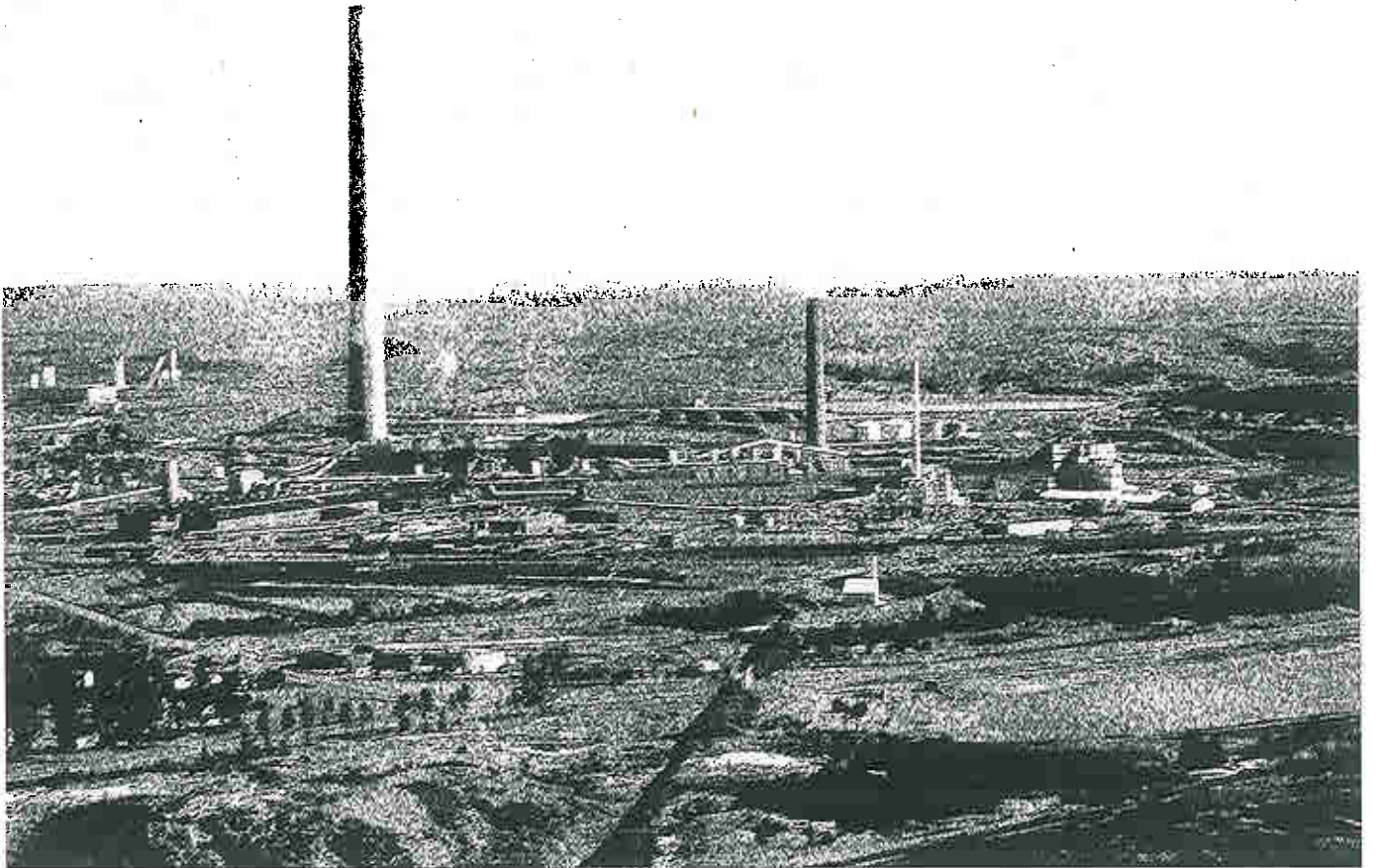




**VALE INCO**



# **SUMMARY REPORT**

## **Schedule 22**

Vale Inco Limited  
Vermilion Water Treatment Plant  
Ontario Regulation 170/03  
March 31, 2010



VALE INCO

Water Plants  
Ontario Operations

March 16, 2010

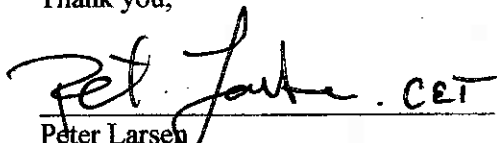
Mr. John Shelegey,

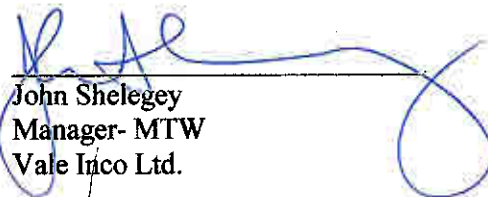
Please find the attached 2009 Summary Report for the Vermilion Water Treatment Plant and Systems. This report has been prepared in accordance with the applicable legislation O. Reg. 170/03 which requires an annual Summary Report to be prepared no later than March 31<sup>st</sup> for the preceding calendar year and be given to the board of directors (or designate) of a corporation if privately owned. This report must also be supplied to any system/municipality who receives water from the owner's treatment facilities. This report must list the requirements of the Act, the regulations, the system's approval and any order that the system failed to meet at any time during the period covered by the report and specify the action/measures taken to correct the failures. The report must also include the following for the purpose of enabling the owner to assess the capabilities and planned uses of the system; a summary of the quantities and flow rates of the water supplied including monthly averages, maximum daily flows and instantaneous peak flow rates with a comparison of the summary of flow rates to the rated capacities in the systems approval.

This report identifies several areas of improvement and dedication by the staff to continue to strive to produce the best possible product for Vale Inco and the community we serve. The continued upgrades to this facility in terms of equipment, communication and connectivity to the larger complex will aid in the transfer of data as well as enhance overall monitoring. We are underway with a study to look at current and future water demands both within Vale Inco as well as with the City of Greater Sudbury and surrounding communities.

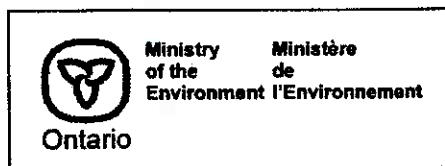
Should you have any questions or require any clarification, please contact me directly.

Thank you,

  
Peter Larsen  
Superintendent Operations, Water Plants  
Vale Inco Ltd.

  
John Shelegey  
Manager- MTW  
Vale Inco Ltd.

# SCHEDULE 22



**Safe Drinking Water Act, 2002**  
**ONTARIO REGULATION 170/03**  
*Last amendment: O. Reg. 418/09.*  
**DRINKING-WATER SYSTEMS**

SCHEDULE 22  
SUMMARY REPORTS FOR MUNICIPALITIES  
Municipal: Large Residential  
Small Residential

**SUMMARY REPORT**  
**Schedule 22**

Vale Inco Limited  
Vermilion Water Treatment Plant  
Ontario Regulation 170/03  
March 31, 2010

## **Table of Contents**

1. Introduction
2. Executive Summary
3. Legislation Requirements
4. Vermilion Water Treatment Plant Operating Parameters
5. Distributions Systems & Flow Summaries

## **1.0 Introduction**

The purpose of this report is to provide the Manager of Vale Inco's Water Plants with the Vermilion Water Treatment Plant's drinking water systems status and capacities. This report lists the requirements of the Safe Drinking Water Act (SDWA), the regulations, the Plant's compliance to the Act and Regulations, and any order from the MOE that the system failed to meet during the period covered by the report. Should a failure of the system be identified the measures that were taken to correct the failure will be identified.

This report will also list a summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly averages, maximum daily flows and daily instantaneous peak flow rates, with a comparison to the rated capacity of the system. This will enable the reader of the report to assess the capability of the system to meet existing and future planned uses of the system.

In accordance with the Ministry of Environment (MOE) regulation 170/03, the reporting period for this report is January 1<sup>st</sup> 2009 to December 31<sup>st</sup> 2009.

This Summary Report is required by the MOE and is filed annually for the previous calendar year. An Annual Report, to fulfill Section 11 of Ontario Regulation 170/03, has been completed separately and details the drinking water quality of the Vermilion Water Treatment Plant. This annual report is available for viewing on site at VALE Inco Limited's Copper Cliff Sewage Treatment Plant and on the City of Greater Sudbury's website.

[www.greatersudbury.ca](http://www.greatersudbury.ca)

### **Purpose**

As stated in the introduction this report is required by the Ministry of Environment (MOE), and is filed annually for the previous calendar year and satisfies regulation 170/03, sch. 22.

