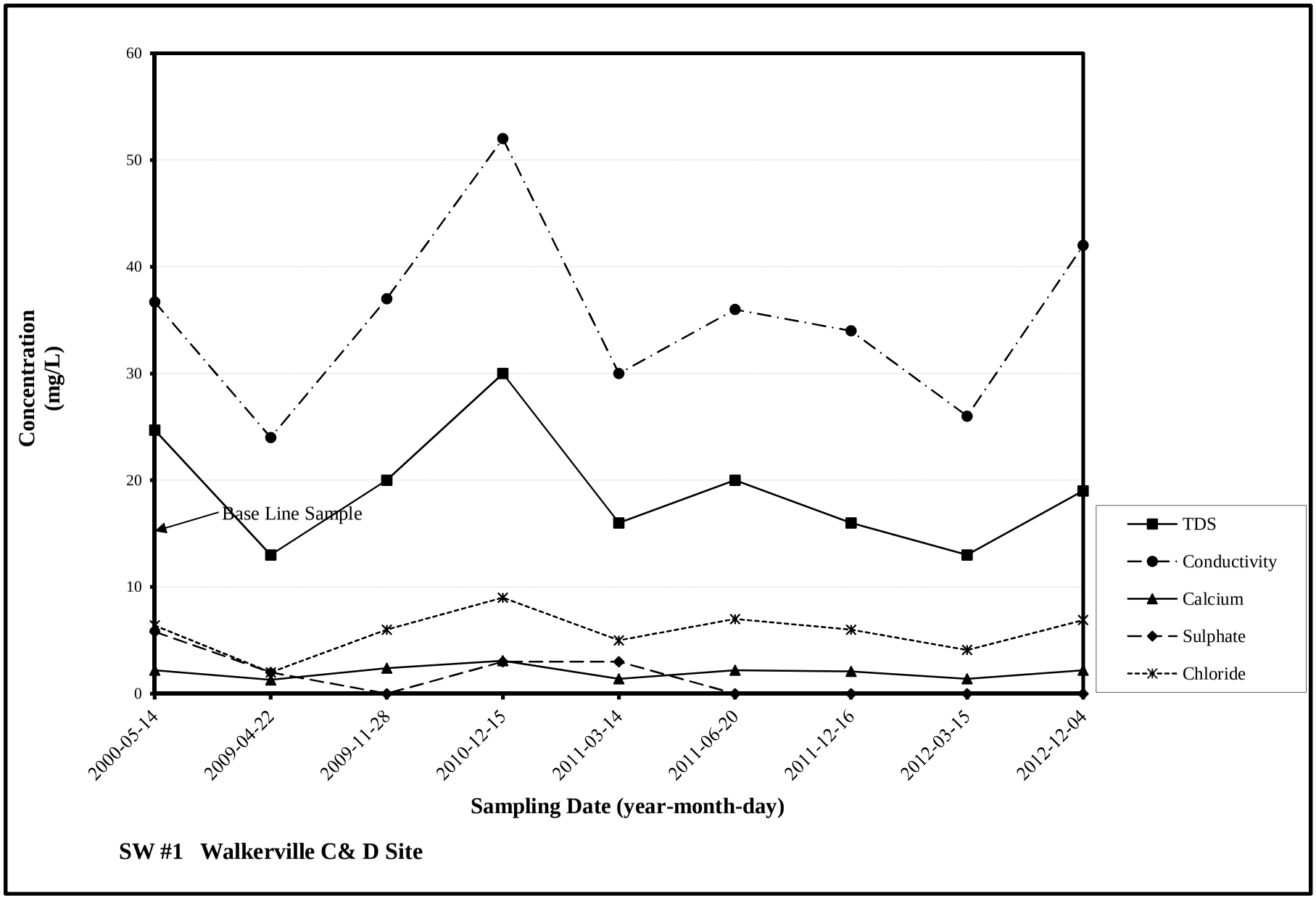
Walkerville C & D Site SW #1
Pictou County, Nova Scotia

Maxxam ID		Baseline	CH0107	EM9331	IF6805	IX9873	JX7088	MA5626	MV8304	PW4161		Canadian Freshwater Aquatic Life Guidelines
Sampling Date		2000-05-14	2009-04-22	2009-11-28	2010-12-15	2011-03-14	2011-06-20	2011-12-16	2012-03-15	2012-12-04		
COC Number			S 12422	S 11531	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510		
	Units	SW#1	SW#1	SW#1	SW#1	SW#1	SW#1	SW#1	SW#1	SW#1	RDL	
1,4-Dichlorobenzene	ug/L		ND	ND	ND		ND	ND			1	4
Chlorobenzene	ug/L		ND	ND	ND		ND	ND			1	15
Volatile Organics												
1,1,1-Trichloroethane	ug/L		ND	ND	ND		ND	ND			1	
1,1,2,2-Tetrachloroethane	ug/L		ND	ND	ND		ND	ND			1	
1,1,2-Trichloroethane	ug/L		ND	ND	ND		ND	ND			1	
1,1-Dichloroethane	ug/L		ND	ND	ND		ND	ND			2	
1,1-Dichloroethylene	ug/L		ND	ND	ND		ND	ND			0.5	
1,2-Dichloroethane	ug/L		ND	ND	ND		ND	ND			1	
1,2-Dichloropropane	ug/L		ND	ND	ND		ND	ND			1	
Benzene	ug/L		ND	ND	ND		ND	ND			1	300
Bromodichloromethane	ug/L		ND	ND	ND		ND	ND			1	
Bromoform	ug/L		ND	ND	ND		ND	ND			1	
Bromomethane	ug/L		ND	ND			ND	ND			3	
Carbon Tetrachloride	ug/L		ND	ND	ND		ND	ND			1	
Chloroethane	ug/L		ND	ND	ND		ND	ND			8	
Chloroform	ug/L		ND	ND	ND		ND	ND			1	
Chloromethane	ug/L		ND	ND	ND		ND	ND			8	
cis-1,2-Dichloroethylene	ug/L		ND	ND	ND		ND	ND			2	
cis-1,3-Dichloropropene	ug/L		ND	ND	ND		ND	ND			2	
Dibromochloromethane	ug/L		ND	ND	ND		ND	ND			1	
Ethylbenzene	ug/L		ND	ND	ND		ND	ND			1	700
Ethylene Dibromide	ug/L		ND	ND	ND		ND	ND			1	
Methylene Chloride(Dichloromethane)	ug/L		ND	ND	ND		ND	ND			3	
o-Xylene	ug/L		ND	ND	ND		ND	ND			1	
p+m-Xylene	ug/L		ND	ND	ND		ND	ND			2	
Styrene	ug/L		ND	ND	ND		ND	ND			1	
Tetrachloroethylene	ug/L		ND	ND	ND		ND	ND			1	
Toluene	ug/L		ND	ND	ND		ND	ND			1	300
trans-1,2-Dichloroethylene	ug/L		ND	ND	ND		ND	ND			2	
trans-1,3-Dichloropropene	ug/L		ND	ND	ND		ND	ND			1	
Trichloroethylene	ug/L		ND	ND	ND		ND	ND			1	
Trichlorofluoromethane (FREON 11)	ug/L		ND	ND	ND		ND	ND			8	
Vinyl Chloride	ug/L		ND	ND	ND		ND	ND			0.5	
Biochemical Oxygen Demand	mg/L		13	ND	ND	7	ND	ND			5	
Total Chemical Oxygen Demand	mg/L		150	28	40	27	85	52			20	
Phenols-4AAP	mg/L		ND	ND	0.005	0.003	0.005	ND			0.001	0.004
Total Suspended Solids	mg/L		92	ND	30	27	14	39			2	<10% increase
Total Kjeldahl Nitrogen	mg/L			0.2	0.6	0.3	1.7	0.9			0.1	

Field Parameters

Temperature	C^{o}		6	5	4	2	12	3	2	4		
pH	units		5.5	5.7	6.5	5.9	5.6	6.6	5.6	6.4		6.5 - 9.0
Conductivity	uS		26	41	62	36	38	38	30	40		
Dissolved Oxygen	mg/L			12.3	11.2	11.0	12.0	11.5	11.2	11.0		5.5
Flow Rate (discharge)	litres/min.		4	1	9	5	2	2	2	8		

ND = Not detected
RDL = Reportable Detection Limit
Exceeds Guidelines



SW #1 Walkerville C& D Site

Walkerville C & D Site SW #2
Pictou County, Nova Scotia

Maxxam ID		Baseline	FI5032	GE8764	IF6848	IX9884	JX7103	MA5748	MV8305	OX8022	PW4164		Canadian Freshwater Aquatic Life Guidelines
Sampling Date		2000-05-14	2010-03-12	2010-06-14	2010-12-15	2011-03-14	2011-06-20	2011-12-16	2012-03-15	2012-09-18	2012-12-04		
COC Number			S 12418	S12416	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510		
	Units	SW#2	SW#2	SW#2	SW#2	SW#2	SW#2	SW#2	SW#2	SW#2	SW#2	RDL	
Calculated Parameters													
Anion Sum	me/L		1.71	2.50	0.78	1.14	1.34	1.29	0.860	2.480	0.890	N/A	
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	61.9	56.0	94.0	12.0	30	52	35	27	59	24	1	
Calculated TDS	mg/L	219	97	129	51	66	74	90	50	151	53	1	
Carb. Alkalinity (calc. as CaCO3)	mg/L	0.1	ND	1	ND	ND	ND	ND	ND	ND	ND	1	
Cation Sum	me/L		1.76	2.29	0.850	1.13	1.44	2.02	0.870	2.640	0.880	N/A	
Hardness (CaCO3)	mg/L	178	70	92	30	44	58	83	34	100	34	1	
Ion Balance (% Difference)	%		1.44	4.38	4.29	0.440	3.60	22.10	0.580	3.130	0.560	N/A	
Langelier Index (@ 20C)	N/A		-0.8040	0.1270	-2.00	-1.24	-0.796	-0.961	-1.40	-0.43	-1.44		
Langelier Index (@ 4C)	N/A		-1.060	-0.123	-2.25	-1.49	-1.05	-1.21	-1.65	-0.677	-1.69		
Saturation pH (@ 20C)	N/A		8.3	7.97	9.30	8.74	8.40	8.36	8.90	8.13	8.94		
Saturation pH (@ 4C)	N/A		8.56	8.22	9.55	8.99	8.65	8.61	9.15	8.38	9.19		
Inorganics													
Alkalinity (Total as CaCO3)	mg/L	62.0	56	96	12	30	52	36	27	59	24	1	
Chloride (Cl)	mg/L	14.1	7	6	9	6	5	6	3.9	7.6	6.3	1	
Colour	TCU	64	25	15	65	49	33	31	43	12	22	5	
Nitrate (N)	mg/L		ND	0.11	ND	ND	ND	ND	ND	ND	ND	0.06	13
Nitrite (N)	mg/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	0.06	0.06
Nitrite + Nitrate	mg/L	0.37	ND	0.11	ND	ND	ND	ND	ND	ND	ND	0.06	
Nitrogen (Ammonia Nitrogen)	mg/L	0.03	ND	0.08	ND	ND	ND	ND	ND	ND	ND	0.05	4
Total Organic Carbon (C)	mg/L	7.0	3.5	5.6	7.6	6.1	6.8	6.4	5.0 (1)	5.5	5.1	0.5	
Orthophosphate (P)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3	
pH	pH	7.30	7.50	8.10	7.30	7.50	7.60	7.40	7.50	7.70	7.50	N/A	6.5 - 9.0
Silica (SiO2)	mg/L	2.9	3.8	2.1	3.8	2.5	2.9	3.2	2.9	5.2	3.6	0.1	
Sulphate (SO4)	mg/L	91	19	20	13	18	8	19	10	52	11	2	
Turbidity	NTU	40	13	92	77	14	19	13	36	2.2	11	0.1	
Conductivity	uS/cm	317	180	240	92	110	130	130	87	250	90	1	
Metals													
Dissolved Aluminum (Al)	ug/L	292	280	30	440	100	33	180	290	47	170	5.0	100
Dissolved Antimony (Sb)	ug/L		ND	ND	ND	0.74	ND	1.8	ND	ND	ND	0.40	
Dissolved Arsenic (As)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.60	50
Dissolved Barium (Ba)	ug/L	92	32	48	30	32	29	44	30	44	21	0.40	
Dissolved Beryllium (Be)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	0.50	
Dissolved Bismuth (Bi)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0	
Dissolved Boron (B)	ug/L	45	140	200	ND	ND	100	180	ND	240	ND	100	1500
Dissolved Cadmium (Cd)	ug/L	ND	ND	ND	ND	ND	ND	0.022	0.018	ND	ND	0.017	0.8
Dissolved Calcium (Ca)	ug/L	40,800	19,000	26,000	8,300	13,000	16,000	27,000	9,700	30,000	9,900	100	
Dissolved Chromium (Cr)	ug/L	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	20
Dissolved Cobalt (Co)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	
Dissolved Copper (Cu)	ug/L	ND	3.3	ND	ND	3.7	2.5	ND	2.8	ND	2.6	2.0	2
Dissolved Iron (Fe)	ug/L	160	290	ND	170	160	190	370	380	ND	240	100	300
Dissolved Lead (Pb)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	1
Dissolved Lithium (Li)	ug/L		4.2	2.2	1.7	1.5	2.0	1.1	1.6	4.7	1.1	1.0	
Dissolved Magnesium (Mg)	ug/L	18,500	5,200	6,800	2,200	2,800	4,100	4,000	2,300	7,500	2,200	100	
Dissolved Manganese (Mn)	ug/L	20	19	ND	11	120	ND	170	58	52	70	4.0	
Dissolved Mercury (Hg)	ug/L	ND	ND	0.023			ND			ND		0.01	0.26
Dissolved Molybdenum (Mo)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	4.0	
Dissolved Nickel (Ni)	ug/L	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.0	65
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	
Dissolved Potassium (K)	ug/L	1,900	1,400	1,000	1,700	1,200	1,100	1,500	860	1,800	1,000	100	
Dissolved Selenium (Se)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	1
Dissolved Silver (Ag)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.10	0.1
Dissolved Sodium (Na)	ug/L	12,100	7,400	9,800	4,700	4,900	5,600	7,300	3,700	12,000	3,900	300	
Dissolved Strontium (Sr)	ug/L		100	150	44	63	82	130	45	140	46	2.0	
Dissolved Sulphur (S)	ug/L											500	
Dissolved Thallium (Tl)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	0.80	
Dissolved Tin (Sn)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	20	
Dissolved Titanium (Ti)	ug/L		4.8	ND	10	4.2	3.7	4.6	5.0	ND	3.7	3.0	
Dissolved Uranium (U)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.15	
Dissolved Vanadium (V)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0	
Dissolved Zinc (Zn)	ug/L	ND	ND	ND	ND	14	ND	22	9	16	6	5.0	30
Chlorobenzenes													
1,2-Dichlorobenzene	ug/L		ND	ND	ND		ND	ND		ND		0.5	2.5
1,3-Dichlorobenzene	ug/L		ND	ND	ND		ND	ND		ND		1	2.5

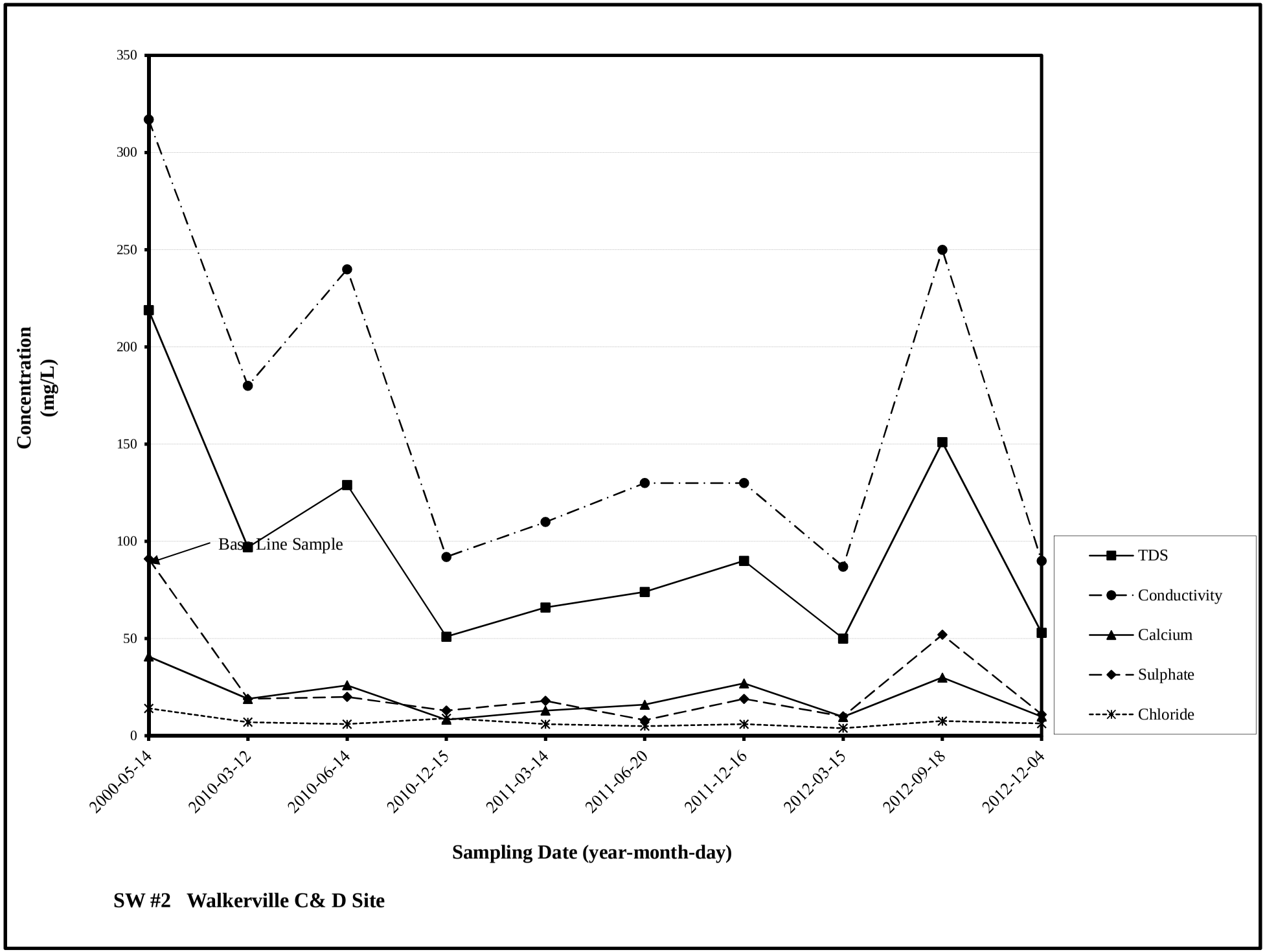
Walkerville C & D Site SW #2
Pictou County, Nova Scotia

Maxxam ID		Baseline	FI5032	GE8764	IF6848	IX9884	JX7103	MA5748	MV8305	OX8022	PW4164		Canadian Freshwater Aquatic Life Guidelines
Sampling Date		2000-05-14	2010-03-12	2010-06-14	2010-12-15	2011-03-14	2011-06-20	2011-12-16	2012-03-15	2012-09-18	2012-12-04		
COC Number			S 12418	S12416	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510		
	Units	SW#2	SW#2	SW#2	SW#2	SW#2	SW#2	SW#2	SW#2	SW#2	SW#2	RDL	
1,4-Dichlorobenzene	ug/L		ND	ND	ND		ND	ND		ND		1	4
Chlorobenzene	ug/L		ND	ND	ND		ND	ND		ND		1	15
Volatile Organics													
1,1,1-Trichloroethane	ug/L		ND	ND	ND		ND	ND		ND		1	
1,1,2,2-Tetrachloroethane	ug/L		ND	ND	ND		ND	ND		ND		1	
1,1,2-Trichloroethane	ug/L		ND	ND	ND		ND	ND		ND		1	
1,1-Dichloroethane	ug/L		ND	ND	ND		ND	ND		ND		2	
1,1-Dichloroethylene	ug/L		ND	ND	ND		ND	ND		ND		0.5	
1,2-Dichloroethane	ug/L		ND	ND	ND		ND	ND		ND		1	
1,2-Dichloropropane	ug/L		ND	ND	ND		ND	ND		ND		1	
Benzene	ug/L		ND	ND	ND		ND	ND		ND		1	300
Bromodichloromethane	ug/L		ND	ND	ND		ND	ND		ND		1	
Bromoform	ug/L		ND	ND	ND		ND	ND		ND		1	
Bromomethane	ug/L		ND	ND			ND	ND		ND		3	
Carbon Tetrachloride	ug/L		ND	ND	ND		ND	ND		ND		1	
Chloroethane	ug/L		ND	ND	ND		ND	ND		ND		8	
Chloroform	ug/L		ND	ND	ND		ND	ND		ND		1	
Chloromethane	ug/L		ND	ND	ND		ND	ND		ND		8	
cis-1,2-Dichloroethylene	ug/L		ND	ND	ND		ND	ND		ND		2	
cis-1,3-Dichloropropene	ug/L		ND	ND	ND		ND	ND		ND		2	
Dibromochloromethane	ug/L		ND	ND	ND		ND	ND		ND		1	
Ethylbenzene	ug/L		ND	ND	ND		ND	ND		ND		1	700
Ethylene Dibromide	ug/L		ND	ND	ND		ND	ND		ND		1	
Methylene Chloride(Dichloromethane)	ug/L		ND	ND	ND		ND	ND		ND		3	
o-Xylene	ug/L		ND	ND	ND		ND	ND		ND		1	
p+m-Xylene	ug/L		ND	ND	ND		ND	ND		ND		2	
Styrene	ug/L		ND	ND	ND		ND	ND		ND		1	
Tetrachloroethylene	ug/L		ND	ND	ND		ND	ND		ND		1	
Toluene	ug/L		ND	ND	ND		ND	ND		ND		1	300
trans-1,2-Dichloroethylene	ug/L		ND	ND	ND		ND	ND		ND		2	
trans-1,3-Dichloropropene	ug/L		ND	ND	ND		ND	ND		ND		1	
Trichloroethylene	ug/L		ND	ND	ND		ND	ND		ND		1	
Trichlorofluoromethane (FREON 11)	ug/L		ND	ND	ND		ND	ND		ND		8	
Vinyl Chloride	ug/L		ND	ND	ND		ND	ND		ND		0.5	
Biochemical Oxygen Demand	mg/L		8	8	ND	ND	ND	ND				5	
Total Chemical Oxygen Demand	mg/L		12	35	38	17	21	26		20		20	
Phenols-4AAP	mg/L		ND	0.001)	0.003	0.002	0.002	ND		0.0033		0.001	0.004
Total Suspended Solids	mg/L		9	170	75	13	7	16		ND		2	<10% increase
Total Kjeldahl Nitrogen	mg/L		0.5	0.9	0.7	0.4	ND	0.7				0.1	

Field Parameters

Temperature	C^{o}		1	6	6	2	12	4	3	8	4		
pH	units		7.4	7.9	7.2	7.4	7.5	7.3	7.4	7.6	7.6		6.5 - 9.0
Conductivity	uS		172	234	95	115	140	140	95	235	100		
Dissolved Oxygen	mg/L		12.4	12.1	11.5	11.1	11.8	11.5	11.4	11.6	11.2		5.5
Flow Rate (discharge)	litres/min.		3	2	40	20	15	5	6	6	35		

ND = Not detected
RDL = Reportable Detection Limit
Exceeds Guidelines



SW #2 Walkerville C& D Site

Walkerville C & D Site **SW #3**
Pictou County, Nova Scotia

Maxxam ID		CH0109	EM9333	FI5108	GE8765	IF6849	IX9885	JX7104	MA5749	MV8306	NW1837	OX8067	PW4170		Canadian Freshwater Aquatic Life Guidelines
Sampling Date		2009-04-22	2009-11-28	2010-03-12	2010-06-14	2010-12-15	2011-03-14	2011-06-20	2011-12-16	2012-03-15	2012-06-15	2012-09-18	2012-12-04		
COC Number		S 12422	S 11531	S 12418	S12416	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510		
	Units	SW#3	SW#3	SW#3	SW#3	SW#3	SW#3	SW#3	SW#3	SW#3	SW #3	SW #3	SW #3	RDL	
Calculated Parameters															
Anion Sum	me/L	17.8	13.3	21.1	15.1	16.6	42.8	20.1	43.7	34.8	41.7	36.2	25.1	N/A	
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	320	309	600	362	222	1,060	564	1,400	1,100	1,300	1,100	700	1	
Calculated TDS	mg/L	1,040	802	1,190	865	1,020	2,470	1,150	2,440	1,920	2,340	2,000	1,390	1	
Carb. Alkalinity (calc. as CaCO3)	mg/L	2	3	4	5	2	6	5	5	6.4	9.6	8.1	6.5	1	
Cation Sum	me/L	16.6	14.8	21.7	15.5	16.9	45.2	21.5	48	35.8	46	36.6	24.9	N/A	
Hardness (CaCO3)	mg/L	620	510	720	510	620	1,600	680	1,300	1,000	1,100	960	780	1	
Ion Balance (% Difference)	%	3.48	5.38	1.38	1.24	0.750	2.69	3.34	4.68	1.35	4.88	0.44	0.54	N/A	
Langelier Index (@ 20C)	N/A	1.04	1.16	1.44	1.4	0.900	1.82	1.46	1.6	1.63	1.72	1.67	1.58		
Langelier Index (@ 4C)	N/A	0.792	0.911	1.2	1.15	0.654	1.58	1.22	1.36	1.38	1.48	1.42	1.33		
Saturation pH (@ 20C)	N/A	6.76	6.84	6.46	6.8	7.00	5.98	6.54	6	6.18	6.18	6.23	6.43		
Saturation pH (@ 4C)	N/A	7.01	7.09	6.7	7.05	7.25	6.23	6.78	6.25	6.42	6.42	6.48	6.67		
Inorganics															
Alkalinity (Total as CaCO3)	mg/L	320	310	600	370	220	1100	570	1400	1100	1300	1100	700	1	
Chloride (Cl)	mg/L	140	110	180	150	92	330	180	480	340	520	400	230	1	
Colour	TCU	74	100	94	80	75	180	110	410	200	280	190	69	5	
Nitrate (N)	mg/L	0.11	ND	ND	0.24	0.17	ND	1.1	ND	0.073	ND	2.1	0.93	0.06	13
Nitrite (N)	mg/L	ND (1)	ND	ND	ND (1)	ND (1)	ND (1)	0.07	0.05	0.03	0.02	ND	0.02	0.06	0.06
Nitrite + Nitrate	mg/L	0.11	ND	ND	ND	ND	ND	1.20	0.08	0.11	0.057	2.1	0.96	0.06	
Nitrogen (Ammonia Nitrogen)	mg/L	0.80	0.12	1.2	0.09	0.21	1.9	0.57	8.5	4.4	6.2	0.62	0.87	0.05	4
Total Organic Carbon (C)	mg/L	28	30	44	39	21	98	43	170	77	120	88 (1)	43 (1)	0.5	
Orthophosphate (P)	mg/L	ND	ND	ND	ND	ND	ND	ND	0.02	0.012	0.031	ND	0.01	0.3	
pH	pH	7.8	8.0	7.9	8.2	7.9	7.8	8.00	7.60	7.80	7.90	7.90	8.00	N/A	6.5 - 9.0
Silica (SiO2)	mg/L	8.6	12	12	9.1	9.5	23	15	37	25	31	31	19	0.1	
Sulphate (SO4)	mg/L	350	190	190	170	460	580	160	99	170	60	150	210	2	
Turbidity	NTU	30	100	100	89	38	13	300	5.6	3.1	450	560	13	0.1	
Conductivity	uS/cm	1,600	1,300	1,900	1,600	1,600	3,500	1,800	3,800	2,900	3,300	3,200	2,200	1	
Metals															
Dissolved Aluminum (Al)	ug/L	20	1200	290	14	240	40	24	67	260	66	190	260	5.0	100
Dissolved Antimony (Sb)	ug/L	1.5	ND	0.54	0.47	ND	2.6	0.54	2.4	ND	2.4	2.1	ND	0.40	
Dissolved Arsenic (As)	ug/L	0.8	1.5	1.7	1.1	2.4	6.5	2.7	12.0	7.4	11	5.6	3.1	0.60	50
Dissolved Barium (Ba)	ug/L	130	120	120	120	140	300	150	350	310	330	320	240	0.40	
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.50	
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0	
Dissolved Boron (B)	ug/L	1,600	2,900	5,700	5,500	2,100	11,000	6,400	20,000	13,000	22,000	21,000	6,700	100	1500
Dissolved Cadmium (Cd)	ug/L	0.018	0.12	0.14	0.055	0.033	0.053	0.076	ND	0.033	0.032	0.069	0.03	0.017	0.8
Dissolved Calcium (Ca)	ug/L	190,000	150,000	220,000	150,000	160,000	470,000	190,000	340,000	270,000	240,000	240,000	210,000	0.1	
Dissolved Chromium (Cr)	ug/L	ND	1.7	ND	3.7	ND	4.5	ND	13	9.7	9.7	8.7	4.5	1.0	20
Dissolved Cobalt (Co)	ug/L	12	4.4	6.4	3.5	1.5	14	3.9	5.7	4.2	5.3	5.1	2.6	1.0	
Dissolved Copper (Cu)	ug/L	ND	5.9	4	3.2	3.8	4.5	6.9	ND	5.5	ND	2.8	3.7	2.0	2
Dissolved Iron (Fe)	ug/L	ND	970	550	ND	ND	440	ND	1,000	730	720	560	530	100	300
Dissolved Lead (Pb)	ug/L	ND	2.3	1.2	ND	ND	ND	ND	ND	1.1	ND	ND	ND	1.0	1
Dissolved Lithium (Li)	ug/L	4.9	7.7	6.7	3	7.7	11	7.9	14	12	17	18	8.3	1.0	
Dissolved Magnesium (Mg)	ug/L	32,000	30,000	43,000	33,000	54,000	110,000	49,000	110,000	80,000	120,000	89,000	60,000	0.1	
Dissolved Manganese (Mn)	ug/L	8300	1200	1600	1600	40	3200	450	800	700	490	770	570	4.0	
Dissolved Mercury (Hg)	ug/L	0.02	0.038	0.015	0.026			0.016				0.02		0.01	0.26
Dissolved Molybdenum (Mo)	ug/L	ND	ND	ND	ND	4.7	ND	ND	ND	ND	ND	ND	ND	4.0	
Dissolved Nickel (Ni)	ug/L	17.0	9.1	11.0	10.0	5.0	16.0	9.5	9.3	6.2	16	13	6.5	3.0	65
Dissolved Phosphorus (P)	ug/L	ND	ND	110	ND	ND	ND	ND	ND	ND	140	ND	ND	100	
Dissolved Potassium (K)	ug/L	14,000	24,000	28,000	20,000	26,000	50,000	34,000	84,000	62,000	93,000	82,000	36,000	0.1	
Dissolved Selenium (Se)	ug/L	ND	ND	ND	ND	ND	1.1	3.0	ND	1.5	2.7	1.6	1.3	1.0	1
Dissolved Silver (Ag)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.10	0.1
Dissolved Sodium (Na)	ug/L	90,000	91,000	150,000	110,000	86,000	270,000	160,000	440,000	310,000	490,000	350,000	190,000	0.1	
Dissolved Strontium (Sr)	ug/L	690	600	940	740	880	2,400	1,400	3,400	2,500	3,200	3,100	2,200	2.0	
Dissolved Sulphur (S)	ug/L	110000												0.5	
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.80	
Dissolved Tin (Sn)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20	
Dissolved Titanium (Ti)	ug/L	ND	55	8.8	ND	10	4.5	ND	19	20	14	6.2	9.6	3.0	
Dissolved Uranium (U)	ug/L	3.2	2.1	2.9	2.2	1.3	3.7	1.4	0.62	1.1	1.1	1.1	1.3	0.15	
Dissolved Vanadium (V)	ug/L	ND	ND	ND	ND	ND	ND	2.0	6.7	5.2	10	4.9	ND	2.0	
Dissolved Zinc (Zn)	ug/L	38	29	28	12	8	ND	9	21	20	7	15	16	5.0	30
Chlorobenzenes															
1,2-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		0.5	2.5
1,3-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		1	2.5
1,4-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		1	4

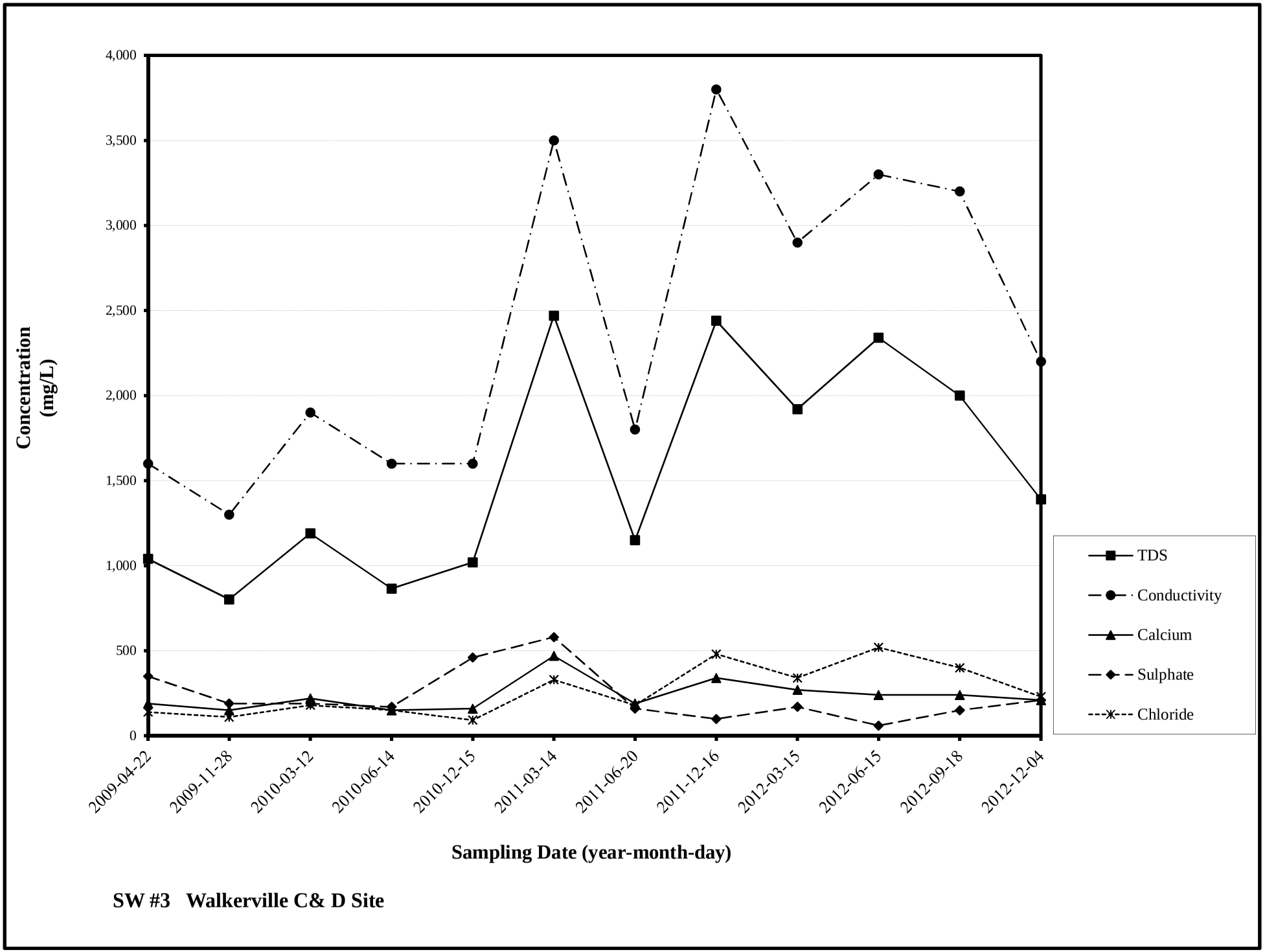
Walkerville C & D Site **SW #3**
Pictou County, Nova Scotia