### **System**

VALE Inco's Vermilion Water Treatment Plant is located off Regional Road 24 , across from the VALE Inco Creighton Mine turnout. The Vermilion Water Treatment Plant produces potable water for:

- VALE Inco Operations – Creighton Mine, Nickel Refinery, Copper Refinery, Smelter, South Mine, North Mine, Clarabelle, Tailings Area and the
- City of Greater Sudbury-Copper Cliff, Lively, Naughton, Whitefish & Whitefish lake First Nations

The Vermilion Water Treatment Plant provides water to the City of Greater Sudbury which serves more than 10,000 people with the treated water. Therefore the Vermilion Water Treatment Plant is designated Large Municipal Residential. The Vermilion Plant obtains its water supply from a surface water source. The surface water source is the Vermilion River. Under Ontario Regulation 170/03 the general obligations of the Vermilion Water Treatment Plant are:

1. **Filtration and Primary Disinfection.** The Vermilion Water Treatment Plant has treatment equipment that is designed to be capable of chemically assisted filtration. Use of conventional filtration, the treatment consists of chemical coagulation with Alum, rapid mixing, flocculation and sedimentation followed by rapid sand filtration. The Vermilion Water Treatment Plant uses chemical coagulant at all times when plant is in operation, monitors and adjusts chemical dosages in response to variations in raw water quality; maintains effective filter backwashes, ensures that the effluent turbidity requirements are met at all times by continuously monitoring filtrate turbidity from each filter; and target filtered water turbidities of less than or equal to 0.3 NTU in 95% of the measurements each month. It is also designed to be capable of achieving, at all times, primary disinfection in accordance with the Ministry's Procedure for Disinfection of Drinking Water in Ontario, including at least 99 per cent removal or inactivation of *Cryptosporidium* oocysts, at least 99.9 per cent removal or inactivation of *Giardia* cysts and at least 99.99 per cent removal or inactivation of viruses by the time water enters the distribution system.

2. **Secondary Disinfection.** Vermilion Water Treatment Plant is operated so that a disinfectant residual is maintained in the distribution system (secondary disinfection). This results in a persistent disinfectant residual that protects the water from microbiological re-contamination, reduces bacterial regrowth, controls biofilm formation and serves as an indicator of distribution system integrity (loss of disinfectant residual indicating that the system integrity has been compromised). Chlorine provides a persistent disinfectant residual that is used for the maintenance of a residual in the distribution system. The Vermilion Water Treatment Plant is therefore capable of secondary disinfection because of its use of liquefied chlorine for chlorination in accordance with the Ministry's *Procedure for Disinfection of Drinking Water in Ontario* and is therefore designed to be capable of achieving, at all locations within the City of Greater Sudbury's Distribution System a free chlorine residual of 0.2 milligrams per liter. The Vermilion Water Treatment Plant is also capable of achieving, at all locations within VALE INCO Limited's Plumbing System a free chlorine residual of 0.2 milligrams per liter.
  
3. **Operation of Plant.** The Vermilion Water Treatment Plant is operated:
  - 1) ensuring that whenever water is being supplied by the plant the water treatment equipment is in operation and
  - 2) that the treatment equipment is operated in accordance with the Ministry's *Procedure for Disinfection of Drinking Water in Ontario*.
  - 3) that the treatment plant is operated in accordance with Certificate of Approval **#6136-7D4P9C Dated: April 11, 2008**
  - 4) that the water treatment equipment is operated in a manner that achieves the design capabilities
  - 5) that the water treatment equipment provides chlorination for secondary disinfection
  - 6) that the equipment is operated so that, at all times and at all locations within the City of Greater Sudbury Distribution System the free chlorine residual is never less than 0.05 milligrams per liter.
  - 7) Adjustments to the water treatment equipment are carried out only by certified operators.
  
4. **Operational Checks, Sampling, Testing and Maintenance.** The Vermilion Water Treatment Plant performs operational check, sampling, testing and maintenance in accordance with Ontario Regulation 170/03 (amended to O.Reg 418/09). The following section outlines compliance to:
  - 1) Sample locations
  - 2) Sampling frequency
  - 3) Sample handling
  - 4) Sampling equipment
  - 5) Sampling laboratories
  - 6) Interpretation of Sample Test Results
  - 7) Sampling records, and
  - 8) Equipment maintenance.

**Sample locations:**

Samples are taken from the point at which water enters the drinking-water systems, distribution system or plumbing works that are connected to the drinking-water system. Microbiological samples and chlorine residual are required to ensure safe drinking water. A water sample is taken and tested for a microbiological parameter, and another sample is taken at the same time from the same location and is tested immediately for free chlorine residual.

Sampling methods. The samples can be taken in the form of grab samples or by a continuous sampler. Continuous monitoring is used for:

- (a) turbidity;
- (b) fluoride;
- (c) free chlorine residual; and

- (d) free chlorine residual and total chlorine residual measured for the purpose of determining combined chlorine residual.

**Sampling frequency:**

The continuous monitoring equipment comply with standards for minimum testing and recording frequency specified in the table below.

Parameter	Minimum Testing Recording Frequency	Maximum Alarm Standard	Minimum Alarm Standard
Free chlorine residual required to achieve primary disinfection	5 minutes	Not applicable	0.1 milligrams per litre less than the concentration of free chlorine residual that is required to achieve primary disinfection
Free chlorine residual and total chlorine residual measured for the purpose of determining combined chlorine residual required to achieve primary disinfection	5 minutes	Not applicable	0.1 milligrams per litre less than the concentration of combined chlorine residual that is required to achieve primary disinfection
Free chlorine residual in a distribution sample	1 hour	Not applicable	0.05 milligrams per litre
Free chlorine residual and total chlorine residual measured for the purpose of determining combined chlorine residual in a distribution sample	1 hour	Not applicable	0.25 milligrams per litre
Turbidity	15 minutes	1.0 Nephelometric Turbidity Units (NTU)	Not applicable

**Sample handling:**

All samples are taken and handled in accordance with the directions of the laboratory to which the sample will be delivered for testing, including directions with respect to,

- (a) collection procedures;
- (b) the use of specified kinds of containers or of containers that are provided by the laboratory;
- (c) the labelling of samples;
- (d) the completion and submission of forms that are provided by the laboratory;
- (e) methods of transporting samples, including temperature conditions that must be maintained during transportation; and
- (f) time periods for delivery of samples.

**Sample Equipment:**

Chlorine residual testing is done by a certified operator using a HACH DR / 2800 spectrophotometer. Continuous monitoring is carried out at locations that have been identified as appropriate by the Ontario Regulation 170/03. Continuous monitoring is carried out on chlorine residual, turbidity and fluoride.

- (a) Chlorine Residual. Sampling and testing for free chlorine residual is carried out by continuous monitoring equipment at a location where the intended contact time has just been completed. This is done in accordance with the Ministry's *Procedure for Disinfection of Drinking Water in Ontario*. The Vermilion Water Treatment Plant provides secondary disinfection with

chlorination and an "on-line" distribution analyzer is located within the City of Greater Sudbury's distribution network and continually tests for free chlorine residual. The SCADA system is programmed to monitor CT values and alarm if CT is not being met as per MOE chlorination guidelines.

- (b) Turbidity. Sampling and testing for turbidity is carried out by continuous monitoring equipment on each filter effluent line. All turbidity testing is conducted using a turbidity meter that measures turbidity in Nephelometric Turbidity Units (NTU)
- (c) Fluoridation. Sampling and testing for fluoride is carried out by continuous monitoring equipment. Grab samples are taken at the end of the fluoridation process at least (1) time per shift. The grab sample is tested for fluoride with a bench meter. The target concentration of fluoride is between 0.5 and 0.8 milligrams per litre at the end of the fluoridation process.

**Sampling Laboratories.** Testing of a water sample is done by a laboratory that was identified to the Director in a written notice to said Director.

1. Testmark Laboratories LTD.  
7 Margaret St., Garson, Ontario  
Canada, P3L 1E1 Phone: (705) 693-1121

**Interpretation of Sample Test Results:**

All testing is carried out and interpreted by a certified operator or water quality analyst. Bench scale test results, as well as, continuous monitoring test results are examined each shift (well within the 72 hours after sampling and testing) by a certified operator. The continuous monitoring equipment has an alarm that sounds if the equipment malfunctions or loses power or a test result for a parameter is above or below the maximum alarm standard at:

- the location where the equipment conducts tests.
- and in the Vermilion Water Treatment Plant Control Room where a certified operator is present.

If any of the testing equipment malfunctions or loses power or a test result for a parameter is above or below the maximum alarm standards, the certified operator takes appropriate action.

**Sampling Records.** Every sample that is taken has a record made stating the date and time the sample was taken, the location where the sample was taken and the name of the person who took the sample. This does not apply to a sample tested by continuous monitoring equipment.

**Equipment maintenance.** An Engineering report was prepared on May 31<sup>st</sup> 2001. After the engineer inspected the plant, the resulting report ensured compliance:

- 1) with Schedule 2 was being provided, and
- 2) compliance with Schedule 6 for operational checks.
- 3) with a maintenance schedule that sets out requirements relating to the frequency with which the water treatment must be inspected, tested and replaced.