Maxxam ID		CH0109	EM9333	FI5108	GE8765	IF6849	IX9885	JX7104	MA5749	MV8306	NW1837	OX8067	PW4170		Canadian Freshwater Aquatic Life Guidelines
Sampling Date		2009-04-22	2009-11-28	2010-03-12	2010-06-14	2010-12-15	2011-03-14	2011-06-20	2011-12-16	2012-03-15	2012-06-15	2012-09-18	2012-12-04		
COC Number		S 12422	S 11531	S 12418	S12416	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510		
	Units	SW#3	SW#3	SW#3	SW#3	SW#3	SW#3	SW#3	SW#3	SW#3	SW #3	SW #3	SW #3	RDL	
Chlorobenzene	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		1	15
Volatile Organics															
1,1,1-Trichloroethane	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		1	
1,1,2,2-Tetrachloroethane	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		1	
1,1,2-Trichloroethane	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		1	
1,1-Dichloroethane	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		2	
1,1-Dichloroethylene	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		0.5	
1,2-Dichloroethane	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		1	
1,2-Dichloropropane	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		1	
Benzene	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		1	300
Bromodichloromethane	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		1	
Bromoform	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		1	
Bromomethane	ug/L	ND	ND	ND	ND			ND	ND			ND		3	
Carbon Tetrachloride	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		1	
Chloroethane	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		8	
Chloroform	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		1	
Chloromethane	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		8	
cis-1,2-Dichloroethylene	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		2	
cis-1,3-Dichloropropene	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		2	
Dibromochloromethane	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		1	
Ethylbenzene	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		1	700
Ethylene Dibromide	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		1	
Methylene Chloride(Dichloromethane)	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		3	
o-Xylene	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		1	
p+m-Xylene	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		2	
Styrene	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		1	
Tetrachloroethylene	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		1	
Toluene	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		1	300
trans-1,2-Dichloroethylene	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		2	
trans-1,3-Dichloropropene	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		1	
Trichloroethylene	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		1	
Trichlorofluoromethane (FREON 11)	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		8	
Vinyl Chloride	ug/L	ND	ND	ND	ND	ND		ND	ND			ND		0.5	
Biochemical Oxygen Demand	mg/L	ND	20	19	16	ND	22	12	14					5	
Total Chemical Oxygen Demand	mg/L	130	380	170	200	76	410	180	450			530		20	
Phenols-4AAP	mg/L	0.001	0.011	ND (1)	0.015 (1)	0.011	0.065	0.014	0.028			0.045		0.001	0.004
Total Suspended Solids	mg/L	100	59	90	120	73	110	260	51			830		2	<10% increase
Total Kjeldahl Nitrogen	mg/L		7.2	3.9	12.0	1.6	7.0	4.0	15.0					0.1	

Field Parameters

Temperature	C°	6	5	1	6	5	2	12	4	3	11	7	5		
pH	units	7.5	7.8	7.7	8.0	7.8	7.7	7.9	7.6	7.7	7.8	7.8	8.0		6.5 - 9.0
Conductivity	uS	1,520	1,250	1,800	1,550	1,580	3,400	1,650	3,400	2,850	3,100	3,150	2,100		
Dissolved Oxygen	mg/L	9.8	10.4	9.2	9.7	9.2	9.1	10.2	10.3	10.8	9.8	9.6	9.5		5.5
Flow Rate (discharge)	litres/min.	5	2	3	0.5	10	5	10	3	4	2	5	15		

ND = Not detected
RDL = Reportable Detection Limit
Exceeds Guidelines


Concentration (mg/L)
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
2009-04-22
2009-11-28
2010-03-12
2010-06-14
2010-12-15
2011-03-14
2011-06-20
2011-12-16
2012-03-15
2012-06-15
2012-09-18
2012-12-04
Sampling Date (year-month-day)
TDS
Conductivity
Calcium
Sulphate
Chloride
SW #3 Walkerville C& D Site

Walkerville C & D Site MW No.1
Pictou County, Nova Scotia

Maxxam ID		Baseline	FI5116	GE8770	HF6289	IF6859	IX9888	JX7105	KY5886	MA5753	MV8307	OX8068		Canadian Drinking Water Guidelines	
Sampling Date (year-month-day)		2000-05-14	2010-03-12	2010-06-14	2010-09-15	2010-12-15	2011-03-14	2011-06-20	2011-09-15	2011-12-16	2012-03-15	2012-09-18			
COC Number			S 12418	S12416	B130882	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510			
	Units	MW No.1	MW No.1	MW No.1	MW No.1	MW No.1	MW No.1	MW No.1	MW No.1	MW No.1	MW No.1	MW No.1	RDL	MAC	AO
Calculated Parameters															
Anion Sum	me/L		9.27	9.27	8.83	9.35	9.30	9.34	8.83	9.2	9.03	10.8	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	424	398	386	359	390	381	389	356	385	380	470	1		
Calculated TDS	mg/L	564	483	469	475	490	493	490	475	465	473	561	1		500
Carb. Alkalinity (calc. as CaCO3)	mg/L	0.8	2	2	3	4	3	5	2	2	1.8	4.4	1		
Cation Sum	me/L		9.45	8.53	9.42	9.49	9.65	9.55	9.41	8.34	9.24	11.7	N/A		
Hardness (CaCO3)	mg/L	454	410	370	400	400	410	410	390	360	390	450	1		
Ion Balance (% Difference)	%		0.96	4.16	3.23	0.740	1.85	1.11	3.18	4.9	1.15	3.96	N/A		
Langelier Index (@ 20C)	N/A		0.967	0.919	1.12	1.14	1.05	1.27	0.894	0.903	0.826	1.13			
Langelier Index (@ 4C)	N/A		0.719	0.671	0.869	0.895	0.797	1.02	0.646	0.655	0.578	0.88			
Saturation pH (@ 20C)	N/A		6.83	6.88	6.88	6.86	6.86	6.84	6.91	6.9	6.87	6.87			
Saturation pH (@ 4C)	N/A		7.08	7.13	7.13	7.11	7.10	7.08	7.15	7.15	7.12	7.12			
Inorganics															
Alkalinity (Total as CaCO3)	mg/L	425	400	390	360	390	380	390	360	390	380	470	1		
Chloride (Cl)	mg/L	10	7	8	9	8	10	9	8	8	11	16	1		250
Colour	TCU	207	8	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	5	
Nitrate (N)	mg/L		0.55	0.49	0.50	0.61	0.47	0.40	0.66	0.45	0.37	0.85	0.06		
Nitrite (N)	mg/L		ND	ND	ND	ND	ND	ND	0.02	ND	ND	0.05	0.06		
Nitrite + Nitrate	mg/L	1.71	0.55	0.49	0.50	0.61	0.47	0.40	0.68	0.45	0.37	0.9	0.06	10	
Nitrogen (Ammonia Nitrogen	mg/L	0.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.05		
Total Organic Carbon (C)	mg/L		0.6	1.1	1.0	0.7	0.9	1.0	ND	1.1	ND (1)	ND (1)	0.5		
Orthophosphate (P)	mg/L	ND	ND	ND	ND	ND	ND	ND	0.02	ND	ND	0.042	0.3		
pH	pH	7.3	7.8	7.8	8.0	8.0	7.9	8.10	7.80	7.80	7.70	8.00	N/A	6.5 - 8.5	
Silica (SiO2)	mg/L	10.2	11.0	9.8	10	12	12	11	9.7	11	11	12	0.1		
Sulphate (SO4)	mg/L	96	50	60	62	58	63	58	67	57	53	42	2		500
Turbidity	NTU	56	27	12	10	7.8	53	52	72	57	18	10	0.1	1	
Conductivity	uS/cm	723	820	820	750	810	800	810	760	780	780	910	1		
Metals															
Dissolved Aluminum (Al)	ug/L		39	ND	18	13	8.9	16	6.6	24	36	30	5.0	100	
Dissolved Antimony (Sb)	ug/L		ND	ND	ND	ND	0.47	ND	3.4	0.51	ND	ND	0.40	6	
Dissolved Arsenic (As)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	1.1	ND	0.69	0.60	10	
Dissolved Barium (Ba)	ug/L	110	45	44	45	43	55	57	53	79	63	82	0.40	1000	
Dissolved Beryllium (Be)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.50		
Dissolved Bismuth (Bi)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0		
Dissolved Boron (B)	ug/L	70	100	ND	ND	ND	340	ND	ND	260	230	500	100	5000	
Dissolved Cadmium (Cd)	ug/L	ND	ND	0.018	0.061	ND	ND	0.056	ND	ND	0.029	0.024	0.017	5	
Dissolved Calcium (Ca)	ug/L	133,000	110,000	99,000	110,000	100,000	110,000	110,000	100,000	95,000	100,000	87,000	100		
Dissolved Chromium (Cr)	ug/L		1.6	1.6	ND	ND	ND	ND	ND	ND	ND	ND	1.0	50	
Dissolved Cobalt (Co)	ug/L		ND	ND	ND	ND	ND	ND	ND	1.3	ND	1.4	1.0		
Dissolved Copper (Cu)	ug/L	10	ND	ND	ND	ND	ND	ND	ND	3.3	ND	ND	2.0		1
Dissolved Iron (Fe)	ug/L	1410	ND	ND	ND	ND	ND	ND	ND	410	ND	110	100		300
Dissolved Lead (Pb)	ug/L	9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	10	
Dissolved Lithium (Li)	ug/L		51	43	54	55	50	51	48	51	54	56	1.0		
Dissolved Magnesium (Mg)	ug/L	42,000	33,000	29,000	33,000	34,000	35,000	33,000	34,000	29,000	34,000	57,000	100		
Dissolved Manganese (Mn)	ug/L	590	64	140	230	17	6	61	210	1,200	31	390	4.0		50
Dissolbed Mercury (Hg)	ug/L				ND				ND			ND	0.01	1	
Dissolved Molybdenum (Mo)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.0		
Dissolved Nickel (Ni)	ug/L		ND	ND	ND	ND	ND	ND	ND	3.3	ND	ND	3.0		
Dissolved Phosphorus (P)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	110	100		
Dissolved Potassium (K)	mg/L	5,700	2,900	2,300	2,700	2,800	2,800	3,200	2,800	2,900	2,900	3,200	0.1		
Dissolved Selenium (Se)	ug/L	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	10	
Dissolved Silver (Ag)	ug/L		ND	0.18	ND	ND	ND	ND	ND	ND	ND	ND	0.10		
Dissolved Sodium (Na)	ug/L	24,500	29,000	27,000	32,000	32,000	31,000	29,000	34,000	26,000	30,000	59,000	300		200,000
Dissolved Strontium (Sr)	ug/L		680	600	590	620	640	680	550	560	650	670	2.0		
Dissolved Sulphur (S)	ug/L												500		
Dissolved Thallium (Tl)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.80		
Dissolved Tin (Sn)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20		
Dissolved Titanium (Ti)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.0		
Dissolved Uranium (U)	ug/L	ND	1.6	1.8	1.9	1.7	1.5	1.5	1.6	1.2	1.3	6.7	0.15	20	
Dissolved Vanadium (V)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0		
Dissolved Zinc (Zn)	ug/L	20	ND	ND	6.9	ND	26	11	ND	10	ND	7.5	5.0		5,000
Chlorobenzenes															
1,2-Dichlorobenzene	ug/L				ND				ND			ND	0.5	200	
1,3-Dichlorobenzene	ug/L				ND				ND			ND	1		
1,4-Dichlorobenzene	ug/L				ND				ND			ND	1	5	
Chlorobenzene	ug/L				ND				ND			ND	1		
Volatile Organics															

Walkerville C & D Site MW No.1
Pictou County, Nova Scotia

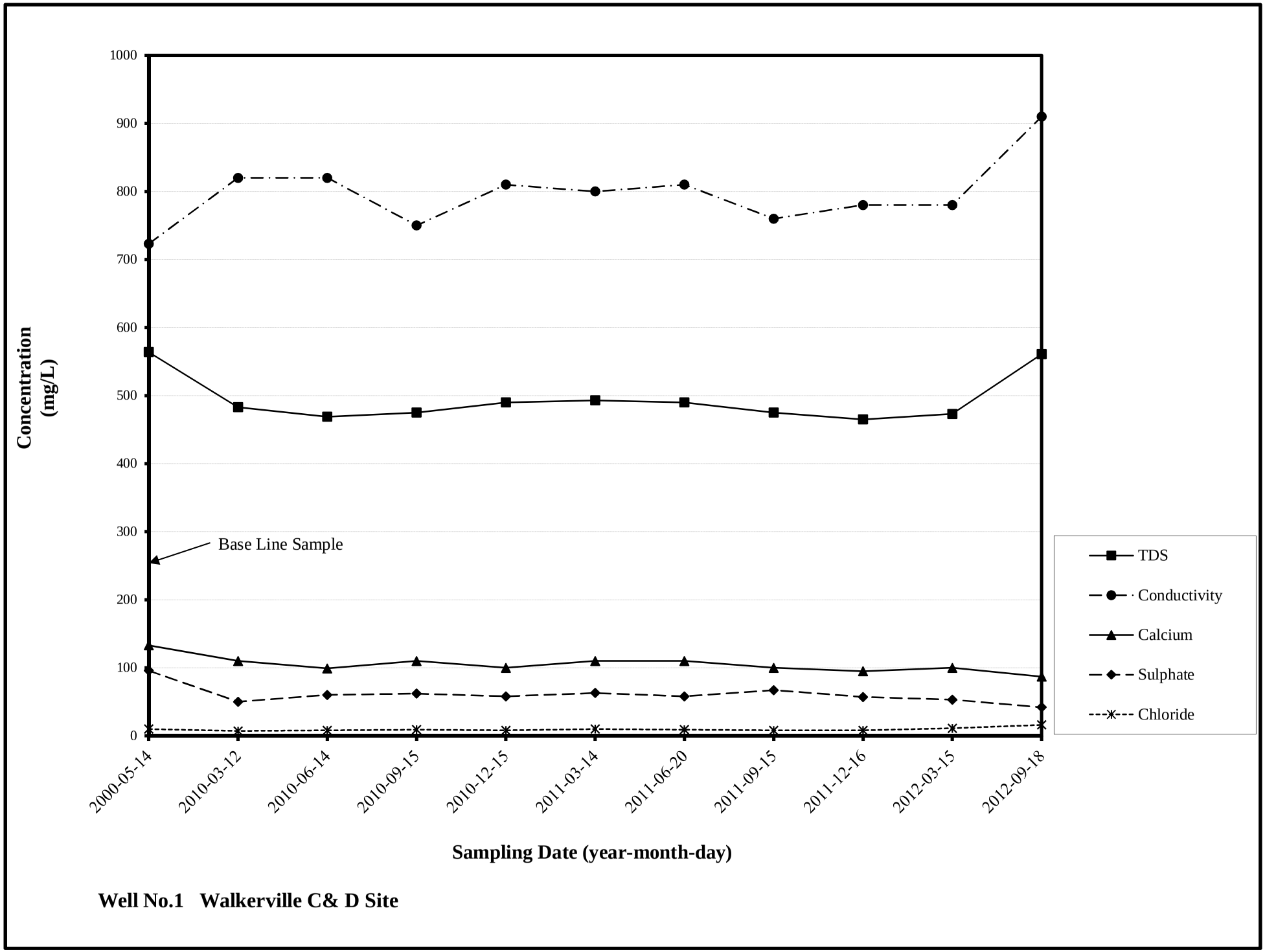
Maxxam ID		Baseline	FI5116	GE8770	HF6289	IF6859	IX9888	JX7105	KY5886	MA5753	MV8307	OX8068		Canadian Drinking Water Guidelines	
Sampling Date (year-month-day)		2000-05-14	2010-03-12	2010-06-14	2010-09-15	2010-12-15	2011-03-14	2011-06-20	2011-09-15	2011-12-16	2012-03-15	2012-09-18			
COC Number			S 12418	S12416	B130882	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510			
	Units	MW No.1	MW No.1	MW No.1	MW No.1	MW No.1	MW No.1	MW No.1	MW No.1	MW No.1	MW No.1	MW No.1	RDL	MAC	AO
1,1,1-Trichloroethane	ug/L				ND				ND			ND	1		
1,1,2,2-Tetrachloroethane	ug/L				ND				ND			ND	1		
1,1,2-Trichloroethane	ug/L				ND				ND			ND	1		
1,1-Dichloroethane	ug/L				ND				ND			ND	2		
1,1-Dichloroethylene	ug/L				ND				ND			ND	0.5	14	
1,2-Dichloroethane	ug/L				ND				ND			ND	1	5	
1,2-Dichloropropane	ug/L				ND				ND			ND	1		
Benzene	ug/L				ND				ND			ND	1	5	
Bromodichloromethane	ug/L				ND				ND			ND	1		
Bromoform	ug/L				ND				ND			ND	1		
Bromomethane	ug/L				ND				ND			ND	3		
Carbon Tetrachloride	ug/L				ND				ND			ND	1	5	
Chloroethane	ug/L				ND				ND			ND	8		
Chloroform	ug/L				ND				ND			ND	1		
Chloromethane	ug/L				ND				ND			ND	8		
cis-1,2-Dichloroethylene	ug/L				ND				ND			ND	2		
cis-1,3-Dichloropropene	ug/L				ND				ND			ND	2		
Dibromochloromethane	ug/L				ND				ND			ND	1		
Ethylbenzene	ug/L				ND				ND			ND	1		2.4
Ethylene Dibromide	ug/L				ND				ND			ND	1		
Methylene Chloride(Dichloromethane	ug/L				ND				ND			ND	3	50	
o-Xylene	ug/L				ND				ND			ND	1		300
p+m-Xylene	ug/L				ND				ND			ND	2		
Styrene	ug/L				ND				ND			ND	1		
Tetrachloroethylene	ug/L				ND				ND			ND	1	30	
Toluene	ug/L				ND				ND			ND	1		24
trans-1,2-Dichloroethylene	ug/L				ND				ND			ND	2		
trans-1,3-Dichloropropene	ug/L				ND				ND			ND	1		
Trichloroethylene	ug/L				ND				ND			ND	1	50	
Trichlorofluoromethane (FREON 11)	ug/L				ND				ND			ND	8		
Vinyl Chloride	ug/L				ND				ND			ND	0.5	2	
Biochemical Oxygen Demand	mg/L						5						5		
Total Chemical Oxygen Demand	mg/L				ND	ND	20	ND	24			8	20		
Phenols-4AAP	mg/L				ND (1)		0.002		ND			0.0049	0.001		
Total Suspended Solids	mg/L				26		10					48	2		
Total Kjeldahl Nitrogen	mg/L				0.2		0.5		1.3				0.1		

Field Parameters

pH	units		7.8	7.6	7.9	7.9	7.8	8.0	7.9	7.7	7.6	7.8	
Conductivity	uS		795	810	745	815	805	800	780	770	770	900	

ND = Not detected
RDL = Reportable Detection Limit
MAC = Maximum Acceptable Concentration
IMAC = Interim Maximum Acceptable Concentration
OA = Aesthetic Objective

Exceeds Guidelines



Well No.1 Walkerville C& D Site

Walkerville C & D Site MW No.2 & MW No.2A
Pictou County, Nova Scotia

Maxxam ID		Baseline	FI5119	GE8771	HF6335	IF6867	IX9889	JX7106	KY5892	MA5754	MV8308	NW1842	OX8069	PW4171		Canadian Drinking Water Guidelines	
Sampling Date		2000-05-14	2010-03-12	2010-06-14	2010-09-15	2010-12-15	2011-03-14	2011-06-20	2011-09-15	2011-12-16	2012-03-15	2012-06-15	2012-09-18	2012-12-04			
COC Number			S 12418	S12416	B130882	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510			
	Units	MW No.2	MW No.2A	MW No.2A	MW No.2A	MW No.2A	MW No.2A	MW No.2A	MW No.2A	MW No.2A	MW No.2A	MW No.2A	MW No.2A	MW No.2A	RDL	MAC	AO
Calculated Parameters																	
Anion Sum	me/L		7.14	9.79	10.4	11.0	11.6	11.6	11.3	9.98	10.4	10.3	11	11.2	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	209	170	273	291	294	287	269	279	274	300	340	360	330	1		
Calculated TDS	mg/L	895	429	552	603	656	683	678	674	568	591	570	628	627	1		500
Carb. Alkalinity (calc. as CaCO3)	mg/L	0.8	ND	1	2	2	1	2	2	ND	ND	1	1.7	2.5	1		
Cation Sum	me/L		7.48	8.96	10.7	11.8	11.6	11.5	12.1	9.54	10.4	9.94	11.7	10.5	N/A		
Hardness (CaCO3)	mg/L	670	320	430	510	560	550	550	570	450	490	470	560	500	1		
Ion Balance (% Difference	%		2.33	4.43	1.43	3.60	0.00	0.43	3.51	2.25	0.140	1.970	3.170	3.080	N/A		
Langelier Index (@ 20C)	N/A		0.188	0.796	1.08	1.02	0.890	0.967	0.992	0.619	0.688	0.713	1.02	1.13			
Langelier Index (@ 4C)	N/A		-0.0610	0.5480	0.828	0.769	0.643	0.720	0.745	0.372	0.441	0.466	0.768	0.88			
Saturation pH (@ 20C)	N/A		7.31	6.90	6.82	6.78	6.81	6.83	6.81	6.88	6.81	6.79	6.69	6.77			
Saturation pH (@ 4C)	N/A		7.56	7.15	7.07	7.03	7.06	7.08	7.06	7.13	7.06	7.03	6.93	7.02			
Inorganics																	
Alkalinity (Total as CaCO3)	mg/L	210	170	270	290	300	290	270	280	270	300	340	370	330	1		
Chloride (Cl)	mg/L	23	12	10	13	9	18	29	20	20	17	15	15	13	1		250
Colour	TCU	967	11	ND	ND	ND	ND	7	ND	5	ND	ND	ND	ND	5	5	
Nitrate (N)	mg/L		0.93	1.4	1.7	1.3	0.32	1.8	1.5	1.4	0.065	0.45	2.1	0.41	0.06		
Nitrite (N)	mg/L		0.09	0.3	0.09	0.25	ND (1)	0.16	0.16	0.04	0.045	0.046	ND	0.088	0.06		
Nitrite + Nitrate	mg/L	0.44	1	1.7	1.8	1.5	ND	2.0	1.7	1.5	0.11	0.5	2.1	0.5	0.06	10	
Nitrogen (Ammonia Nitrogen)	mg/L	0.39	1	0.38	ND	0.25	1.1	ND	ND	ND	1.2	1	ND	0.84	0.05		
Total Organic Carbon (C)	mg/L	4.2	3	2.9	2.4	2.7	ND	4.9	5	4.6	3.0	2.4	ND (1)	2.8	0.5		
Orthophosphate (P)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3		
pH	pH	7.6	7.5	7.7	7.9	7.8	7.7	7.8	7.8	7.5	7.5	7.5	7.7	7.9	N/A	6.5 - 8.5	
Silica (SiO2)	mg/L	10	14	14	16	17	17	15	14	13	14	13	17	15	0.1		
Sulphate (SO4)	mg/L	472	160	190	190	230	260	250	240	180	180	150	150	200	2		500
Turbidity	NTU	>1000	110	130	420	260	150	140	240	98	24	9.2	80	51	0.1	1	
Conductivity	uS/cm	1,070	640	890	890	980	1,000	1,000	970	890	910	810	940	920	1		
Metals																	
Dissolved Aluminum (Al)	ug/L		590	6	33	44	9	11	73	33	36	44	21	44	5.0	100	
Dissolved Antimony (Sb)	ug/L		ND	ND	ND	ND	0.51	ND	1.5	0.53	ND	ND	ND	ND	0.40	6	
Dissolved Arsenic (As)	ug/L		ND	1.2	1.1	0.90	ND	0.66	1.1	1.1	2.0	2.2	1.2	1.5	0.60	10	
Dissolved Barium (Ba)	ug/L		44	180	130	100	93	77	91	77	110	120	130	120	0.40	1,000	
Dissolved Beryllium (Be)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.50		
Dissolved Bismuth (Bi)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0		
Dissolved Boron (B)	ug/L		ND	ND	ND	ND	130	ND	ND	140	100	300	170	200	100	5,000	
Dissolved Cadmium (Cd)	ug/L		0.051	0.062	0.091	ND	ND	0.023	0.023	ND	0.037	ND	0.031	0.038	0.017	5	
Dissolved Calcium (Ca)	ug/L	168,000	81,000	140,000	160,000	180,000	170,000	170,000	180,000	150,000	160,000	150,000	180,000	160,000	100		
Dissolved Chromium (Cr)	ug/L		2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	50	
Dissolved Cobalt (Co)	ug/L		6.7	2	2.5	2.2	2.0	1.1	1.5	1.3	2.0	1.6	1.1	1.1	1.0		
Dissolved Copper (Cu)	ug/L	40	13	12	14	6.4	7.6	8.7	9	9.9	8.5	8.8	10	12	2.0		1
Dissolved Iron (Fe)	ug/L	34,100	500	ND	ND	ND	ND	ND	350	380	1,100	1,000	220	430	100		300
Dissolved Lead (Pb)	ug/L		24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.1	1.0	10	
Dissolved Lithium (Li)	ug/L		36	18	22	27	27	26	24	22	25	23	29	26	1.0		
Dissolved Magnesium (Mg)	ug/L	61,000	28,000	20,000	27,000	29,000	29,000	28,000	31,000	21,000	24,000	24,000	28,000	24,000	100		
Dissolved Manganese (Mn)	ug/L	2,920	2,500	390	410	380	390	260	370	370	480	370	270	290	4.0		50
Dissolved Mercury (Hg)	ug/L				ND				0.021				ND		0.01	1	
Dissolved Molybdenum (Mo)	ug/L		ND	5.5	16.0	15.0	12.0	9.9	9.0	7.7	13	13	7.9	7.9	4.0		
Dissolved Nickel (Ni)	ug/L		12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.0		
Dissolved Phosphorus (P)	ug/L		200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100		
Dissolved Potassium (K)	ug/L	3690	1500	1000	1200	1200	1100	1000	1100	1100	1,000	910	1,000	1,000	100		
Dissolved Selenium (Se)	ug/L		ND	ND	ND	ND	ND	1.1	2.3	ND	ND	ND	ND	ND	1.0	10	
Dissolved Silver (Ag)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.10		
Dissolved Sodium (Na)	mg/L	31,300	22,000	9,100	12,000	13,000	13,000	12,000	15,000	12,000	11,000	11,000	13,000	12,000	300		200,000
Dissolved Strontium (Sr)	ug/L		200	940	1,000	1,200	1,100	1,000	950	740	840	890	1100	1100	2.0		
Dissolved Sulphur (S)	ug/L														500		
Dissolved Thallium (Tl)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.80		
Dissolved Tin (Sn)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20		
Dissolved Titanium (Ti)	ug/L		3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.0		
Dissolved Uranium (U)	ug/L		1.1	0.43	0.40	0.53	0.33	0.23	0.31	0.43	0.32	0.22	0.26	0.3	0.15	20	
Dissolved Vanadium (V)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0		
Dissolved Zinc (Zn)	ug/L	260	23	23	44	34	14	28	26	34	32	30	51	47	5.0		5,000
Chlorobenzenes																	
1,2-Dichlorobenzene	ug/L				ND				ND				ND		0.5	200	
1,3-Dichlorobenzene	ug/L				ND				ND				ND		1		
1,4-Dichlorobenzene	ug/L				ND				ND				ND		1	5	
Chlorobenzene	ug/L				ND				ND				ND		1		
Volatile Organics																	

Walkerville C & D Site MW No.2 & MW No.2A
Pictou County, Nova Scotia

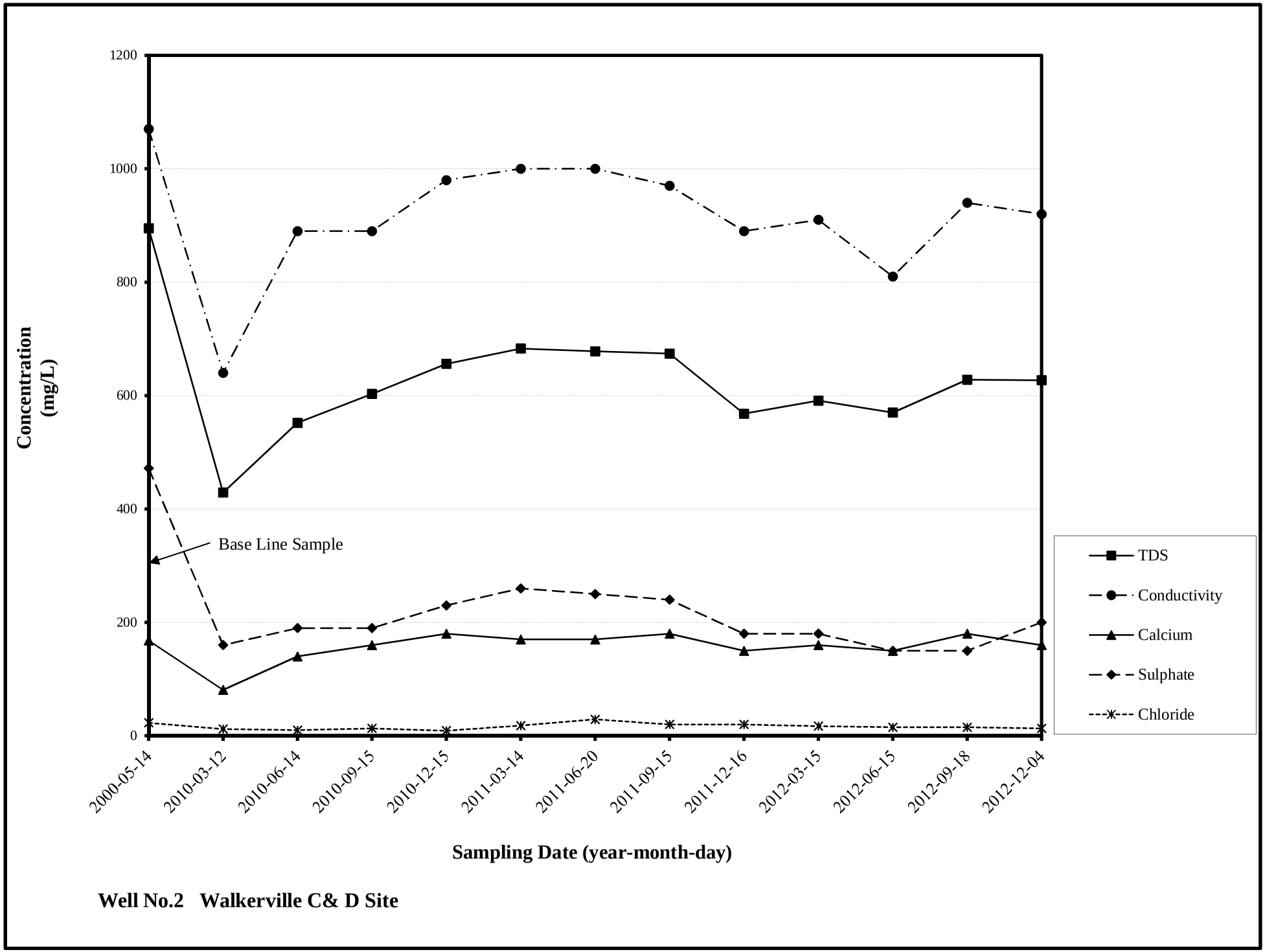
Maxxam ID		Baseline	FI5119	GE8771	HF6335	IF6867	IX9889	JX7106	KY5892	MA5754	MV8308	NW1842	OX8069	PW4171		Canadian Drinking Water Guidelines	
Sampling Date		2000-05-14	2010-03-12	2010-06-14	2010-09-15	2010-12-15	2011-03-14	2011-06-20	2011-09-15	2011-12-16	2012-03-15	2012-06-15	2012-09-18	2012-12-04			
COC Number			S 12418	S12416	B130882	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510			
	Units	MW No.2	MW No.2A	MW No.2A	MW No.2A	MW No.2A	MW No.2A	MW No.2A	MW No.2A	MW No.2A	MW No.2A	MW No.2A	MW No.2A	MW No.2A	RDL	MAC	AO
1,1,1-Trichloroethane	ug/L				ND				ND				ND		1		
1,1,2,2-Tetrachloroethane	ug/L				ND				ND				ND		1		
1,1,2-Trichloroethane	ug/L				ND				ND				ND		1		
1,1-Dichloroethane	ug/L				ND				ND				ND		2		
1,1-Dichloroethylene	ug/L				ND				ND				ND		0.5	14	
1,2-Dichloroethane	ug/L				ND				ND				ND		1	5	
1,2-Dichloropropane	ug/L				ND				ND				ND		1		
Benzene	ug/L				ND				ND				ND		1	5	
Bromodichloromethane	ug/L				ND				ND				ND		1		
Bromoform	ug/L				ND				ND				ND		1		
Bromomethane	ug/L				ND				ND				ND		3		
Carbon Tetrachloride	ug/L				ND				ND				ND		1	5	
Chloroethane	ug/L				ND				ND				ND		8		
Chloroform	ug/L				ND				ND				ND		1		
Chloromethane	ug/L				ND				ND				ND		8		
cis-1,2-Dichloroethylene	ug/L				ND				ND				ND		2		
cis-1,3-Dichloropropene	ug/L				ND				ND				ND		2		
Dibromochloromethane	ug/L				ND				ND				ND		1		
Ethylbenzene	ug/L				ND				ND				ND		1		2.4
Ethylene Dibromide	ug/L				ND				ND				ND		1		
Methylene Chloride(Dichloromethane	ug/L				ND				ND				ND		3	50	
o-Xylene	ug/L				ND				ND				ND		1		300
p+m-Xylene	ug/L				ND				ND				ND		2		
Styrene	ug/L				ND				ND				ND		1		
Tetrachloroethylene	ug/L				ND				ND				ND		1	30	
Toluene	ug/L				ND				ND				ND		1		24
trans-1,2-Dichloroethylene	ug/L				ND				ND				ND		2		
trans-1,3-Dichloropropene	ug/L				ND				ND				ND		1		
Trichloroethylene	ug/L				ND				ND				ND		1	50	
Trichlorofluoromethane (FREON 11)	ug/L				ND				ND				ND		8		
Vinyl Chloride	ug/L				ND				ND				ND		0.5	2	
Biochemical Oxygen Demand	mg/L														5		
Total Chemical Oxygen Demand	mg/L				40	40		39	55				6.9		20		
Phenols-4AAP	mg/L				ND (1)				0.002				0.005		0.001		
Total Suspended Solids	mg/L				530								16		2		
Total Kjeldahl Nitrogen	mg/L				1.6				1.1						0.1		