The continuous monitoring equipment, as well as, the flow measurement equipment is checked and calibrated in accordance with the manufacturer's instructions by Ontario Mill, Tailings and Water Plant Instrumentation Department personnel and outside certified agencies. We follow a CMMS system for work orders and Preventative Maintenance Scheduling/tracking.

**Compliance**

Compliance to Safe Drinking Water Act and its associated Regulations:

1. No notices were required to be submitted to the Spills Action Centre in 2009 in accordance with subsection 18(1) of the Safe Drinking Water Act or section 16-3 & 16-4 of Schedule 16 of O.Reg.170/03

2. A minimum of 52 weekly samples for microbiological testing was completed as required under section 10-3 & 10-4 in 2009.
3. All operational testing required under Schedule 7 in 2009 were completed.
4. There was additional testing required by an approval or order in 2009 under Table 5.1 of the C of A regarding Suspended Solids being discharged to the environment as part of the existing process. Sampling to review TSS levels was initiated in 2008 and continued to date with results and letter on file with the MOE.
5. All required Organic parameters were tested for in 2009 and none exceeded the levels outlined in Safe Drinking Water Act, 2002 – Ontario Regulation 169/03 (Amended to O. Reg. 327/08) Ontario Drinking-Water Quality Standards.
6. All required inorganic parameters were tested for in 2009 and none exceeded the levels outlined in Safe Drinking Water Act, 2002 – Ontario Regulation 169/03 (Amended to O. Reg. 327/08) Ontario Drinking-Water Quality Standards.

**Conclusions and Recommendations**

In 2009, the Vermilion Water Treatment Plant was operated in compliance with the Safe Drinking Water Act and all its associated Regulations. The plant continually monitors CT values and requirements on-line and has alarms associated. Equipment manuals are all available via the web or hard copies on site and all approvals/upgrades are being dealt with through Vale Inco's Environmental Department and the MOE. Several meetings have been held in 2009 with the City to discuss treatment, operational issues and general communications to ensure cohesiveness in operations between Vale Inco and the City of Greater Sudbury.

**2.0 Legislative and Regulation Requirements**

**Safe Drinking Water Act, 2002, S.O. 2002, c.32**

Commencement of this Act:

The date of Royal Assent was December 13<sup>th</sup> 2002. Sections 1 to 170 of the Act, come into force on a day to be named by proclamation of the Lieutenant Governor.

	O. Reg.	Latest Amendments
<b>SAFE DRINKING WATER ACT, 2002</b>		
Certification of Drinking-Water System Operators and Water Quality Analysts	128/04	415/09
Compliance and Enforcement	242/05	328/08
Definitions of "Deficiency" and "Municipal Drinking-Water System"	172/03	329/08
Definitions of Words and Expressions Used in the Act	171/03	324/08
Drinking-Water Systems	170/03	418/09
Drinking-Water Testing Services	248/03	416/09
Ontario Drinking-Water Quality Standards	169/03	327/08

The following Regulations are associated with the Safe Drinking Water Act, 2002, S.O. 2002, c.32

1. **O. Reg. 128/04 Certification of Drinking-Water System Operators and Water Quality Analysts**

*This Regulation was filed on May 14, 2004 (Amended to 415/09) in 2009, Section 29 listing Operator training requirements and the number of training hours required comes into force. Class III Water Treatment will require 14 hours of continuing education with an additional 26 hours of on-the-job practical training.*

The continuing education that is used to meet the training requirements must be approved by the Director using criteria which includes the following:

- a. The training course must have documented learning objectives.
- b. The training course must be planned and be provided by a qualified training provider.
- c. The training course must include a means to verify that the participants have learned the material covered in the course
- d. The training course must cover subject matter that is directly related to the duties typically performed by an operator.

The on-the-job practical training that is used to meet the training requirements must meet criteria that includes the following:

- a. The training must have documented learning objectives.
- b. The training must be provided by a trainer with expertise in the subject matter that is being covered.
- c. The training must be in respect of subject matter that is directly related to the duties typically performed by an operator

**Note:** The annual number of hours of training set out in the Table to this section may be averaged over the three years during which an operator's certificate is valid but shall not be reduced or prorated for an operator who is employed on a part-time basis.

TABLE ANNUAL TRAINING FOR OPERATORS

Type and Class of Subsystem Where the Operator is Employed	Training Requirements	Minimum Total Hours
Limited Groundwater or Limited Surface Water	7 hours or more of continuing education, with the remaining hours to at least the minimum total as on-the-job practical training	20
Class I Water Treatment or Class I Distribution or Class I Distribution and Supply	7 hours or more of continuing education, with the remaining hours to at least the minimum total as on-the-job practical training	30
Class II Water Treatment or Class II Distribution or Class II Distribution and Supply	12 hours or more of continuing education, with the remaining hours to at least the minimum total as on-the-job practical training	35
Class III Water Treatment or Class III Distribution or Class III Distribution and Supply	14 hours or more of continuing education, with the remaining hours to at least the minimum total as on-the-job practical training	40
Class IV Water Treatment or Class IV Distribution or Class IV Distribution and Supply	14 hours or more of continuing education, with the remaining hours to at least the minimum total as on-the-job practical training	50

O. Reg. 128/04, s. 29, Table.

2. **O. Reg. 242/05 Compliance and Enforcement**  
This regulation lists the requirements for inspections. What to do when deficiencies and contraventions are found. This regulation also deals with enforcement, investigations and notices required once investigations have been completed.
3. **O. Reg. 172/03 Definitions of "Deficiency" and "Municipal Drinking-Water System"**  
Ontario regulation 172/03 (Amended to O.Reg 329/08). Provides definitions of words and expressions within the Safe Drinking Water Act and associated Regulations.
4. **O. Reg. 171/03 Definitions of Words and Expressions Used in the Act**  
Ontario regulation 171/03 (Amended to O.Reg 324/08) – Provides definitions of words and expressions within the Safe Drinking Water Act and associated Regulations.
5. **O. Reg. 170/03 Drinking-Water Systems**  
*This Regulation was filed on 10/02/2004.* Ontario Regulation 170/03 is amended to O.Reg 418/09. This regulation outlines the requirements for:
  - 1) Types of Drinking Water Systems
  - 2) Required reports (annual, summary reports)

- 3) Retention of records
- 4) Treatment equipment requirements
- 5) Types of Treatment
- 6) Operational Checks, Sampling and Testing
- 7) Use of accredited laboratories
- 8) Maintenance and Operational
- 9) Microbiological Sampling and Testing
- 10) Chemical Sampling and Testing
- 11) Reporting Adverse Test Results and Other Problems
- 12) Corrective Action
- 13) Engineers' Reports
- 14) Inorganic Parameters
- 15) Organic Parameters

6. **O. Reg. 248/03 Drinking-Water Testing Services**

Ontario Regulation 248/03 (Amended to O.Reg. 416/09) – Drinking-Water Testing Services is the regulation governing accredited laboratories that came into effect October 31, 2004.

- 1) Lists systems that do not require drinking-water testing licence
- 2) Lists prescribed tests of the Safe Drinking Water Act
- 3) Lists person(s) to do water quality analysis
- 4) Lists the types of tests that can be conducted for the sole purpose of carrying out research or Criteria for drinking-water testing services
- 5) Conditions of drinking-water testing licence
- 6) Handling samples
- 7) Testing records
- 8) Laboratory qualifications and accreditation

7. **O. Reg. 169/03 Ontario Drinking-Water Quality Standards**

Ontario Regulation 169/03 (Amended to O.Reg 327/08). This regulation sets out standards in Schedules 1, 2 and 3 as prescribed drinking-water quality standards. Also in this regulation are what are deemed as compliance standards.

8. **O. Reg. 173/03 Schools, Private Schools and Day Nurseries**

This regulation deals with private schools and day nurseries that do not obtain their water from a drinking water system. It presents the interpretation, the requirements for weekly flushing, record keeping and the exemptions.

**Exemption**

Exemptions for Vermilion Water Treatment Plant

The City of Greater Sudbury purchases approximately 20% of the Vermilion Water Treatment Plant daily production. The other 80% is used by VALE Inco Limited Operations. The distribution system is owned and maintained by the City of Greater Sudbury. City of Greater Sudbury personnel are required to take samples in Distribution System. Should they find a sample that is non-compliant then they must alert the Vermilion Water Treatment Plant as well as report these test values to the Ministry of Environment Spill Center and the Medical Officer of Health.

**Engineer's Report**

An Engineering report was prepared on May 31<sup>st</sup> 2001. The required engineers report was completed to certify compliance to existing regulations. The Engineer made recommendations on all the deviations that were found within the drinking water system. Under the SDWA, the requirement for an Engineer's Reports has been removed as part of the regulations. This will be addressed in the upcoming DWQMS standards and licensing program.

### **3.0 Vermilion Water Treatment Plant Operation**

In 2009, the Vermilion Water Treatment Plant was operated in compliance with the Safe Drinking Water Act and all its associated Regulations. The plant now monitors CT values and requirements on-line continual and have alarms associated. Equipment manuals are all available via the web or hard copies on site and all approvals/upgrades are being dealt with through Vale Inco's Environmental department and the MOE. Several meetings have been held with the City to discuss treatment, operational issues and general communications to ensure cohesiveness in operations between Vale Inco and the City of Greater Sudbury.

The treatment system was operated so that the maximum flow rate of 81,800 m<sup>3</sup>/d, was never exceeded in 2009. **The peak daily flow was recorded on February 8<sup>th</sup>, 2009 at 63,828.95 m<sup>3</sup>/d for a capacity vs. design of 78%.** (There were other peak daily flows recorded but investigations showed this was during periods of maintenance on flow meters or during plant downtimes)

The Vermilion Water Treatment plant operated and maintained the disinfection facilities of the plant in such a manner that it was in accordance with the Ministry Procedure B13-3 entitled "Chlorination of Potable Water Supplies in Ontario", dated January 2001.

The water works was operated in such a manner that a sufficient quantity of water was directed to Meatbird Creek. The plant targeted maintaining a minimum average flow of 106.0 L/s to the creek. There were only a few occasions where this was not met due to emergency maintenance and repairs to water lines and the MOE was notified.

#### Monitoring and Recording:

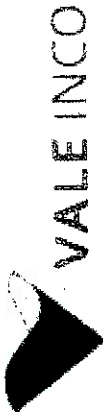
1. Raw water from river to plant:
  - Flow rate of the raw water feed to the Treatment Plant was recorded daily
  - Quantity of water was calculated daily.
  
2. Treated Water:
  - Maximum design capacity of the Vermilion Water Treatment Plant 81,800 m<sup>3</sup>/d.
  - Flow rate of treated water supplied by the water works was recorded daily
  - Volume of water conveyed through the treatment system was recorded daily
  
3. Meatbird Creek System:
  - Target Flow Rate in Certificate of Approval 106 L/s
  - Flow rate to Meatbird Creek.
  - Daily quantity of water directed to Meatbird Creek.

### **4.0 Water Distribution Systems & Flow Summaries**

The City of Greater Sudbury owns and manages the distribution system. They sample the water in the distribution system and report any problems to the Vermilion Water Treatment Plant Operator and any exceedances from standards to the Ministry of Environment and the Medical Officer of Health.

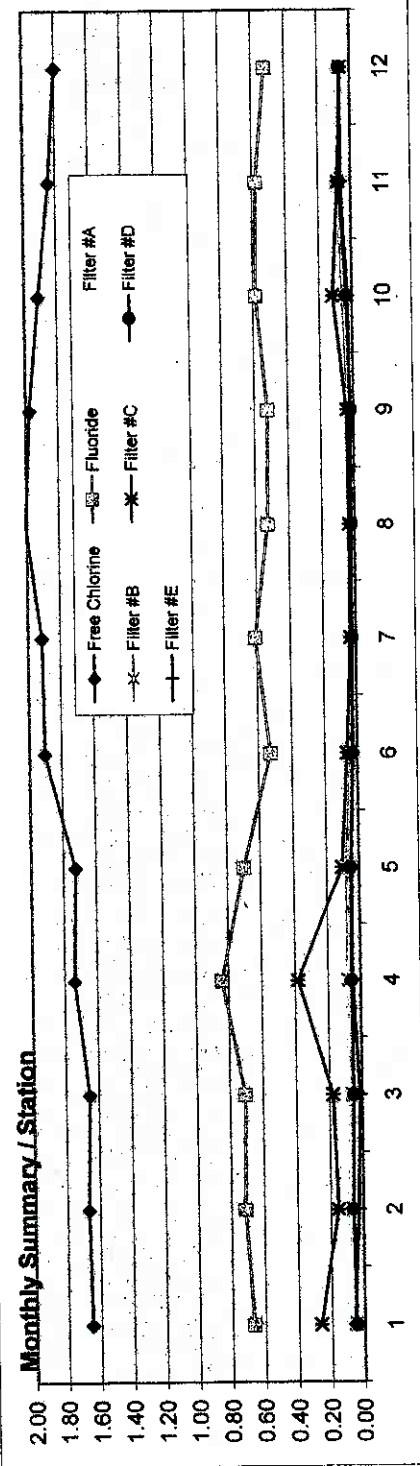
**The Following Tables Summarize the Monthly Flows for the Vermilion Water Treatment Plant and the Distribution System:**

Annual Turb & Cl2 free and HFS residual Average Summary  
Vermilion WTP

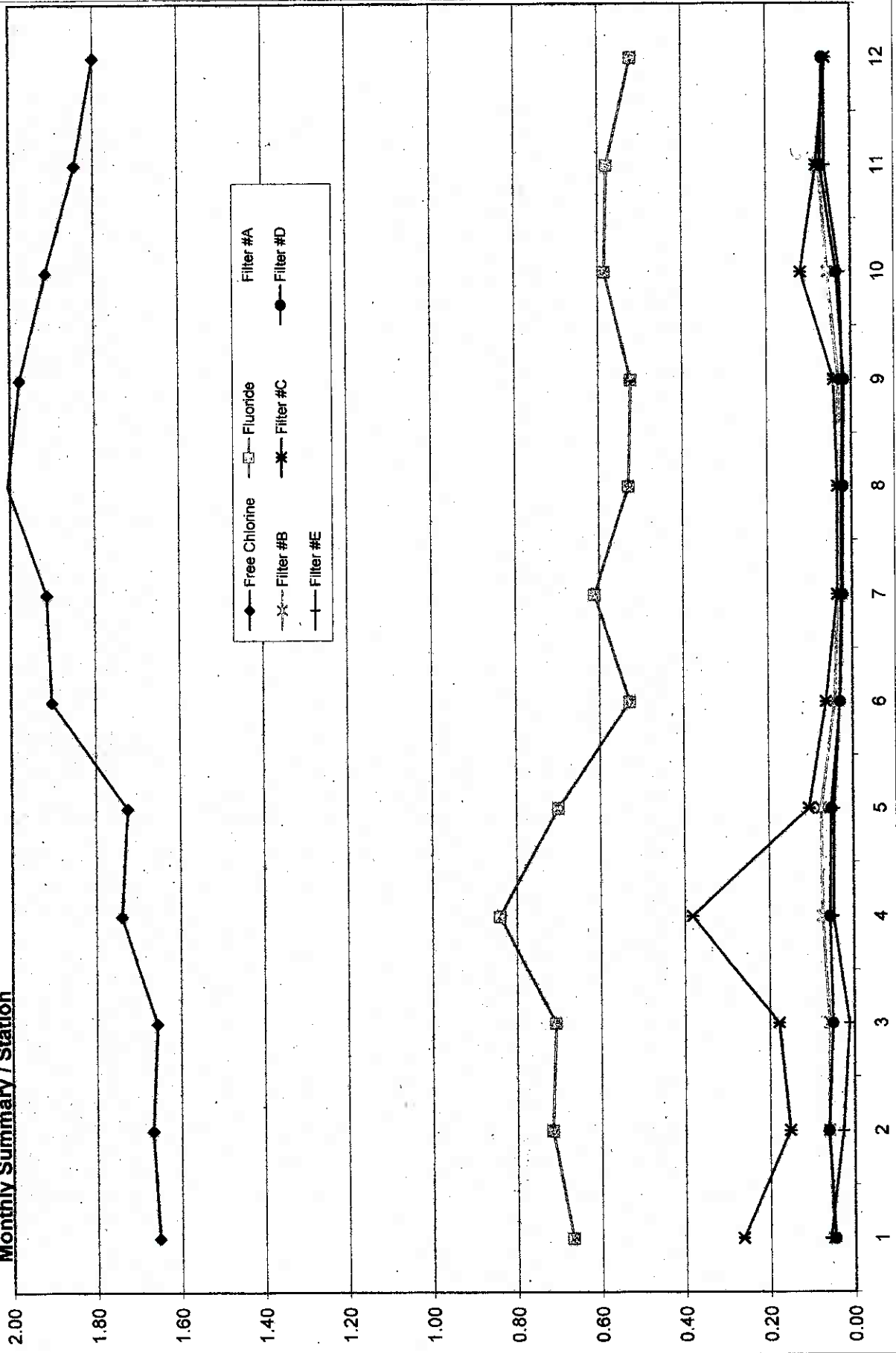


Summary : 2009

Month	Free Chlorine Residual ppm	Fluoride Residual ppm	Filter #A Turbidity NTU	Filter #B Turbidity NTU	Filter #C Turbidity NTU	Filter #D Turbidity NTU	Filter #E Turbidity NTU
January	1.65	0.67	0.10	0.05	0.26	0.05	0.06
February	1.67	0.72	0.08	0.06	0.15	0.06	0.03
March	1.66	0.71	0.08	0.06	0.18	0.05	0.01
April	1.74	0.84	0.09	0.07	0.38	0.06	0.05
May	1.73	0.70	0.06	0.08	0.11	0.05	0.05
June	1.90	0.53	0.02	0.04	0.06	0.03	0.03
July	1.91	0.61	0.03	0.04	0.04	0.02	0.03
August	2.01	0.53	0.03	0.04	0.03	0.02	0.02
September	1.98	0.52	0.03	0.03	0.04	0.02	0.02
October	1.91	0.58	0.06	0.06	0.12	0.03	0.03
November	1.84	0.58	0.09	0.08	0.08	0.07	0.06
December	1.80	0.52	0.10	0.06	0.06	0.07	0.06
<b>Annual Average</b>	<b>1.82</b>	<b>0.63</b>	<b>0.06</b>	<b>0.06</b>	<b>0.11</b>	<b>0.04</b>	<b>0.04</b>