Field Parameters

pH	units		7.50	7.50	7.8	7.9	7.6	7.7	7.9	7.4	7.4	7.6	7.6	7.7	
Conductivity	uS		650	870	885	960	990	980	960	870	890	820	920	910	

ND = Not detected
RDL = Reportable Detection Limit
MAC = Maximum Acceptable Concentrations
IMAC = Interim Maximum Acceptable Concentration
OA = Aesthetic Objective

Exceeds Guidelines



Well No.2 Walkerville C& D Site

Walkerville C & D Site MW No.3
Pictou County, Nova Scotia

Maxxam ID		Baseline	FI5120	GE8772	HF6336	IF6868	IX9890	JX7107	KY5893	MA5755	MV8309	NW2027	OX8070	PW4172		Canadian Drinking Water Guidelines	
Sampling Date		2000-05-14	2010-03-12	2010-06-14	2010-09-15	2010-12-15	2011-03-14	2011-06-20	2011-09-15	2011-12-16	2012-03-15	2012-06-15	2012-09-18	2012-12-04			
COC Number			S 12418	S12416	B130882	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510			
	Units	MW No.3	MW No.3	MW NO.3	MW No.3	MW No.3	MW No.3	MW No.3	MW No.3	MW No.3	MW No.3	MW No.3	MW No.3	MW No.3	RDL	MAC	AO
Calculated Parameters																	
Anion Sum	me/L		12	11.5	11.6	11.9	11.7	11.5	11.6	8.22	13.1	12	9.9	12.1	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	484	532	504	495	518	504	497	494	347	580	520	430	520	1		
Calculated TDS	mg/L	654	595	553	588	576	602	576	591	530	681	592	534	603	1		500
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.4	5	3	6	6	4	6	4	2	2.2	3.9	4	4.9	1		
Cation Sum	me/L		11.8	10.3	12.0	10.9	12.6	11.6	12	13.2	13.6	11.6	11.7	11.7	N/A		
Hardness (CaCO3)	mg/L	514	460	410	470	430	490	460	450	580	610	430	450	460	1		
Ion Balance (% Difference	%		0.80	5.56	1.99	4.57	3.54	0.30	1.83	23.30	1.95	1.48	8.33	1.68	N/A		
Langelier Index (@ 20C)	N/A		1.17	0.916	1.24	1.21	1.06	1.24	1.03	1.06	1.11	1.02	1.1	1.17			
Langelier Index (@ 4C)	N/A		0.923	0.669	0.995	0.964	0.813	0.989	0.786	0.813	0.858	0.774	0.851	0.921			
Saturation pH (@ 20C)	N/A		6.83	6.88	6.86	6.89	6.84	6.86	6.87	6.74	6.49	6.88	6.9	6.83			
Saturation pH (@ 4C)	N/A		7.08	7.13	7.11	7.14	7.09	7.11	7.11	6.99	6.74	7.13	7.15	7.08			
Inorganics																	
Alkalinity (Total as CaCO3)	mg/L	486	540	510	500	520	510	500	500	350	580	530	430	530	1		
Chloride (Cl)	mg/L	17	13	14	17	15	17	17	17	8	17	16	15	16	1		250
Colour	TCU	305	ND	ND	ND	ND	ND	5	ND	ND	ND	ND	ND	ND	5	5	
Nitrate (N)	mg/L		0.35	0.13	0.31	0.24	0.31	0.32	0.28	0.41	0.31	0.13	0.72	0.3	0.06		
Nitrite (N)	mg/L		ND	ND	ND	ND	ND	ND	0.02	ND	0.011	0.015	0.063	ND	0.06		
Nitrite + Nitrate	mg/L	2.70	0.35	0.13	0.31	0.24	0.31	0.32	0.30	0.41	0.32	0.15	0.79	0.3	0.06	10	
Nitrogen (Ammonia Nitrogen)	mg/L	ND	ND	ND	ND	ND	ND	ND	0.08	ND	0.95	0.33	ND	0.11	0.05		
Total Organic Carbon (C)	mg/L	4.5	1	2	1.2	1.1	ND	1.5	1.3	1	ND (1)	0.99	1	0.84	0.5		
Orthophosphate (P)	mg/L	ND	ND	ND	ND	ND	ND	ND	0.02	ND	ND	0.024	0.031	0.016	0.3		
pH	pH	7.5	8.0	7.8	8.1	8.1	7.9	8.1	7.9	7.8	7.6	7.9	8.0	8.0	N/A	6.5 - 8.5	
Silica (SiO2)	mg/L	10	9.3	9.1	9.9	9.8	10	9.1	8.3	21	19	7	11	10	0.1		
Sulphate (SO4)	mg/L	107	41	46	49	47	50	45	53	47	42	47	38	52	2		500
Turbidity	NTU	55	41	12	99	24	40	22	27	57	74	3	4	22	0.1	1	
Conductivity	uS/cm	907	1,000	1,000	950	1,000	1,000	980	1,000	700	1,100	940	840	980	1		
Metals																	
Dissolved Aluminum (Al)	ug/L		42.0	5.1	26.0	14.0	6.7	9.2	14.0	11.0	320	27	37	38	5.0	100	
Dissolved Antimony (Sb)	ug/L		ND	ND	ND	1.1	ND	ND	0.72	2.8	4.7	ND	ND	ND	0.40	6	
Dissolved Arsenic (As)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	3.4	11	ND	0.64	ND	0.60	10	
Dissolved Barium (Ba)	ug/L	110	75	66	68	64	76	68	62	140	240	77	81	74	0.40	1000	
Dissolved Beryllium (Be)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.50		
Dissolved Bismuth (Bi)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0		
Dissolved Boron (B)	ug/L	80	ND	ND	ND	ND	ND	ND	ND	200	200	ND	ND	ND	100	5000	
Dissolved Cadmium (Cd)	ug/L	ND	ND	ND	0.018	0.030	ND	ND	ND	0.019	0.36	0.045	0.024	ND	0.017	5	
Dissolved Calcium (Ca)	ug/L	98,200	85,000	78,000	86,000	76,000	88,000	84,000	84,000	160,000	170,000	78,000	88,000	87,000	100		
Dissolved Chromium (Cr)	ug/L	ND	1.2	2.1	ND	ND	ND	ND	ND	ND	1.1	ND	ND	ND	1.0	50	
Dissolved Cobalt (Co)	ug/L		ND	ND	ND	ND	ND	ND	ND	7.4	3.5	1.1	1.3	ND	1.0		
Dissolved Copper (Cu)	ug/L	20	ND	ND	ND	ND	ND	2.5	ND	ND	36	ND	ND	ND	2.0		1
Dissolved Iron (Fe)	ug/L	1,850	ND	ND	ND	ND	ND	ND	ND	ND	5,200	ND	110	130	100		300
Dissolved Lead (Pb)	ug/L	18	ND	ND	ND	ND	ND	ND	ND	ND	59	ND	ND	ND	1.0	10	
Dissolved Lithium (Li)	ug/L		46	32	44	46	47	44	45	53	39	50	54	49	1.0		
Dissolved Magnesium (Mg)	ug/L	65,400	61,000	52,000	62,000	58,000	66,000	60,000	59,000	46,000	41,000	58,000	57,000	59,000	100		
Dissolved Manganese (Mn)	ug/L	370	20	13	20	33	6	ND	68	720	590	230	370	130	4.0		50
Dissolved Mercury (Hg)	ug/L				ND				ND				ND		0.01	1	
Dissolved Molybdenum (Mo)	ug/L		ND	ND	ND	ND	ND	ND	ND	74	24	ND	ND	ND	4.0		
Dissolved Nickel (Ni)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.0		
Dissolved Phosphorus (P)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	110	ND	100		
Dissolved Potassium (K)	ug/L	3,600	2,700	2,200	2,900	2,700	2,900	2,500	2,800	3,000	2,000	3,000	3,000	2,900	100		
Dissolved Selenium (Se)	ug/L		ND	ND	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND	1.0	10	
Dissolved Silver (Ag)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.10		
Dissolved Sodium (Na)	ug/L	58,200	58,000	47,000	60,000	52,000	61,000	55,000	66,000	35,000	26,000	67,000	59,000	56,000	100		200,000
Dissolved Strontium (Sr)	ug/L		630	560	560	550	630	590	540	930	980	620	650	650	2.0		
Dissolved Sulphur (S)	ug/L														500		
Dissolved Thallium (Tl)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.80		
Dissolved Tin (Sn)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20		
Dissolved Titanium (Ti)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	18	ND	ND	ND	3.0		
Dissolved Uranium (U)	ug/L	ND	7.9	8.7	9.4	8.3	8.2	8.7	9.1	0.73	0.26	7.5	6.8	7.8	0.15	20	
Dissolved Vanadium (V)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	2.3	ND	ND	ND	2.0		
Dissolved Zinc (Zn)	ug/L	20	ND	8.1	6.2	ND	ND	5.5	ND	340	340	5.4	9.1	ND	5.0		5,000
Chlorobenzenes																	
1,2-Dichlorobenzene	ug/L				ND				ND				ND		0.5	200	
1,3-Dichlorobenzene	ug/L				ND				ND				ND		1		
1,4-Dichlorobenzene	ug/L				ND				ND				ND		1	5	
Chlorobenzene	ug/L				ND				ND				ND		1		
Volatile Organics																	

Walkerville C & D Site MW No.3
Pictou County, Nova Scotia

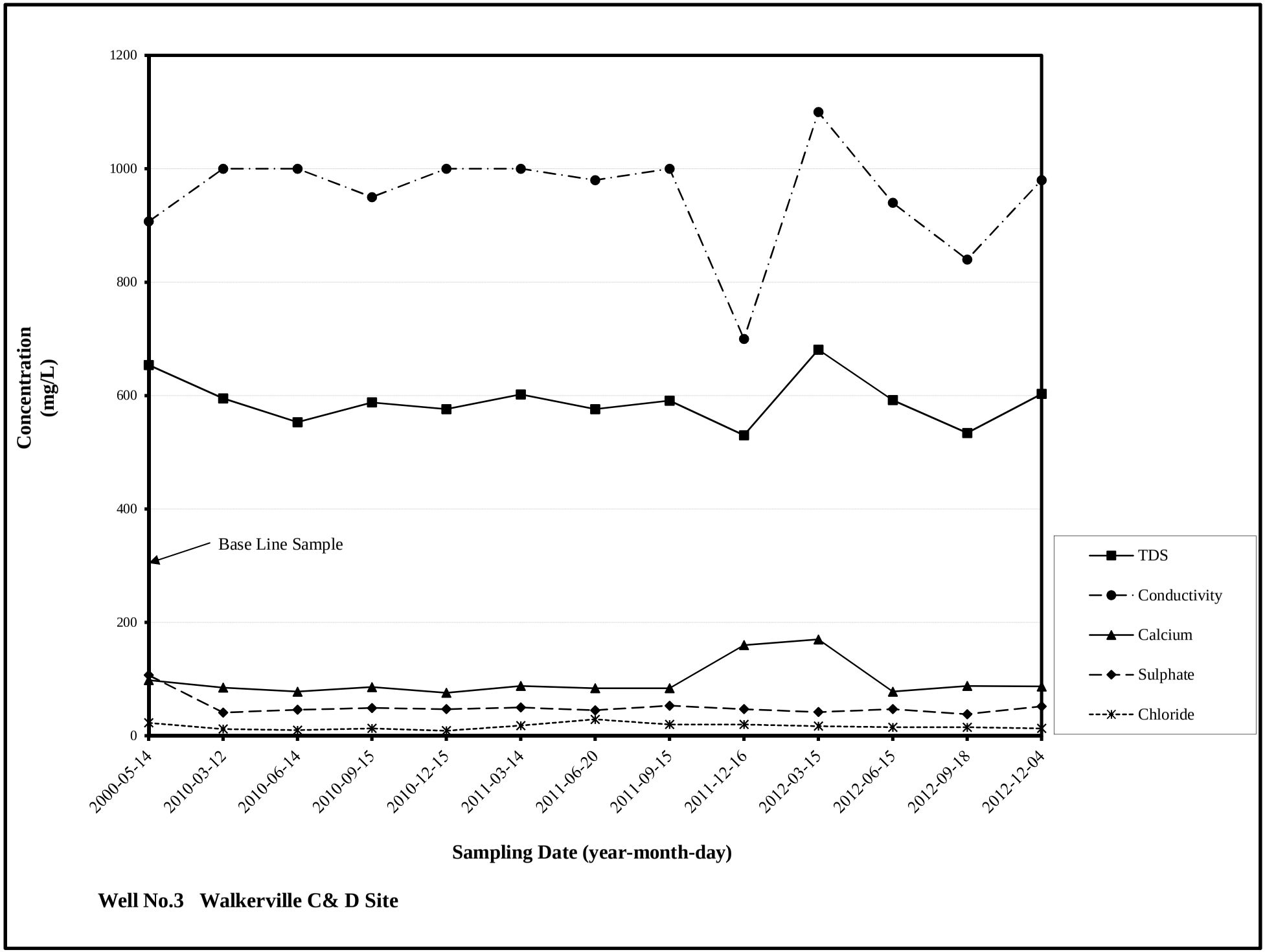
Maxxam ID		Baseline	FI5120	GE8772	HF6336	IF6868	IX9890	JX7107	KY5893	MA5755	MV8309	NW2027	OX8070	PW4172		Canadian Drinking Water Guidelines	
Sampling Date		2000-05-14	2010-03-12	2010-06-14	2010-09-15	2010-12-15	2011-03-14	2011-06-20	2011-09-15	2011-12-16	2012-03-15	2012-06-15	2012-09-18	2012-12-04			
COC Number			S 12418	S12416	B130882	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510			
	Units	MW No.3	MW No.3	MW NO.3	MW No.3	MW No.3	MW No.3	MW No.3	MW No.3	MW No.3	MW No.3	MW No.3	MW No.3	MW No.3	RDL	MAC	AO
1,1,1-Trichloroethane	ug/L				ND				ND				ND		1		
1,1,2,2-Tetrachloroethane	ug/L				ND				ND				ND		1		
1,1,2-Trichloroethane	ug/L				ND				ND				ND		1		
1,1-Dichloroethane	ug/L				ND				ND				ND		2		
1,1-Dichloroethylene	ug/L				ND				ND				ND		0.5	14	
1,2-Dichloroethane	ug/L				ND				ND				ND		1	5	
1,2-Dichloropropane	ug/L				ND				ND				ND		1		
Benzene	ug/L				ND				ND				ND		1	5	
Bromodichloromethane	ug/L				ND				ND				ND		1		
Bromoform	ug/L				ND				ND				ND		1		
Bromomethane	ug/L				ND				ND				ND		3		
Carbon Tetrachloride	ug/L				ND				ND				ND		1	5	
Chloroethane	ug/L				ND				ND				ND		8		
Chloroform	ug/L				ND				ND				ND		1		
Chloromethane	ug/L				ND				ND				ND		8		
cis-1,2-Dichloroethylene	ug/L				ND				ND				ND		2		
cis-1,3-Dichloropropene	ug/L				ND				ND				ND		2		
Dibromochloromethane	ug/L				ND				ND				ND		1		
Ethylbenzene	ug/L				ND				ND				ND		1		2.4
Ethylene Dibromide	ug/L				ND				ND				ND		1		
Methylene Chloride(Dichloromethane	ug/L				ND				ND				ND		3	50	
o-Xylene	ug/L				ND				ND				ND		1		300
p+m-Xylene	ug/L				ND				ND				ND		2		
Styrene	ug/L				ND				ND				ND		1		
Tetrachloroethylene	ug/L				ND				ND				ND		1	30	
Toluene	ug/L				ND				ND				ND		1		24
trans-1,2-Dichloroethylene	ug/L				ND				ND				ND		2		
trans-1,3-Dichloropropene	ug/L				ND				ND				ND		1		
Trichloroethylene	ug/L				ND				ND				ND		1	50	
Trichlorofluoromethane (FREON 11)	ug/L				ND				ND				ND		8		
Vinyl Chloride	ug/L				ND				ND				ND		0.5	2	
Biochemical Oxygen Demand	mg/L														5		
Total Chemical Oxygen Demand	mg/L				ND	ND		6	26				9		20		
Phenols-4AAP	mg/L				ND (1)				0.002				0.0041		0.001		
Total Suspended Solids	mg/L				120								22		2		
Total Kjeldahl Nitrogen	mg/L				0.4				0.6								

Field Parameters

pH	units		7.80	7.60	7.9	8.0	7.8	8.0	8.0	7.9	7.5	7.7	7.8	7.8	
Conductivity	uS		985	980	945	990	990	970	980	710	1,050	930	825	960	

ND = Not detected
RDL = Reportable Detection Limit
MAC = Maximum Acceptable Concentrations
OA = Aesthetic Objective