Monthly Summary / Station





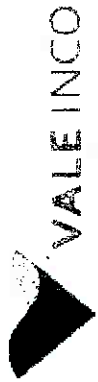
Monthly Turbidity Reading Summary  
Vermilion WTP



1-Feb-2009		Chlorine Residual (A1-85)		Fluoride Residual (HFS-Measur)		Filter #A Turbidity (A1-98582)		Filter #B Turbidity (A1-98577)		Filter #C Turbidity (A1-98576)		Filter #D Turbidity (A1-98580)		Filter #E Turbidity (A1-98581)		
Month Min	1.80	0.03	1.49	0.39	0.01	0.07	-0.25	0.06	0.04	0.11	-0.25	0.11	0.05	0.04	0.01	
Month Max	2.53	1.51	1.82	2.35	0.77	1.02	0.09	0.11	0.09	1.02	0.24	0.25	1.02	0.24	0.08	
Date	Maximum	Minimum	Average	Maximum	Minimum	Maximum	Minimum	Average	Maximum	Minimum	Maximum	Minimum	Average	Maximum	Minimum	Average
1-Feb	2.06	1.21	1.80	0.39	0.37	0.09	0.09	0.09	0.04	0.51	0.24	0.25	0.05	0.04	0.04	0.04
2-Feb	2.07	1.31	1.72	0.80	0.39	0.89	0.09	0.10	1.02	0.25	0.24	0.24	0.05	0.04	0.06	0.05
3-Feb	2.12	1.41	1.72	0.81	0.69	0.09	0.09	0.09	0.05	0.25	0.24	0.25	0.21	0.04	0.05	0.06
4-Feb	2.11	1.42	1.71	0.81	0.70	0.99	-0.25	0.10	0.04	0.49	-0.25	0.24	0.07	0.03	0.05	0.06
5-Feb	2.35	1.36	1.82	0.91	0.66	0.97	0.02	0.09	1.02	1.02	0.00	0.02	1.02	0.02	0.24	0.05
6-Feb	2.12	1.41	1.73	0.82	0.73	0.07	0.06	0.06	0.06	1.02	0.00	0.20	0.53	0.06	0.05	0.05
7-Feb	2.13	1.26	1.62	0.74	0.37	1.02	0.06	0.06	1.02	0.28	0.11	0.21	0.39	0.05	0.06	0.05
8-Feb	2.12	1.22	1.61	0.81	0.48	1.02	0.06	0.07	0.12	0.89	0.11	0.14	1.02	0.05	0.07	0.06
9-Feb	2.38	1.28	1.71	0.85	0.66	1.02	0.06	0.08	0.08	0.13	0.11	0.13	0.19	0.05	0.05	0.06
10-Feb	2.11	1.36	1.70	0.78	0.39	0.52	0.11	-0.25	1.02	0.13	-0.25	0.11	1.01	-0.25	0.06	0.07
11-Feb	1.97	1.24	1.75	2.27	0.37	0.81	0.06	0.06	1.02	0.84	0.10	0.13	0.26	0.05	0.06	0.01
12-Feb	1.99	1.42	1.78	2.35	0.01	1.21	0.06	0.09	1.02	0.12	0.10	0.11	0.17	0.05	0.06	0.01
13-Feb	2.01	1.46	1.72	1.30	0.67	0.86	0.06	0.07	0.08	1.01	0.10	0.13	1.02	0.05	0.06	0.01
14-Feb	1.99	1.33	1.64	0.82	0.72	0.77	0.06	0.06	0.05	0.14	0.12	0.13	0.08	0.05	0.05	0.01
15-Feb	2.04	1.51	1.67	0.82	0.73	0.09	0.07	0.07	1.02	0.13	0.11	0.12	0.77	0.05	0.06	0.01
16-Feb	1.95	1.41	1.70	0.84	0.71	0.78	0.06	0.07	0.06	0.82	0.11	0.13	0.24	0.05	0.05	0.01
17-Feb	1.93	0.03	1.64	0.80	0.77	1.02	0.06	0.08	1.02	0.13	0.11	0.12	0.07	0.04	0.05	0.01
18-Feb	2.53	0.97	1.49	0.76	0.55	0.86	0.06	0.07	0.25	0.14	0.11	0.13	0.97	0.04	0.06	0.01
19-Feb	1.85	1.17	1.63	0.66	0.75	0.79	0.06	0.07	0.07	0.86	0.12	0.14	0.30	0.05	0.06	0.01
20-Feb	1.96	1.51	1.67	0.80	0.61	1.02	0.07	0.10	1.02	0.17	0.13	0.14	0.07	0.05	0.05	0.01
21-Feb	1.88	1.14	1.63	0.69	0.54	0.58	0.19	0.11	0.17	0.65	0.12	0.16	0.96	0.06	0.08	0.01
22-Feb	1.97	1.06	1.69	0.75	0.69	1.02	0.07	0.09	0.06	0.16	0.12	0.13	0.06	0.05	0.05	0.01
23-Feb	1.80	1.30	1.60	0.75	0.65	0.71	0.10	0.07	1.02	0.13	0.11	0.12	0.90	0.05	0.06	0.01
24-Feb	1.80	1.22	1.59	0.74	0.69	0.71	0.06	0.07	0.06	0.51	0.11	0.13	0.13	0.05	0.05	0.01
25-Feb	1.93	1.15	1.59	0.73	0.67	1.02	0.07	0.10	1.02	0.12	0.11	0.12	0.07	0.05	0.05	0.01
26-Feb	2.03	1.29	1.68	0.69	0.64	0.67	0.06	0.07	0.09	1.02	0.10	0.12	0.90	0.05	0.06	0.01
27-Feb	2.13	1.28	1.63	0.70	0.64	1.02	0.07	0.09	0.06	0.13	0.11	0.12	0.08	0.05	0.05	0.01
28-Feb	1.99	1.35	1.70	0.76	0.66	0.71	0.10	0.07	1.02	0.11	0.10	0.11	0.93	0.05	0.05	0.01
1-Mar	1.95	1.29	1.67	0.76	0.70	0.07	0.07	0.07	0.05	1.02	0.10	0.17	0.25	0.05	0.05	0.01
2-Mar																
Average	2.04	1.26	1.67	0.85	0.59	0.72	0.04	0.08	0.44	0.66	0.09	0.15	0.44	0.04	0.08	0.03