Exceeds Guidelines



Well No.3 Walkerville C& D Site

Walkerville C & D Site MW No.4
Pictou County, Nova Scotia

Maxxam ID		Baseline	FI5135	GE8773	HF6337	IF6869	IX9891	JX7108	KY5894	MA5759	MV8310	NW2028	OX8071	PW4173		Canadian Drinking Water Guidelines	
Sampling Date		2000-05-14	2010-03-12	2010-06-14	2010-09-15	2010-12-15	2011-03-14	2011-06-20	2011-09-15	2011-12-16	2012-03-15	2012-06-15	2012-09-18	2012-12-04			
COC Number			S 12418	S12416	B130882	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510			
	Units	MW No.4	MW No.4	MW No.4	MW No.4	MW No.4	MW No.4	MW No.4	MW No.4	MW No.4	MW No.4	MW No.4	MW No.4	MW No.4	RDL	MAC	AO
Calculated Parameters																	
Anion Sum	me/L		2.21	3.42	4.01	4.13	3.98	3.37	3.97	1.07	7.25	4.15	4.76	3.02	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	244	77	135	164	157	147	130	162	32	330	160	190	110	1		
Calculated TDS	mg/L	350	122	173	215	216	219	186	217	61	442	229	267	170	1		500
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.2	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	1		
Cation Sum	me/L		2.24	2.93	4.19	3.81	4.16	3.64	4.26	1.03	11.1	4.24	5.23	3.14	N/A		
Hardness (CaCO3)	mg/L	69	95	86	130	120	110	110	120	40	440	80	130	78	1		
Ion Balance (% Difference	%		0.67	7.72	2.20	4.03	2.21	3.85	3.52	1.9	21.1	1.07	4.7	1.95	N/A		
Langelier Index (@ 20C)	N/A		-0.396	-0.78	0.231	-0.0970	-0.312	-0.329	-0.472	-1.24	0.566	-0.592	-0.321	-0.51			
Langelier Index (@ 4C)	N/A		-0.647	-1.03	-0.0190	-0.347	-0.562	-0.579	-0.721	-1.49	0.317	-0.842	-0.571	-0.76			
Saturation pH (@ 20C)	N/A		8.1	7.98	7.77	7.80	7.81	7.93	7.77	8.74	6.83	7.99	7.72	8.11			
Saturation pH (@ 4C)	N/A		8.35	8.23	8.02	8.05	8.06	8.18	8.02	8.99	7.08	8.24	7.97	8.36			
Inorganics																	
Alkalinity (Total as CaCO3)	mg/L	246	78	130	170	160	150	130	160	32	330	160	190	110	1		
Chloride (Cl)	mg/L	2	7	9	11	10	17	11	8	6	14	13	13	7.8	1		250
Colour	TCU	99	13	ND	ND	ND	ND	ND	ND	35	21	30	ND	ND	5	5	
Nitrate (N)	mg/L		0.07	0.15	0.31	0.79	0.06	0.40	0.05	ND	ND	0.18	0.5	0.57	0.06		
Nitrite (N)	mg/L		ND	ND	ND	ND	ND	0.07	ND	ND	ND	ND	0.068	0.016	0.06		
Nitrite + Nitrate	mg/L	1.7	0.07	0.15	0.31	0.79	0.06	0.48	0.05	ND	ND	0.18	0.57	0.59	0.06	10	
Nitrogen (Ammonia Nitrogen)	mg/L	ND	0.06	0.69	0.65	ND	0.82	0.36	0.91	ND	1.0	1.1	0.4	0.1	0.05		
Total Organic Carbon (C)	mg/L	2.5	2.7	2.2	2.0	2.3	ND	2.5	2.4	5.8	7.1 (1)	3.4	2.7	3.1	0.5		
Orthophosphate (P)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3		
pH	pH	7.7	7.7	7.2	8.0	7.7	7.5	7.6	7.3	7.5	7.4	7.4	7.4	7.6	N/A	6.5 - 8.5	
Silica (SiO2)	mg/L	ND	5.6	4.1	5.2	4.8	4.4	4.4	4.8	3.1	16	3.6	6.8	5.1	0.1		
Sulphate (SO4)	mg/L	72	21	22	18	30	27	20	24	12	11	27	26	25	2		500
Turbidity	NTU	27	10	110	110	120	87	61	45	18	21	67	55	28	0.1	1	
Conductivity	uS/cm	457	220	330	390	400	380	340	380	110	660	360	440	280	1		
Metals																	
Dissolved Aluminum (Al)	ug/L		230	6	20	13	ND	8	8	240	180	6	5	8	5.0	100	
Dissolved Antimony (Sb)	ug/L		ND	ND	ND	0.67	ND	ND	ND	1.6	2.3	ND	ND	ND	0.40	6	
Dissolved Arsenic (As)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.9	ND	ND	ND	0.60	10	
Dissolved Barium (Ba)	ug/L	80	56	86	110	100	100	98	110	25	150	110	160	87	0.40	1000	
Dissolved Beryllium (Be)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.50		
Dissolved Bismuth (Bi)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0		
Dissolved Boron (B)	ug/L	ND	ND	ND	100	100	ND	ND	ND	ND	250	110	210	110	100	5000	
Dissolved Cadmium (Cd)	ug/L	ND	0.049	ND	ND	ND	ND	ND	ND	ND	0.017	0.02	ND	ND	0.017	5	
Dissolved Calcium (Ca)	ug/L	17,100	23,000	18,000	26,000	25,000	26,000	22,000	26,000	12,000	130,000	16,000	26,000	16,000	100		
Dissolved Chromium (Cr)	ug/L	ND	1.6	1.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	50	
Dissolved Cobalt (Co)	ug/L		ND	1.4	1.9	ND	2.8	1.2	1.6	ND	2.5	1.4	1.7	ND	1.0		
Dissolved Copper (Cu)	ug/L	30	34	ND	ND	ND	ND	ND	ND	ND	2.3	ND	ND	ND	2.0		1
Dissolved Iron (Fe)	ug/L	3,380	210	ND	810	320	ND	ND	620	380	780	4,800	1,200	1,400	100		300
Dissolved Lead (Pb)	ug/L	4	3.9	ND	ND	ND	ND	ND	ND	ND	3.1	ND	ND	ND	1.0	10	
Dissolved Lithium (Li)	ug/L		5.9	14	25	24	23	24	26	ND	36	23	31	18	1.0		
Dissolved Magnesium (Mg)	ug/L	6,380	8,800	9,700	15,000	14,000	12,000	12,000	14,000	2,600	41,000	9,700	16,000	8,900	100		
Dissolved Manganese (Mn)	ug/L	590	21	400	520	190	620	490	540	45	370	520	730	160	4.0		50
Dissolved Mercury (Hg)	ug/L				ND				ND				ND		0.01	1	
Dissolved Molybdenum (Mo)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	20	ND	ND	ND	4.0		
Dissolved Nickel (Ni)	ug/L		37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.0		
Dissolved Phosphorus (P)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100		
Dissolved Potassium (K)	ug/L	1,300	1,500	970	1,500	1,300	1,400	1300	1500	1000	2100	1100	1700	1300	100		
Dissolved Selenium (Se)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	10	
Dissolved Silver (Ag)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.10		
Dissolved Sodium (Na)	ug/L	103,000	6,800	26,000	36,000	31,000	42,000	34,000	39,000	4,400	30,000	54,000	58,000	34,000	300		200,000
Dissolved Strontium (Sr)	ug/L		120	280	350	350	280	310	350	57	740	240	390	240	2.0		
Dissolved Sulphur (S)	ug/L														500		
Dissolved Thallium (Tl)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.80		
Dissolved Tin (Sn)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20		
Dissolved Titanium (Ti)	ug/L		4.3	ND	ND	ND	ND	ND	ND	5.3	3.3	ND	ND	ND	3.0		
Dissolved Uranium (U)	ug/L	ND	0.28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.15	20	
Dissolved Vanadium (V)	ug/L		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0		
Dissolved Zinc (Zn)	ug/L	10	98	ND	ND	11	6.2	6.9	ND	6.7	110	ND	ND	ND	5.0		5,000
Chlorobenzenes																	
1,2-Dichlorobenzene	ug/L				ND				ND				ND		0.5	200	
1,3-Dichlorobenzene	ug/L				ND				ND				ND		1		
1,4-Dichlorobenzene	ug/L				ND				ND				ND		1	5	
Chlorobenzene	ug/L				ND				ND				ND		1		
Volatile Organics																	

Walkerville C & D Site MW No.4
Pictou County, Nova Scotia

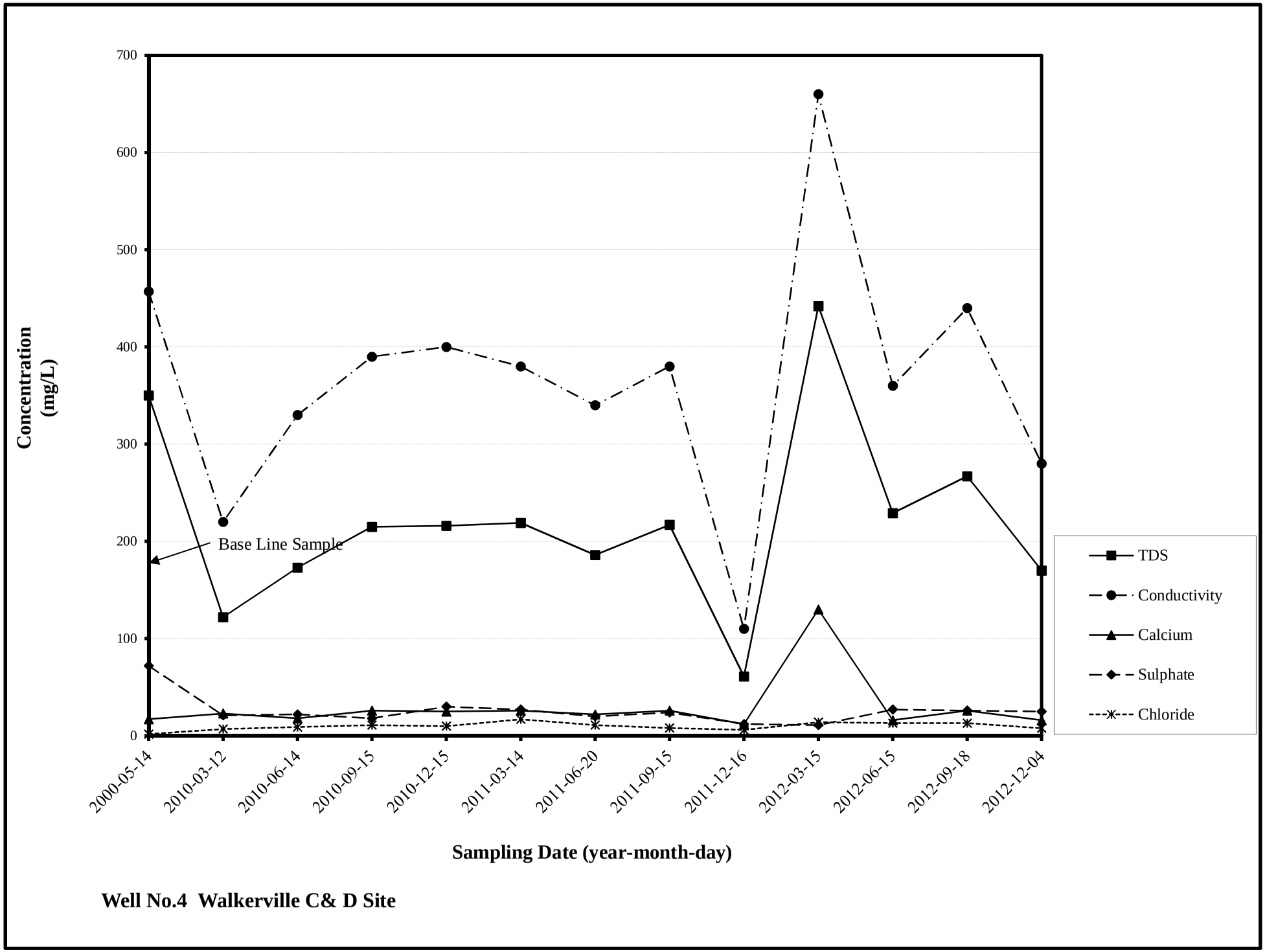
Maxxam ID		Baseline	FI5135	GE8773	HF6337	IF6869	IX9891	JX7108	KY5894	MA5759	MV8310	NW2028	OX8071	PW4173		Canadian Drinking Water Guidelines	
Sampling Date		2000-05-14	2010-03-12	2010-06-14	2010-09-15	2010-12-15	2011-03-14	2011-06-20	2011-09-15	2011-12-16	2012-03-15	2012-06-15	2012-09-18	2012-12-04			
COC Number			S 12418	S12416	B130882	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510			
	Units	MW No.4	MW No.4	MW No.4	MW No.4	MW No.4	MW No.4	MW No.4	MW No.4	MW No.4	MW No.4	MW No.4	MW No.4	MW No.4	RDL	MAC	AO
1,1,1-Trichloroethane	ug/L				ND				ND				ND		1		
1,1,2,2-Tetrachloroethane	ug/L				ND				ND				ND		1		
1,1,2-Trichloroethane	ug/L				ND				ND				ND		1		
1,1-Dichloroethane	ug/L				ND				ND				ND		2		
1,1-Dichloroethylene	ug/L				ND				ND				ND		0.5	14	
1,2-Dichloroethane	ug/L				ND				ND				ND		1	5	
1,2-Dichloropropane	ug/L				ND				ND				ND		1		
Benzene	ug/L				ND				ND				ND		1	5	
Bromodichloromethane	ug/L				ND				ND				ND		1		
Bromoform	ug/L				ND				ND				ND		1		
Bromomethane	ug/L				ND				ND				ND		3		
Carbon Tetrachloride	ug/L				ND				ND				ND		1	5	
Chloroethane	ug/L				ND				ND				ND		8		
Chloroform	ug/L				ND				ND				ND		1		
Chloromethane	ug/L				ND				ND				ND		8		
cis-1,2-Dichloroethylene	ug/L				ND				ND				ND		2		
cis-1,3-Dichloropropene	ug/L				ND				ND				ND		2		
Dibromochloromethane	ug/L				ND				ND				ND		1		
Ethylbenzene	ug/L				ND				ND				ND		1		2.4
Ethylene Dibromide	ug/L				ND				ND				ND		1		
Methylene Chloride(Dichloromethane	ug/L				ND				ND				ND		3	50	
o-Xylene	ug/L				ND				ND				ND		1		300
p+m-Xylene	ug/L				ND				ND				ND		2		
Styrene	ug/L				ND				ND				ND		1		
Tetrachloroethylene	ug/L				ND				ND				ND		1	30	
Toluene	ug/L				ND				ND				ND		1		24
trans-1,2-Dichloroethylene	ug/L				ND				ND				ND		2		
trans-1,3-Dichloropropene	ug/L				ND				ND				ND		1		
Trichloroethylene	ug/L				ND				ND				ND		1	50	
Trichlorofluoromethane (FREON 11)	ug/L				ND				ND				ND		8		
Vinyl Chloride	ug/L				ND				ND				ND		0.5	2	
Biochemical Oxygen Demand	mg/L														5		
Total Chemical Oxygen Demand	mg/L				ND	6		ND	ND				6.9		20		
Phenols-4AAP	mg/L				ND (1)				0.001				0.0045		0.001		
Total Suspended Solids	mg/L				24								200		2		
Total Kjeldahl Nitrogen	mg/L				1.7				1.7								

Field Parameters

pH	units		7.50	7.10	7.8	7.8	7.4	7.5	7.4	7.4	7.3	7.3	7.4	7.7	
Conductivity	uS		210	300	380	390	370	350	370	130	650	380	430	290	

ND = Not detected
RDL = Reportable Detection Limit
MAC = Maximum Acceptable Concentrations
IMAC = Interim Maximum Acceptable Concentration
OA = Aesthetic Objective