Monthly Turbidity Reading Summary  
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1-Apr-2009		Chlorine Residual (A1-95)		Fluoride Residual (HFS-Master)		Filter #A Turbidity (A1-9552)		Filter #B Turbidity (A1-9557)		Filter #C Turbidity (A1-9558)		Filter #D Turbidity (A1-9559)		Filter #E Turbidity (A1-9560)		Average	
Month Min	Month Max	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
Date	ppm	ppm	ppm	ppm	ppm	NTU	NTU	NTU	NTU	NTU	NTU	NTU	NTU	NTU	NTU	NTU	NTU
1-Apr	2.36	1.35	1.75	1.13	0.95	1.02	0.07	1.02	0.05	1.02	0.05	1.02	0.05	1.02	0.05	1.02	0.05
2-Apr	2.01	1.30	1.67	0.95	0.85	1.02	0.08	1.02	0.07	1.02	0.08	1.02	0.07	1.02	0.08	1.02	0.07
3-Apr	2.13	1.29	1.73	0.93	0.86	1.02	0.08	1.02	0.08	1.02	0.08	1.02	0.08	1.02	0.08	1.02	0.08
4-Apr	2.19	1.33	1.81	0.91	0.82	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07
5-Apr	1.98	1.40	1.69	0.86	0.79	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07
6-Apr	2.22	1.20	1.72	0.87	0.82	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07
7-Apr	2.16	1.41	1.78	0.86	0.81	1.02	0.08	1.02	0.08	1.02	0.08	1.02	0.08	1.02	0.08	1.02	0.08
8-Apr	1.86	1.46	1.78	0.83	0.83	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07
9-Apr	2.00	1.34	1.78	0.94	0.89	1.02	0.08	1.02	0.08	1.02	0.08	1.02	0.08	1.02	0.08	1.02	0.08
10-Apr	1.99	1.27	1.77	0.92	0.80	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07
11-Apr	2.01	1.40	1.80	0.85	0.81	1.02	0.08	1.02	0.08	1.02	0.08	1.02	0.08	1.02	0.08	1.02	0.08
12-Apr	1.92	1.39	1.74	0.86	0.78	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07
13-Apr	1.97	1.01	1.69	0.85	0.78	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07
14-Apr	2.01	1.35	1.78	0.85	0.79	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07
15-Apr	1.97	1.25	1.75	0.85	0.81	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06
16-Apr	4.70	1.02	1.77	0.83	0.77	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06
17-Apr	2.06	1.30	1.73	0.86	0.77	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07	1.02	0.07
18-Apr	2.06	1.33	1.74	0.83	0.78	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06
19-Apr	2.09	1.33	1.81	0.83	0.78	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06
20-Apr	2.10	1.43	1.74	0.84	0.80	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06
21-Apr	2.07	1.26	1.74	0.87	0.80	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06
22-Apr	1.89	1.30	1.68	0.86	0.82	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06
23-Apr	1.97	1.20	1.72	0.85	0.80	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06
24-Apr	1.95	1.23	1.69	0.90	0.83	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06
25-Apr	1.92	1.17	1.66	0.91	0.83	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06
26-Apr	2.01	1.24	1.71	0.88	0.82	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06
27-Apr	1.90	1.30	1.70	0.87	0.81	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06	1.02	0.06
28-Apr	2.15	1.44	1.75	0.86	0.80	1.02	0.05	1.02	0.05	1.02	0.05	1.02	0.05	1.02	0.05	1.02	0.05
29-Apr	1.89	1.37	1.77	0.85	0.79	1.02	0.05	1.02	0.05	1.02	0.05	1.02	0.05	1.02	0.05	1.02	0.05
30-Apr	1.97	1.39	1.77	0.85	0.78	1.02	0.05	1.02	0.05	1.02	0.05	1.02	0.05	1.02	0.05	1.02	0.05
1-May																	
Average	2.12	1.27	1.74	0.88	0.79	0.84	0.06	0.48	0.06	0.09	0.06	0.09	0.06	0.09	0.06	0.09	0.06

Monthly Turbidity Reading Summary  
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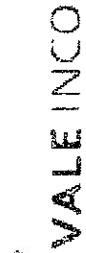
1-May-2009		Chlorine Residual (A1-99)		Fluoride Residual (HPS-Master)		Filter #A Turbidity (A1-98562)		Filter #B Turbidity (A1-98577)		Filter #C Turbidity (A1-98578)		Filter #D Turbidity (A1-98580)		Filter #E Turbidity (A1-98581)									
Month Min	Month Max	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum								
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm								
1-May	1.97	1.48	1.75	0.86	0.83	1.02	0.04	1.02	0.05	1.02	0.08	0.07	0.23	0.17	0.20	0.04	0.04	0.04	0.04				
2-May	2.07	1.32	1.74	0.84	0.83	0.08	0.06	0.08	0.05	0.07	0.07	0.07	0.47	0.19	0.22	0.04	0.06	0.05	0.04				
3-May	1.94	1.23	1.70	0.84	0.82	1.02	0.05	1.02	0.08	1.02	0.07	0.07	0.19	0.12	0.15	0.05	0.06	0.39	0.04	0.06			
4-May	1.86	1.31	1.75	0.84	0.87	1.02	0.06	1.02	0.08	1.02	0.08	0.10	0.12	0.10	0.11	0.05	0.08	0.05	0.05	0.05	0.06		
5-May	1.93	1.31	1.61	0.80	0.88	1.02	0.07	1.02	0.09	1.02	0.09	0.10	1.02	0.09	0.10	0.30	0.07	0.08	0.05	0.05	0.06		
6-May	2.43	1.05	1.84	0.83	0.88	1.02	0.05	1.02	0.08	1.02	0.08	0.25	0.29	0.09	0.12	1.02	0.04	0.17	0.77	0.03	0.13	0.13	
7-May	1.96	1.29	1.65	0.87	0.78	1.02	0.03	1.02	0.05	1.02	0.05	0.08	0.12	0.11	0.11	0.97	0.04	0.06	0.36	0.04	0.04	0.04	
8-May	1.83	0.01	1.65	0.81	0.77	0.06	0.03	1.02	0.05	1.02	0.05	0.08	0.23	0.11	0.12	0.06	0.04	-0.05	0.22	0.03	0.03	0.04	
9-May	1.82	1.06	1.58	0.82	0.74	0.77	0.06	0.04	0.05	0.07	0.06	0.07	0.09	0.11	0.10	0.62	0.05	0.06	0.37	0.05	0.06	0.06	
10-May	1.90	0.95	1.60	0.76	0.73	1.02	0.03	0.08	0.06	0.07	0.06	0.07	0.22	0.09	0.10	0.14	0.05	0.06	0.05	0.04	0.05	0.05	
11-May	1.95	1.01	1.66	0.76	0.71	0.73	0.03	0.04	0.05	0.06	0.06	0.07	0.10	0.09	0.09	0.05	0.04	0.04	0.22	0.04	0.04	0.04	
12-May	4.77	0.01	1.68	0.73	0.64	0.69	0.03	0.04	0.05	0.06	0.06	0.06	0.09	0.08	0.09	0.72	0.04	0.05	0.19	0.03	0.03	0.04	
13-May	4.55	-0.09	1.34	0.73	0.36	0.60	-0.20	0.03	0.06	-0.19	0.05	0.05	0.24	-0.19	0.07	0.05	-0.20	0.04	0.04	0.04	-0.20	0.03	0.03
14-May	2.06	1.66	1.79	0.76	0.72	0.67	0.02	1.02	0.05	0.07	0.05	0.07	0.07	0.07	0.07	0.67	0.03	0.03	0.21	0.03	0.03	0.03	0.03
15-May	2.18	1.54	1.87	0.74	0.68	0.71	0.01	1.02	0.06	1.02	0.04	0.05	0.07	0.07	0.07	0.67	0.03	0.04	0.21	0.03	0.03	0.03	0.03
16-May	1.98	1.51	1.87	0.76	0.72	0.73	0.04	1.02	0.02	0.83	0.04	0.05	0.25	0.07	0.07	0.67	0.03	0.04	0.21	0.03	0.03	0.03	0.03
17-May	2.05	1.49	1.84	0.85	0.72	0.75	0.04	1.02	0.24	0.04	0.05	0.05	0.06	0.07	0.07	0.77	0.03	0.03	0.32	0.03	0.03	0.03	0.03
18-May	1.99	1.55	1.83	0.85	0.78	0.81	0.01	1.02	0.05	1.02	0.04	0.04	1.00	0.07	0.08	0.13	0.03	0.03	0.31	0.03	0.03	0.03	0.03
19-May	2.03	1.51	1.87	0.89	0.82	0.85	0.04	1.02	0.04	1.02	0.04	0.07	0.09	0.08	0.08	0.04	0.03	0.03	0.31	0.03	0.03	0.03	0.03
20-May	3.57	-1.25	0.64	1.03	0.68	0.87	0.04	0.09	0.06	0.07	0.06	0.07	0.09	0.08	0.08	0.05	0.04	0.04	0.11	0.04	0.04	0.05	0.05
21-May	2.08	1.38	1.85	0.70	0.62	0.65	1.02	0.04	0.08	0.09	0.06	0.07	0.79	0.08	0.09	0.64	0.05	0.06	0.06	0.04	0.04	0.05	0.05
22-May	2.01	1.44	1.82	0.63	0.56	0.59	0.08	1.02	0.07	1.02	0.07	0.12	1.12	0.10	0.11	0.06	0.05	0.05	0.22	0.04	0.04	0.06	0.06
23-May	2.06	1.64	1.93	0.56	0.49	0.53	1.02	0.08	0.09	1.02	0.09	0.10	1.11	0.11	0.11	0.82	0.05	0.08	0.20	0.06	0.06	0.07	0.07
24-May	2.06	1.62	1.90	0.53	0.51	0.53	0.15	0.07	0.09	1.02	0.08	0.11	1.12	0.11	0.12	0.08	0.06	0.07	0.06	0.05	0.05	0.05	0.05
25-May	2.06	1.58	1.85	0.52	0.47	0.50	0.09	0.04	0.06	1.02	0.08	0.10	1.12	0.11	0.11	0.82	0.04	0.06	0.16	0.04	0.04	0.06	0.06
26-May	2.00	1.62	1.85	0.51	0.47	0.49	0.03	0.06	0.08	0.08	0.06	0.07	0.28	0.10	0.11	0.26	0.04	0.05	0.06	0.03	0.03	0.04	0.04
27-May	2.01	1.20	1.79	0.56	0.51	0.53	0.04	0.02	0.02	0.49	0.05	0.07	0.15	0.10	0.10	0.04	0.03	0.04	0.13	0.03	0.03	0.04	0.04
28-May	2.00	1.44	1.77	0.57	0.55	0.57	0.01	0.03	0.06	0.06	0.05	0.05	0.10	0.09	0.10	0.83	0.03	0.04	0.05	0.03	0.03	0.03	0.03
29-May	2.12	1.75	1.90	0.58	0.54	0.57	0.05	0.02	0.04	0.06	0.04	0.06	0.25	0.09	0.10	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
30-May	2.06	1.69	1.87	0.58	0.54	0.57	0.07	0.01	0.04	0.05	0.04	0.05	0.10	0.09	0.10	0.55	0.03	0.03	0.20	0.03	0.03	0.03	0.03
31-May	2.06	1.67	1.88	0.57	0.56	0.57	1.02	0.01	0.02	0.05	0.04	0.04	0.11	0.10	0.10	0.59	0.03	0.04	0.03	0.02	0.02	0.03	0.03
1-Jun	2.24	1.19	1.73	0.74	0.66	0.70	0.50	0.44	0.05	0.05	0.05	0.08	0.24	0.09	0.11	0.39	0.03	0.05	0.18	0.03	0.03	0.03	0.05