Exceeds Guidelines



Well No.4 Walkerville C& D Site

Walkerville C & D Site MW No.5
Pictou County, Nova Scotia

Maxxam ID		FI5136	GE8774	HF6338	IF6870	IX9893	JX7109	KY5895	MA5761	MV8311	NW2029	OX8072	PW4177		Canadian Drinking Water Guidelines	
Sampling Date		2010-03-12	2010-06-14	2010-09-15	2010-12-15	2011-03-14	2011-06-20	2011-09-15	2011-12-16	2012-03-15	2012-06-15	2012-09-18	2012-12-04			
COC Number		S 12418	S12416	B130882	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510			
	Units	MW No.5	MW No.5	MW No.5	MW No.5	MW No.5	MW No.5	MW No.5	MW No.5	MW No.5	MW No.5	MW No.5	MW No.5	RDL	MAC	AO
Calculated Parameters																
Anion Sum	me/L	5.6	19.0	10.4	20.0	19.7	18.5	18.0	18.6	17.6	17.7	18.8	17.9	N/A		
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	163	855	296	911	882	846	804	848	810	820	850	820	1		
Calculated TDS	mg/L	355	938	603	980	998	918	930	918	896	877	997	922	1		500
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	2	3	4	3	3	2	4	1.9	2.4	2	3.1	1		
Cation Sum	me/L	7.420	18.100	10.6	18.6	20.0	18.0	19.2	17.3	18.5	17.2	20.7	18.3	N/A		
Hardness (CaCO3)	mg/L	320	800	500	810	870	790	830	750	800	740	880	770	1		
Ion Balance (% Difference)	%	14.4	2.59	0.620	3.53	0.910	1.34	3.12	3.67	2.50	1.49	4.83	0.97	N/A		
Langelier Index (@ 20C)	N/A	0.286	1.13	1.18	1.44	1.25	1.30	1.19	1.39	1.09	1.18	1.14	1.29			
Langelier Index (@ 4C)	N/A	0.037	0.885	0.933	1.20	1.01	1.06	0.943	1.15	0.843	0.928	0.896	1.05			
Saturation pH (@ 20C)	N/A	7.31	6.27	6.82	6.26	6.25	6.30	6.31	6.31	6.31	6.33	6.26	6.31			
Saturation pH (@ 4C)	N/A	7.56	6.52	7.07	6.50	6.50	6.54	6.56	6.55	6.56	6.57	6.5	6.56			
Inorganics																
Alkalinity (Total as CaCO3)	mg/L	160	860	300	920	880	850	810	850	810	820	850	820	1		
Chloride (Cl)	mg/L	10	52	12	46	54	44	37	41	37	34	36	34	1		250
Colour	TCU	5	ND	ND	ND	11	8	7	9	6.7	9.2	7.6	5.4	5	5	
Nitrate (N)	mg/L	0.94	ND	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.06		
Nitrite (N)	mg/L	0.11	ND (1)	0.14	ND	ND (1)	ND	ND	0.01	ND	ND	ND	ND	0.06		
Nitrite + Nitrate	mg/L	1	ND	1.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.06	10	
Nitrogen (Ammonia Nitrogen)	mg/L	0.91	4	0.17	4.3	3.6	3.0	3.3	3.7	3.2	3.7	3.3	3.6	0.05		
Total Organic Carbon (C)	mg/L	2.1	8.3	2.4	8.8	11	10	11	8.5	12 (1)	11 (1)	8.1 (1)	13 (2)	0.5		
Orthophosphate (P)	mg/L	ND	ND	ND	ND	ND	ND	0.01	ND	ND	0.011	ND	0.011	0.3		
pH	pH	7.6	7.4	8.0	7.7	7.5	7.6	7.5	7.7	7.4	7.5	7.4	7.6	N/A	6.5 - 8.5	
Silica (SiO2)	mg/L	14	23	15	32	31	26	26	31	25	24	34	30	0.1		
Sulphate (SO4)	mg/L	92	20	190	18	20	13	39	21	13	13	35	28	2		500
Turbidity	NTU	87	110	330	>1000	530	130	450	23	180	370	290	240	0.1	1	
Conductivity	uS/cm	560	1,700	910	1,700	1,600	1,500	1,500	1,500	1,500	1,300	1,500	1,500	1		
Metals																
Dissolved Aluminum (Al)	ug/L	360	ND	39	8.1	6.8	12	28	47	29	16	21	140	5.0	100	
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	1.8	3.6	1.5	3.8	5.8	4.1	12	6.5	4.1	0.40	6	
Dissolved Arsenic (As)	ug/L	ND	3.9	1.4	4.2	5.5	2.4	4.8	10	7.4	33	28	30	0.60	10	
Dissolved Barium (Ba)	ug/L	45	350	140	250	260	220	200	200	220	240	370	290	0.40	1000	
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.50		
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0		
Dissolved Boron (B)	ug/L	ND	120	ND	240	420	220	200	280	370	260	510	360	100	5000	
Dissolved Cadmium (Cd)	ug/L	0.034	0.068	0.056	ND	0.029	0.47	ND	ND	ND	ND	ND	0.034	0.017	5	
Dissolved Calcium (Ca)	ug/L	81,000	220,000	160,000	210,000	230,000	210,000	210,000	200,000	210,000	200,000	230,000	210,000	100		
Dissolved Chromium (Cr)	ug/L	1.9	4.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	50	
Dissolved Cobalt (Co)	ug/L	6.9	6.5	2.5	12	7.1	7.5	8	13	3.9	8.5	13	9.3	1.0		
Dissolved Copper (Cu)	ug/L	5.1	5.4	17	2.9	2.1	3.9	3.7	3.6	2.5	ND	5.6	6.6	2.0		1
Dissolved Iron (Fe)	ug/L	630	ND	130	1,300	ND	ND	500	1,300	720	3,100	10,000	10,000	100		300
Dissolved Lead (Pb)	ug/L	11	ND	ND	ND	ND	ND	4.2	4.2	3.3	3.5	2.5	8.8	1.0	10	
Dissolved Lithium (Li)	ug/L	35	37	23	52	54	51	46	54	59	51	55	52	1.0		
Dissolved Magnesium (Mg)	ug/L	28,000	61,000	26,000	68,000	74,000	66,000	73,000	61,000	70,000	59,000	74,000	60,000	100		
Dissolved Manganese (Mn)	ug/L	2600	630	400	430	440	380	370	390	590	390	470	420	4.0		50
Dissolved Mercury (Hg)	ug/L			ND				0.017				ND		0.01	1	
Dissolved Molybdenum (Mo)	ug/L	ND	41	16	130	71	61	82	140	35	93	96	67	4.0		
Dissolved Nickel (Ni)	ug/L	11	3.1	ND	ND	ND	3.9	ND	ND	ND	4.4	6.9	4.9	3.0		
Dissolved Phosphorus (P)	ug/L	140	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100		
Dissolved Potassium (K)	ug/L	1,400	2,800	1,000	3,400	3,600	3,000	3,700	3,300	3,300	3,300	4,300	4,100	100		
Dissolved Selenium (Se)	ug/L	ND	ND	ND	ND	ND	2.0	ND	ND	ND	ND	ND	ND	1.0	10	
Dissolved Silver (Ag)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.10		
Dissolved Sodium (Na)	ug/L	22,000	40,000	12,000	44,000	53,000	45,000	53,000	43,000	48,000	46,000	57,000	51,000	300		200,000
Dissolved Strontium (Sr)	ug/L	200	1,500	1,100	1,400	1,300	1,300	1,200	1,200	1,200	1,300	1,500	1,400	2.0		
Dissolved Sulphur (S)	ug/L													500		
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.80		
Dissolved Tin (Sn)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20		
Dissolved Titanium (Ti)	ug/L	9.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.5	3.0		
Dissolved Uranium (U)	ug/L	0.93	0.39	0.41	0.37	0.21	ND	0.19	0.32	ND	0.2	0.22	0.16	0.15	20	
Dissolved Vanadium (V)	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0		
Dissolved Zinc (Zn)	ug/L	22	170	38	540	430	410	420	660	180	450	1200	490	5.0		5,000
Chlorobenzenes																
1,2-Dichlorobenzene	ug/L			ND				ND				ND		0.5	200	
1,3-Dichlorobenzene	ug/L			ND				ND				ND		1		

Walkerville C & D Site MW No.5
Pictou County, Nova Scotia

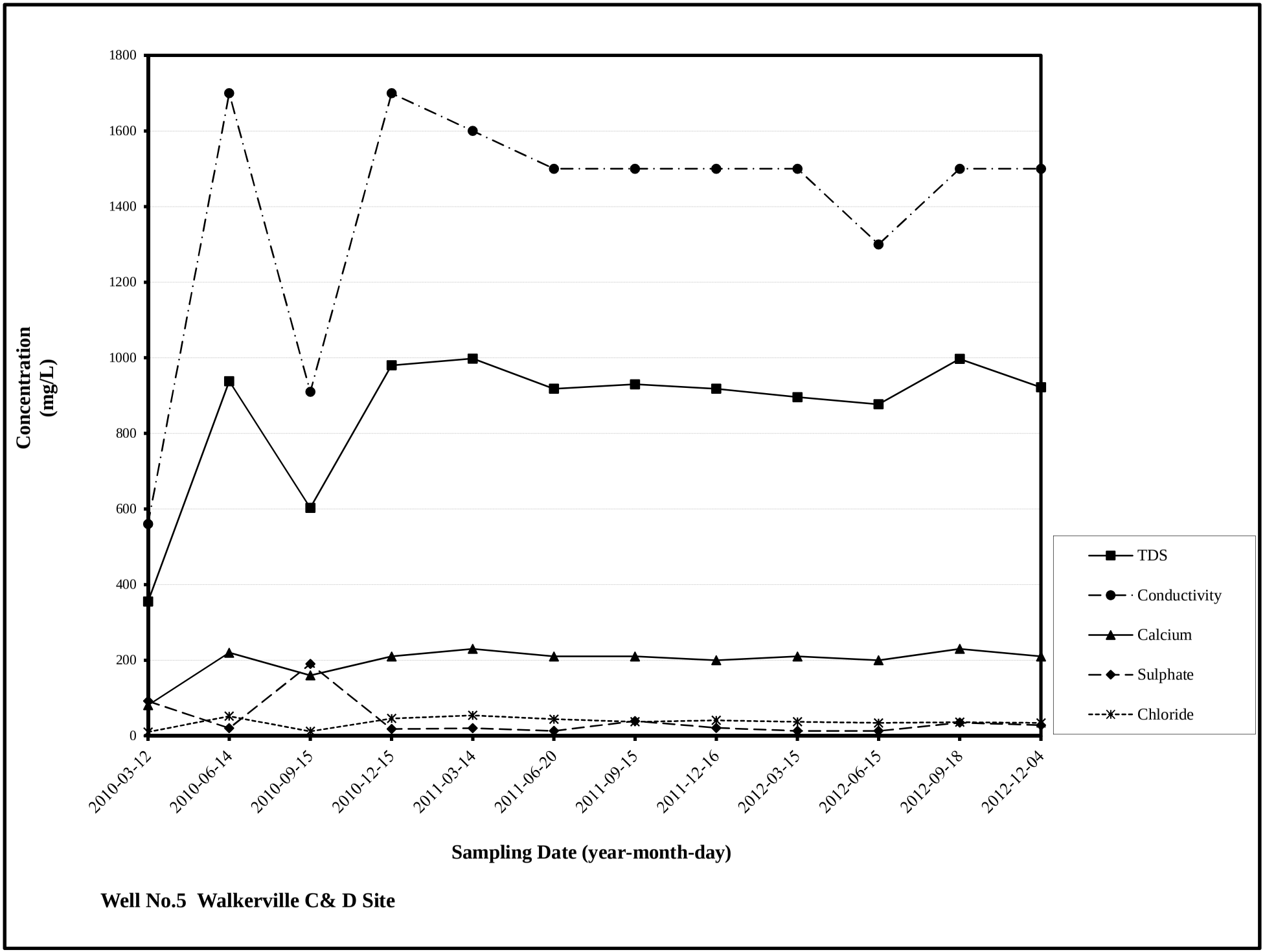
Maxxam ID		FI5136	GE8774	HF6338	IF6870	IX9893	JX7109	KY5895	MA5761	MV8311	NW2029	OX8072	PW4177		Canadian Drinking Water Guidelines	
Sampling Date		2010-03-12	2010-06-14	2010-09-15	2010-12-15	2011-03-14	2011-06-20	2011-09-15	2011-12-16	2012-03-15	2012-06-15	2012-09-18	2012-12-04			
COC Number		S 12418	S12416	B130882	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510	ET076510			
	Units	MW No.5	MW No.5	MW No.5	MW No.5	MW No.5	MW No.5	MW No.5	MW No.5	MW No.5	MW No.5	MW No.5	MW No.5	RDL	MAC	AO
1,4-Dichlorobenzene	ug/L			ND				ND				ND		1	5	
Chlorobenzene	ug/L			ND				ND				ND		1		
Volatile Organics																
1,1,1-Trichloroethane	ug/L			ND				ND				ND		1		
1,1,2,2-Tetrachloroethane	ug/L			ND				ND				ND		1		
1,1,2-Trichloroethane	ug/L			ND				ND				ND		1		
1,1-Dichloroethane	ug/L			ND				ND				ND		2		
1,1-Dichloroethylene	ug/L			ND				ND				ND		0.5	14	
1,2-Dichloroethane	ug/L			ND				ND				ND		1	5	
1,2-Dichloropropane	ug/L			ND				ND				ND		1		
Benzene	ug/L			ND				ND				ND		1	5	
Bromodichloromethane	ug/L			ND				ND				ND		1		
Bromoform	ug/L			ND				ND				ND		1		
Bromomethane	ug/L			ND				ND				ND		3		
Carbon Tetrachloride	ug/L			ND				ND				ND		1	5	
Chloroethane	ug/L			ND				ND				ND		8		
Chloroform	ug/L			ND				ND				ND		1		
Chloromethane	ug/L			ND				ND				ND		8		
cis-1,2-Dichloroethylene	ug/L			ND				ND				ND		2		
cis-1,3-Dichloropropene	ug/L			ND				ND				ND		2		
Dibromochloromethane	ug/L			ND				ND				ND		1		
Ethylbenzene	ug/L			ND				ND				ND		1		2.4
Ethylene Dibromide	ug/L			ND				ND				ND		1		
Methylene Chloride(Dichloromethane)	ug/L			ND				ND				ND		3	50	
o-Xylene	ug/L			ND				ND				ND		1		300
p+m-Xylene	ug/L			ND				ND				ND		2		
Styrene	ug/L			ND				ND				ND		1		
Tetrachloroethylene	ug/L			ND				ND				ND		1	30	
Toluene	ug/L			ND				ND				ND		1		24
trans-1,2-Dichloroethylene	ug/L			ND				ND				ND		2		
trans-1,3-Dichloropropene	ug/L			ND				ND				ND		1		
Trichloroethylene	ug/L			ND				ND				ND		1	50	
Trichlorofluoromethane (FREON 11)	ug/L			ND				ND				ND		8		
Vinyl Chloride	ug/L			ND				ND				ND		0.5	2	
Biochemical Oxygen Demand	mg/L													5		
Total Chemical Oxygen Demand	mg/L			38	120		92	160				200		20		
Phenols-4AAP	mg/L			ND (1)				0.008				0.012		0.001		
Total Suspended Solids	mg/L			560								230		2		
Total Kjeldahl Nitrogen	mg/L			3.0				6.2								

Field Parameters

pH	units	7.5	7.3	8.1	7.8	7.4	7.7	7.4	7.7	7.3	7.4	7.3	7.5	
Conductivity	uS	545	1,600	915	1,550	1,580	1,510	1,480	1,480	1,470	1,280	1,480	1,490	

ND = Not detected
RDL = Reportable Detection Limit
MAC = Maximum Acceptable Concentrations
OA = Aesthetic Objective

Exceeds Guidelines


1800
1600
1400
1200
1000
800
600
400
200
0
Concentration (mg/L)
2010-03-12
2010-06-14
2010-09-15
2010-12-15
2011-03-14
2011-06-20
2011-09-15
2011-12-16
2012-03-15
2012-06-15
2012-09-18
2012-12-04
Sampling Date (year-month-day)
TDS
Conductivity
Calcium
Sulphate
Chloride
Well No.5 Walkerville C& D Site

Appendix B

Laboratory reports for December 04, 2012 Water Quality testing

Your C.O.C. #: ET076510

Attention: Billy Shaw
WG Shaw & Associates Limited
4546 Highway 7
RR 5
Antigonish, NS
B2G 2L3

Report Date: 2012/12/14

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B2J2215
Received: 2012/12/06, 10:30

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Carbonate, Bicarbonate and Hydroxide	3	N/A	2012/12/11	CAM SOP-00102	APHA 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide	4	N/A	2012/12/12	CAM SOP-00102	APHA 4500-CO2 D
Alkalinity by Auto. Titration in Water	3	N/A	2012/12/10	ATL SOP 00167	Based on SM2320B
Alkalinity by Auto. Titration in Water	4	N/A	2012/12/11	ATL SOP 00167	Based on SM2320B
Chloride (1)	7	N/A	2012/12/12	ATL SOP 00014	Based on SM4500-Cl-
Colour (1)	7	N/A	2012/12/11	ATL SOP 00020	Based on SM2120C
Conductance - water	3	N/A	2012/12/10	ATL SOP-00169	SM2510
Conductance - water	4	N/A	2012/12/11	ATL SOP-00169	SM2510
Hardness (calculated as CaCO3)	7	N/A	2012/12/11		
Elements by ICPMS - low dissolved	3	N/A	2012/12/10	ATL SOP 00161	Based on EPA6020A
Elements by ICPMS - low dissolved	4	N/A	2012/12/11	ATL SOP 00161	Based on EPA6020A
Ion Balance (% Difference)	7	N/A	2012/12/13		
Anion and Cation Sum	7	N/A	2012/12/13		
Nitrogen Ammonia - water (1)	7	N/A	2012/12/12	ATL SOP 00015	Based on USEPA 350.1
Nitrogen - Nitrate + Nitrite (1)	7	N/A	2012/12/12	ATL SOP 00016	Based on USGS - Enz.
Nitrogen - Nitrite (1)	7	N/A	2012/12/12	ATL SOP 00017	Based on SM4500-NO2B
Nitrogen - Nitrate (as N) (1)	7	N/A	2012/12/12	ATL SOP 00018	Based on ASTMD3867
pH	3	N/A	2012/12/10	ATL SOP 00168	Based on SM4500H+
pH	4	N/A	2012/12/11	ATL SOP 00168	Based on SM4500H+
Phosphorus - ortho (1)	7	N/A	2012/12/11	ATL SOP 00021	Based on USEPA 365.1
Sat. pH and Langelier Index (@ 20C)	1	N/A	2012/12/11		
Sat. pH and Langelier Index (@ 20C)	6	N/A	2012/12/13		
Sat. pH and Langelier Index (@ 4C)	1	N/A	2012/12/11		
Sat. pH and Langelier Index (@ 4C)	6	N/A	2012/12/13		
Silica by ICP-MS/Calculation	7	N/A	2012/12/11	ATL SOP 00161	Based on EPA6020
Sulphate (1)	7	N/A	2012/12/11	ATL SOP 00023	Based on EPA 375.4
Total Dissolved Solids (TDS calc)	7	N/A	2012/12/13		
Organic carbon - Total (TOC) (1)	7	N/A	2012/12/12	ATL SOP 00037	Based on SM5310C
Turbidity (1)	7	N/A	2012/12/10	ATL SOP 00011	based on EPA 180.1

Remarks:

Reporting results to two significant figures at the RDL is to permit statistical evaluation and is not intended to be an indication of analytical precision.