Monthly Turbidity Reading Summary  
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1-Jun-2009		Chlorine Residual (A1-95)		Fluoride Residual (HFS-Master)		Filter #A Turbidity (A1-98582)		Filter #B Turbidity (A1-98577)		Filter #C Turbidity (A1-98578)		Filter #D Turbidity (A1-98580)		Filter #E Turbidity (A1-98581)	
Date	Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Average
1-Jun	1.82	0.01	1.82	0.43	0.01	-0.20	0.00	0.04	0.03	0.01	-0.19	0.00	0.02	0.03	0.03
Month Min	2.07	1.78	1.86	0.57	0.02	0.00	0.01	0.04	0.07	0.01	0.17	0.18	0.02	0.03	0.06
Month Max	2.29	1.89	1.88	0.60	0.03	0.03	0.04	1.02	0.07	1.02	0.03	0.09	0.98	0.03	0.82
2-Jun	2.01	1.46	1.87	0.58	0.02	0.00	0.01	0.04	0.06	0.44	0.10	0.16	0.19	0.03	0.02
3-Jun	2.11	1.76	1.96	0.58	0.02	0.00	0.01	1.02	0.06	0.25	0.15	0.19	0.03	0.03	0.03
4-Jun	2.07	1.73	1.87	0.59	1.02	0.01	0.02	0.04	0.05	0.26	0.14	0.19	0.03	0.03	0.03
5-Jun	2.04	1.60	1.80	0.58	0.06	0.01	0.01	0.04	0.04	0.15	0.13	0.14	0.39	0.03	0.03
6-Jun	2.02	1.65	1.90	0.58	0.03	0.01	0.01	0.05	0.04	0.15	0.13	0.14	0.08	0.03	0.03
7-Jun	1.97	1.71	1.82	0.57	0.02	0.00	0.00	0.03	0.06	0.89	0.14	0.16	0.08	0.03	0.03
8-Jun	2.29	1.76	1.96	0.58	0.03	0.00	0.00	0.19	0.05	0.17	0.14	0.16	0.03	0.03	0.03
9-Jun	2.06	1.89	1.96	0.60	1.01	0.00	0.04	0.98	0.07	1.02	0.00	0.12	0.98	0.00	0.82
10-Jun	2.04	1.63	1.86	0.60	0.03	0.03	0.03	0.04	0.04	0.05	0.03	0.03	0.38	0.03	0.03
11-Jun	2.02	1.82	1.90	0.58	0.03	0.03	0.03	0.04	0.04	0.76	0.03	0.04	0.20	0.03	0.03
12-Jun	1.92	0.21	1.84	0.59	0.37	0.03	0.03	0.65	0.05	0.25	0.03	0.03	0.04	0.03	0.03
13-Jun	1.97	1.76	1.89	0.58	0.03	0.03	0.03	0.43	0.04	0.04	0.04	0.03	0.03	0.03	0.03
14-Jun	2.02	1.51	1.85	0.57	0.96	-0.18	0.03	0.04	0.04	0.04	-0.18	0.03	0.04	-0.18	0.03
15-Jun	2.08	1.60	1.82	0.55	0.08	-0.18	0.03	0.04	0.03	1.01	0.02	0.03	0.27	0.03	0.03
16-Jun	2.06	1.60	1.84	0.54	0.02	0.02	0.02	0.04	0.03	0.05	0.01	0.02	0.03	0.03	0.03
17-Jun	1.97	1.73	1.87	0.53	0.02	0.02	0.02	0.68	0.04	0.05	0.01	0.02	0.03	0.03	0.03
18-Jun	2.11	1.58	1.80	0.52	0.02	0.02	0.02	0.42	0.04	0.02	0.01	0.01	0.03	0.03	0.03
19-Jun	2.06	1.58	1.84	0.51	0.97	0.02	0.03	0.04	0.04	0.01	0.01	0.01	0.36	0.03	0.03
20-Jun	2.04	1.57	1.88	0.50	0.49	0.02	0.02	0.04	0.04	0.02	0.01	0.01	0.31	0.03	0.03
21-Jun	2.05	1.72	1.90	0.48	0.03	0.02	0.02	0.04	0.04	0.77	0.01	0.02	0.03	0.03	0.03
22-Jun	2.13	1.69	1.85	0.47	0.02	0.01	0.02	0.85	0.04	0.24	0.00	0.01	0.03	0.03	0.03
23-Jun	2.11	1.77	1.96	0.49	0.01	0.01	0.01	0.29	0.03	0.01	0.00	0.00	0.03	0.02	0.03
24-Jun	2.23	0.01	1.98	0.48	0.45	0.00	0.02	0.06	0.03	1.02	0.00	0.04	0.06	0.02	0.02
25-Jun	2.05	1.63	1.81	0.46	0.03	0.02	0.02	0.04	0.03	0.03	0.03	0.03	0.92	0.03	0.03
26-Jun	2.23	0.03	1.88	0.46	0.22	-0.20	0.02	0.19	0.04	0.81	-0.19	0.03	0.10	-0.20	0.13
27-Jun	2.06	1.78	1.98	0.45	0.42	0.02	0.02	0.77	0.03	0.15	0.02	0.02	0.02	0.02	0.03
28-Jun	2.16	1.88	1.98	0.44	0.43	0.02	0.02	0.16	0.04	0.02	0.02	0.02	0.02	0.02	0.03
29-Jun	2.06	1.80	1.98	0.44	0.43	0.02	0.03	0.04	0.04	0.03	0.02	0.02	0.02	0.02	0.10
30-Jun	2.22	0.27	1.88	0.63	0.42	-0.18	0.02	0.04	0.03	0.03	-0.17	0.02	0.02	-0.17	0.03
1-Jul															
Average	2.07	1.48	1.80	0.54	0.52	-0.01	0.02	0.28	0.01	0.30	0.02	0.08	0.17	0.00	0.03