../2

Your C.O.C. #: ET076510

Attention: Billy Shaw
WG Shaw & Associates Limited
4546 Highway 7
RR 5
Antigonish, NS
B2G 2L3

Report Date: 2012/12/14

CERTIFICATE OF ANALYSIS

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bedford

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Tanya Addicott, Client Services Representative
Email: TAddicott@maxxam.ca
Phone# (902) 567-1255 Ext:16

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 2

WG Shaw & Associates Limited

Maxxam Job #: B2J2215
Report Date: 2012/12/14

RCAP-MS DISSOLVED (WATER)

Maxxam ID		PW4161		PW4164		PW4170	
Sampling Date		2012/12/04		2012/12/04		2012/12/04	
COC Number		ET076510		ET076510		ET076510	
	Units	**WALKERVILLE SW#1**	**RDL**	**WALKERVILLE SW#2**	**RDL**	**WALKERVILLE SW#3**	**RDL**
Calculated Parameters							
Anion Sum	me/L	0.200	N/A	0.890	N/A	25.1	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	ND	1.0	24	1.0	700	1.0
Calculated TDS	mg/L	19.0	1.0	53.0	1.0	1390	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	1.0	ND	1.0	6.5	1.0
Cation Sum	me/L	0.390	N/A	0.880	N/A	24.9	N/A
Hardness (CaCO3)	mg/L	9.6	1.0	34	1.0	780	1.0
Ion Balance (% Difference)	%	32.2	N/A	0.560	N/A	0.540	N/A
Langelier Index (@ 20C)	N/A	NC		-1.44		1.58	
Langelier Index (@ 4C)	N/A	NC		-1.69		1.33	
Nitrate (N)	mg/L	ND	0.050	ND	0.050	0.93	0.050
Saturation pH (@ 20C)	N/A	NC		8.94		6.43	
Saturation pH (@ 4C)	N/A	NC		9.19		6.67	
Inorganics							
Alkalinity (Total as CaCO3)	mg/L	ND	5.0	24	5.0	700	5.0
Dissolved Chloride (Cl)	mg/L	6.9	1.0	6.3	1.0	230	5.0
Colour	TCU	100	25	22	5.0	69	25
Nitrate + Nitrite	mg/L	ND	0.050	ND	0.050	0.96	0.050
Nitrite (N)	mg/L	ND	0.010	ND	0.010	0.024	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	0.39	0.050	ND	0.050	0.87	0.050
Total Organic Carbon (C)	mg/L	12	0.50	5.1	0.50	43 (1)	5.0
Orthophosphate (P)	mg/L	0.060	0.010	ND	0.010	0.010	0.010
pH	pH	6.50	N/A	7.50	N/A	8.00	N/A
Silica (SiO2)	mg/L	4.2	0.10	3.6	0.10	19	0.10
Dissolved Sulphate (SO4)	mg/L	ND	2.0	11	2.0	210	20
Turbidity	NTU	1.9	0.10	11	0.10	13	0.10
Conductivity	uS/cm	42	1.0	90	1.0	2200	1.0
Metals							
Dissolved Aluminum (Al)	ug/L	300	5.0	170	5.0	260	5.0
Dissolved Antimony (Sb)	ug/L	ND	1.0	ND	1.0	ND	1.0
Dissolved Arsenic (As)	ug/L	ND	0.60	ND	0.60	3.1	0.60

ND = Not detected
RDL = Reportable Detection Limit
(1) Elevated reporting limit due to sample matrix.

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Maxxam Job #: B2J2215
Report Date: 2012/12/14

RCAP-MS DISSOLVED (WATER)

Maxxam ID		PW4161		PW4164		PW4170	
Sampling Date		2012/12/04		2012/12/04		2012/12/04	
COC Number		ET076510		ET076510		ET076510	
	Units	**WALKERVILLE SW#1**	**RDL**	**WALKERVILLE SW#2**	**RDL**	**WALKERVILLE SW#3**	**RDL**
Dissolved Barium (Ba)	ug/L	16	0.40	21	0.40	240	0.40
Dissolved Beryllium (Be)	ug/L	ND	0.50	ND	0.50	ND	0.50
Dissolved Bismuth (Bi)	ug/L	ND	2.0	ND	2.0	ND	2.0
Dissolved Boron (B)	ug/L	ND	100	ND	100	6700	100
Dissolved Cadmium (Cd)	ug/L	0.026	0.017	ND	0.017	0.030	0.017
Dissolved Calcium (Ca)	ug/L	2200	100	9900	100	210000	100
Dissolved Chromium (Cr)	ug/L	1.3	1.0	ND	1.0	4.5	1.0
Dissolved Cobalt (Co)	ug/L	ND	1.0	ND	1.0	2.6	1.0
Dissolved Copper (Cu)	ug/L	ND	2.0	2.6	2.0	3.7	2.0
Dissolved Iron (Fe)	ug/L	480	100	240	100	530	100
Dissolved Lead (Pb)	ug/L	ND	1.0	ND	1.0	ND	1.0
Dissolved Lithium (Li)	ug/L	1.1	1.0	1.1	1.0	8.3	1.0
Dissolved Magnesium (Mg)	ug/L	980	60	2200	60	60000	60
Dissolved Manganese (Mn)	ug/L	48	4.0	70	4.0	570	4.0
Dissolved Molybdenum (Mo)	ug/L	ND	4.0	ND	4.0	ND	4.0
Dissolved Nickel (Ni)	ug/L	ND	3.0	ND	3.0	6.5	3.0
Dissolved Phosphorus (P)	ug/L	130	100	ND	100	ND	100
Dissolved Potassium (K)	ug/L	ND	600	1000	600	36000	600
Dissolved Selenium (Se)	ug/L	ND	1.0	ND	1.0	1.3	1.0
Dissolved Silver (Ag)	ug/L	ND	0.10	ND	0.10	ND	0.10
Dissolved Sodium (Na)	ug/L	3500	300	3900	300	190000	300
Dissolved Strontium (Sr)	ug/L	12	2.0	46	2.0	2200	2.0
Dissolved Thallium (Tl)	ug/L	ND	0.80	ND	0.80	ND	0.80
Dissolved Tin (Sn)	ug/L	ND	20	ND	20	ND	20
Dissolved Titanium (Ti)	ug/L	ND	3.0	3.7	3.0	9.6	3.0
Dissolved Uranium (U)	ug/L	ND	0.15	ND	0.15	1.3	0.15
Dissolved Vanadium (V)	ug/L	ND	2.0	ND	2.0	ND	2.0
Dissolved Zinc (Zn)	ug/L	11	5.0	5.6	5.0	16	5.0

ND = Not detected
RDL = Reportable Detection Limit

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Maxxam Job #: B2J2215
Report Date: 2012/12/14

RCAP-MS DISSOLVED (WATER)

Maxxam ID		PW4171		PW4172	
Sampling Date		2012/12/04		2012/12/04	
COC Number		ET076510		ET076510	
	Units	**WALKERVILLE MW NO.2A**	**RDL**	**WALKERVILLE MW NO.3**	**RDL**
Calculated Parameters					
Anion Sum	me/L	11.2	N/A	12.1	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	330	1.0	520	1.0
Calculated TDS	mg/L	627	1.0	603	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	2.5	1.0	4.9	1.0
Cation Sum	me/L	10.5	N/A	11.7	N/A
Hardness (CaCO3)	mg/L	500	1.0	460	1.0
Ion Balance (% Difference)	%	3.08	N/A	1.68	N/A
Langelier Index (@ 20C)	N/A	1.13		1.17	
Langelier Index (@ 4C)	N/A	0.880		0.921	
Nitrate (N)	mg/L	0.41	0.050	0.30	0.050
Saturation pH (@ 20C)	N/A	6.77		6.83	
Saturation pH (@ 4C)	N/A	7.02		7.08	
Inorganics					
Alkalinity (Total as CaCO3)	mg/L	330	5.0	530	5.0
Dissolved Chloride (Cl)	mg/L	13	1.0	16	1.0
Colour	TCU	ND	5.0	ND	5.0
Nitrate + Nitrite	mg/L	0.50	0.050	0.30	0.050
Nitrite (N)	mg/L	0.088	0.010	ND	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	0.84	0.050	0.11	0.050
Total Organic Carbon (C)	mg/L	2.8	0.50	0.84	0.50
Orthophosphate (P)	mg/L	ND	0.010	0.016	0.010
pH	pH	7.90	N/A	8.00	N/A
Silica (SiO2)	mg/L	15	0.10	10	0.10
Dissolved Sulphate (SO4)	mg/L	200	20	52	10
Turbidity	NTU	51	0.30	22	0.10
Conductivity	uS/cm	920	1.0	980	1.0
Metals					
Dissolved Aluminum (Al)	ug/L	44	5.0	38	5.0
Dissolved Antimony (Sb)	ug/L	ND	1.0	ND	1.0
Dissolved Arsenic (As)	ug/L	1.5	0.60	ND	0.60
Dissolved Barium (Ba)	ug/L	120	0.40	74	0.40

ND = Not detected
RDL = Reportable Detection Limit

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Maxxam Job #: B2J2215
Report Date: 2012/12/14

RCAP-MS DISSOLVED (WATER)

Maxxam ID		PW4171		PW4172	
Sampling Date		2012/12/04		2012/12/04	
COC Number		ET076510		ET076510	
	Units	**WALKERVILLE MW NO.2A**	**RDL**	**WALKERVILLE MW NO.3**	**RDL**
Dissolved Beryllium (Be)	ug/L	ND	0.50	ND	0.50
Dissolved Bismuth (Bi)	ug/L	ND	2.0	ND	2.0
Dissolved Boron (B)	ug/L	200	100	ND	100
Dissolved Cadmium (Cd)	ug/L	0.038	0.017	ND	0.017
Dissolved Calcium (Ca)	ug/L	160000	100	87000	100
Dissolved Chromium (Cr)	ug/L	ND	1.0	ND	1.0
Dissolved Cobalt (Co)	ug/L	1.1	1.0	ND	1.0
Dissolved Copper (Cu)	ug/L	12	2.0	ND	2.0
Dissolved Iron (Fe)	ug/L	430	100	130	100
Dissolved Lead (Pb)	ug/L	1.1	1.0	ND	1.0
Dissolved Lithium (Li)	ug/L	26	1.0	49	1.0
Dissolved Magnesium (Mg)	ug/L	24000	60	59000	60
Dissolved Manganese (Mn)	ug/L	290	4.0	130	4.0
Dissolved Molybdenum (Mo)	ug/L	7.9	4.0	ND	4.0
Dissolved Nickel (Ni)	ug/L	ND	3.0	ND	3.0
Dissolved Phosphorus (P)	ug/L	ND	100	ND	100
Dissolved Potassium (K)	ug/L	1000	600	2900	600
Dissolved Selenium (Se)	ug/L	ND	1.0	ND	1.0
Dissolved Silver (Ag)	ug/L	ND	0.10	ND	0.10
Dissolved Sodium (Na)	ug/L	12000	300	56000	300
Dissolved Strontium (Sr)	ug/L	1100	2.0	650	2.0
Dissolved Thallium (Tl)	ug/L	ND	0.80	ND	0.80
Dissolved Tin (Sn)	ug/L	ND	20	ND	20
Dissolved Titanium (Ti)	ug/L	ND	3.0	ND	3.0
Dissolved Uranium (U)	ug/L	0.30	0.15	7.8	0.15
Dissolved Vanadium (V)	ug/L	ND	2.0	ND	2.0
Dissolved Zinc (Zn)	ug/L	47	5.0	ND	5.0

ND = Not detected
RDL = Reportable Detection Limit

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Maxxam Job #: B2J2215
Report Date: 2012/12/14

RCAP-MS DISSOLVED (WATER)

Maxxam ID		PW4173		PW4177	
Sampling Date		2012/12/04		2012/12/04	
COC Number		ET076510		ET076510	
	Units	**WALKERVILLE MW NO.4**	**RDL**	**WALKERVILLE MW NO.5**	**RDL**
Calculated Parameters					
Anion Sum	me/L	3.02	N/A	17.9	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	110	1.0	820	1.0
Calculated TDS	mg/L	170	1.0	922	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	1.0	3.1	1.0
Cation Sum	me/L	3.14	N/A	18.3	N/A
Hardness (CaCO3)	mg/L	78	1.0	770	1.0
Ion Balance (% Difference)	%	1.95	N/A	0.970	N/A
Langelier Index (@ 20C)	N/A	-0.510		1.29	
Langelier Index (@ 4C)	N/A	-0.760		1.05	
Nitrate (N)	mg/L	0.57	0.050	ND	0.050
Saturation pH (@ 20C)	N/A	8.11		6.31	
Saturation pH (@ 4C)	N/A	8.36		6.56	
Inorganics					
Alkalinity (Total as CaCO3)	mg/L	110	5.0	820	5.0
Dissolved Chloride (Cl)	mg/L	7.8	1.0	34	1.0
Colour	TCU	ND	5.0	5.4	5.0
Nitrate + Nitrite	mg/L	0.59	0.050	ND	0.050
Nitrite (N)	mg/L	0.016	0.010	ND	0.010
Nitrogen (Ammonia Nitrogen)	mg/L	0.13	0.050	3.6	0.25
Total Organic Carbon (C)	mg/L	3.1	0.50	13 (1)	5.0
Orthophosphate (P)	mg/L	ND	0.010	0.011	0.010
pH	pH	7.60	N/A	7.60	N/A
Silica (SiO2)	mg/L	5.1	0.10	30	0.10
Dissolved Sulphate (SO4)	mg/L	25	2.0	28	2.0
Turbidity	NTU	28	0.10	240	1.0
Conductivity	uS/cm	280	1.0	1500	1.0
Metals					
Dissolved Aluminum (Al)	ug/L	8.2	5.0	140	5.0
Dissolved Antimony (Sb)	ug/L	ND	1.0	4.1	1.0
Dissolved Arsenic (As)	ug/L	ND	0.60	30	0.60

ND = Not detected
RDL = Reportable Detection Limit
(1) Reporting limit was increased due to turbidity.

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RCAP-MS DISSOLVED (WATER)

Maxxam ID		PW4173		PW4177	
Sampling Date		2012/12/04		2012/12/04	
COC Number		ET076510		ET076510	
	Units	**WALKERVILLE MW NO.4**	**RDL**	**WALKERVILLE MW NO.5**	**RDL**
Dissolved Barium (Ba)	ug/L	87	0.40	290	0.40
Dissolved Beryllium (Be)	ug/L	ND	0.50	ND	0.50
Dissolved Bismuth (Bi)	ug/L	ND	2.0	ND	2.0
Dissolved Boron (B)	ug/L	110	100	360	100
Dissolved Cadmium (Cd)	ug/L	ND	0.017	0.034	0.017
Dissolved Calcium (Ca)	ug/L	16000	100	210000	100
Dissolved Chromium (Cr)	ug/L	ND	1.0	ND	1.0
Dissolved Cobalt (Co)	ug/L	ND	1.0	9.3	1.0
Dissolved Copper (Cu)	ug/L	ND	2.0	6.6	2.0
Dissolved Iron (Fe)	ug/L	1400	100	10000	100
Dissolved Lead (Pb)	ug/L	ND	1.0	8.8	1.0
Dissolved Lithium (Li)	ug/L	18	1.0	52	1.0
Dissolved Magnesium (Mg)	ug/L	8900	60	60000	60
Dissolved Manganese (Mn)	ug/L	160	4.0	420	4.0
Dissolved Molybdenum (Mo)	ug/L	ND	4.0	67	4.0
Dissolved Nickel (Ni)	ug/L	ND	3.0	4.9	3.0
Dissolved Phosphorus (P)	ug/L	ND	100	ND	100
Dissolved Potassium (K)	ug/L	1300	600	4100	600
Dissolved Selenium (Se)	ug/L	ND	1.0	ND	1.0
Dissolved Silver (Ag)	ug/L	ND	0.10	ND	0.10
Dissolved Sodium (Na)	ug/L	34000	300	51000	300
Dissolved Strontium (Sr)	ug/L	240	2.0	1400	2.0
Dissolved Thallium (Tl)	ug/L	ND	0.80	ND	0.80
Dissolved Tin (Sn)	ug/L	ND	20	ND	20
Dissolved Titanium (Ti)	ug/L	ND	3.0	6.5	3.0
Dissolved Uranium (U)	ug/L	ND	0.15	0.16	0.15
Dissolved Vanadium (V)	ug/L	ND	2.0	ND	2.0
Dissolved Zinc (Zn)	ug/L	ND	5.0	490	5.0

ND = Not detected
RDL = Reportable Detection Limit

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GENERAL COMMENTS

Sample PW4161-01: RCAp Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Results relate only to the items tested.

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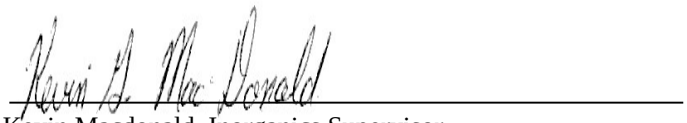
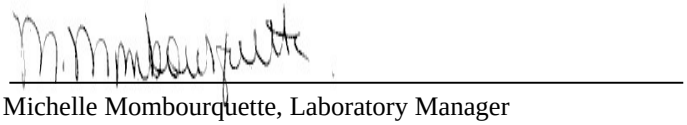
Validation Signature Page

Maxxam Job #: B2J2215

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Kevin Macdonald, Inorganics Supervisor



Michelle Mombourquette, Laboratory Manager

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