Monthly Turbidity Reading Summary  
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1-Jul-2009		Chlorine Residual (A-95)		Fluoride Residual (HFS-Master)		Filter #A Turbidity (A-98582)		Filter #B Turbidity (A-98577)		Filter #C Turbidity (A-98578)		Filter #D Turbidity (A-98550)		Filter #E Turbidity (A-98581)	
Month Min	Month Max	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Date	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
1-Jul	1.92	1.70	1.70	0.54	0.25	0.37	0.03	0.03	-0.24	0.03	0.03	0.03	-0.24	0.03	0.03
2-Jul	5.00	1.75	1.90	0.57	0.50	0.54	0.03	0.04	0.03	0.03	0.04	0.04	0.03	0.03	0.03
3-Jul	2.36	1.31	1.80	0.59	0.51	0.56	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
4-Jul	2.00	1.75	1.87	0.58	0.51	0.54	1.00	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
5-Jul	1.92	1.67	1.85	0.56	0.43	0.51	1.00	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
6-Jul	2.35	0.01	1.75	0.55	0.48	0.51	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
7-Jul	2.01	1.74	1.85	0.62	0.54	0.56	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
8-Jul	2.00	0.01	1.83	0.66	0.58	0.61	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
9-Jul	2.01	0.01	1.72	0.65	0.61	0.63	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
10-Jul	2.24	1.60	1.93	0.68	0.57	0.62	0.96	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
11-Jul	2.04	0.01	1.83	0.68	0.59	0.63	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
12-Jul	2.12	0.01	1.70	0.63	0.55	0.61	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
13-Jul	2.11	0.01	1.82	0.62	0.56	0.59	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
14-Jul	2.11	1.67	1.97	0.65	0.54	0.61	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
15-Jul	2.24	1.91	2.00	0.65	0.57	0.61	0.88	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
16-Jul	2.26	1.93	2.07	0.66	0.61	0.64	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
17-Jul	2.23	1.91	2.01	0.64	0.61	0.63	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
18-Jul	2.14	0.01	1.76	0.64	0.61	0.63	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
19-Jul	2.20	0.01	1.95	0.70	0.63	0.66	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
20-Jul	2.06	1.65	1.86	0.64	0.61	0.63	0.92	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
21-Jul	2.22	0.03	1.88	0.63	0.53	0.58	0.06	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
22-Jul	1.97	1.62	1.86	0.54	0.50	0.53	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
23-Jul	2.33	1.58	1.87	0.54	0.48	0.51	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
24-Jul	2.18	1.78	1.88	0.55	0.49	0.52	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
25-Jul	2.35	0.02	1.91	0.54	0.52	0.53	0.94	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
26-Jul	2.35	0.02	2.01	0.57	-0.10	0.44	0.06	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
27-Jul	2.26	1.20	2.03	0.66	0.25	0.37	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
28-Jul	2.21	0.04	2.06	0.66	0.59	0.63	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
29-Jul	2.14	1.87	1.96	0.60	0.56	0.58	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
30-Jul	2.16	1.93	2.08	0.58	0.53	0.55	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
31-Jul	2.15	1.60	2.07	0.62	0.56	0.60	0.96	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
1-AUG	2.25	1.01	1.81	0.67	0.50	0.61	0.21	0.00	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Average								0.00	0.04	0.04	0.04	0.02	0.02	0.02	0.03



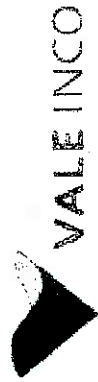


Monthly Turbidity Reading Summary  
Vermilion WTP



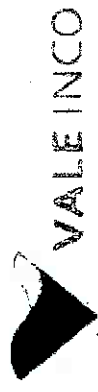
1-Oct-2009		Chlorine Residual (Al-95)		Fluoride Residual (HFS-Master)		Filter #A Turbidity (Al-9832)		Filter #B Turbidity (Al-9877)		Filter #C Turbidity (Al-9878)		Filter #D Turbidity (Al-9898)		Filter #E Turbidity (Al-9898)	
Date	Minimum	Maximum	Average	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
1-Oct	2.22	2.33	2.24	1.72	1.85	1.74	1.97	0.53	0.53	0.49	0.51	0.04	0.04	0.04	0.04
2-Oct	2.24	2.69	2.46	1.85	2.06	1.97	2.08	0.53	0.55	0.51	0.54	0.04	0.04	0.04	0.04
3-Oct	2.47	2.17	2.02	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
4-Oct	2.24	2.17	2.03	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
5-Oct	2.17	2.17	2.02	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
6-Oct	2.24	2.17	2.03	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
7-Oct	2.17	2.17	2.02	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
8-Oct	2.24	2.17	2.03	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
9-Oct	2.17	2.17	2.02	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
10-Oct	2.24	2.17	2.03	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
11-Oct	2.17	2.17	2.02	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
12-Oct	2.24	2.17	2.03	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
13-Oct	2.17	2.17	2.02	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
14-Oct	2.24	2.17	2.03	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
15-Oct	2.17	2.17	2.02	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
16-Oct	2.24	2.17	2.03	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
17-Oct	2.17	2.17	2.02	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
18-Oct	2.24	2.17	2.03	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
19-Oct	2.17	2.17	2.02	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
20-Oct	2.24	2.17	2.03	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
21-Oct	2.17	2.17	2.02	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
22-Oct	2.24	2.17	2.03	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
23-Oct	2.17	2.17	2.02	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
24-Oct	2.24	2.17	2.03	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
25-Oct	2.17	2.17	2.02	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
26-Oct	2.24	2.17	2.03	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
27-Oct	2.17	2.17	2.02	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
28-Oct	2.24	2.17	2.03	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
29-Oct	2.17	2.17	2.02	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
30-Oct	2.24	2.17	2.03	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
31-Oct	2.17	2.17	2.02	1.88	1.87	1.87	1.88	0.56	0.54	0.50	0.53	0.04	0.04	0.04	0.04
1-Nov	2.19	2.19	1.81	1.16	1.81	1.81	1.81	0.61	0.61	0.56	0.56	0.25	0.25	0.05	0.05
Average	2.19	2.19	1.81	1.16	1.81	1.81	1.81	0.61	0.61	0.56	0.56	0.25	0.25	0.05	0.05

Monthly Turbidity Reading Summary  
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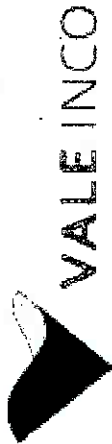
1-Nov-2009		Chlorine Residual (AL85)		Fluoride Residual (HFS-Master)		Filter #A Turbidity (AL98562)		Filter #B Turbidity (AL98577)		Filter #C Turbidity (AL98578)		Filter #E Turbidity (AL98580)		Average	
Month Min	Month Max	Minimum	Average	Minimum	Average	Minimum	Average	Minimum	Average	Minimum	Average	Minimum	Average	Minimum	Average
Date	ppm	ppm	ppm	ppm	ppm	NTU	NTU	NTU	NTU	NTU	NTU	NTU	NTU	NTU	NTU
1-Nov	1.84	0.02	1.72	0.43	0.39	0.07	0.05	0.04	0.04	0.04	0.03	0.04	0.04	0.04	0.04
2-Nov	2.33	1.82	1.92	0.84	0.87	1.02	1.02	1.02	1.02	1.02	0.16	1.02	1.02	0.09	0.08
3-Nov	2.08	1.76	1.89	0.64	0.63	0.08	0.08	0.11	0.11	0.11	0.07	0.08	0.08	0.04	0.05
4-Nov	2.10	1.64	1.89	0.66	0.65	0.09	0.08	0.04	0.04	0.04	0.06	0.04	0.04	0.04	0.05
5-Nov	2.04	0.02	1.80	0.70	0.67	1.01	1.02	1.02	1.02	1.02	0.06	1.02	1.02	0.04	0.05
6-Nov	1.95	1.80	1.86	0.67	0.68	0.08	0.08	0.10	0.10	0.10	0.05	0.08	0.08	0.07	0.06
7-Nov	1.92	1.53	1.78	0.85	0.81	0.08	0.08	0.04	0.04	0.04	0.07	0.08	0.08	0.05	0.05
8-Nov	2.09	1.67	1.89	0.94	0.92	0.10	0.08	0.05	0.05	0.05	0.07	0.08	0.08	0.05	0.05
9-Nov	2.12	1.56	1.81	0.69	0.67	0.09	0.06	0.13	0.13	0.13	0.12	0.10	0.10	0.06	0.05
10-Nov	2.00	1.37	1.84	0.68	0.66	0.07	0.06	0.11	0.11	0.11	0.07	0.11	0.11	0.06	0.05
11-Nov	2.33	1.40	1.89	0.88	0.84	0.07	0.06	0.08	0.08	0.08	0.07	0.07	0.07	0.05	0.05
12-Nov	1.98	1.50	1.78	0.65	0.60	0.07	0.06	0.06	0.06	0.06	0.14	0.07	0.07	0.05	0.05
13-Nov	1.88	1.48	1.74	0.65	0.59	1.01	1.02	1.02	1.02	1.02	0.06	1.02	1.02	0.06	0.06
14-Nov	2.06	1.58	1.91	0.63	0.57	0.11	0.10	0.08	0.08	0.08	0.09	0.09	0.09	0.06	0.06
15-Nov	2.16	1.51	1.83	0.63	0.59	0.11	0.10	0.07	0.07	0.07	0.08	0.08	0.08	0.11	0.11
16-Nov	2.14	1.70	1.91	0.65	0.60	0.11	0.07	0.04	0.04	0.04	0.16	0.16	0.16	0.17	0.17
17-Nov	1.98	1.41	1.72	0.63	0.51	0.07	0.06	0.05	0.05	0.05	0.18	0.18	0.18	0.13	0.13
18-Nov	1.99	1.76	1.89	0.61	0.48	0.11	0.06	0.04	0.04	0.04	0.08	0.08	0.08	0.15	0.15
19-Nov	1.93	1.68	1.78	0.59	0.42	0.09	0.07	0.13	0.13	0.13	0.05	0.05	0.05	0.05	0.05
20-Nov	2.05	1.74	1.84	0.55	0.40	0.15	0.14	0.06	0.06	0.06	0.04	0.04	0.04	0.04	0.04
21-Nov	1.92	1.82	1.87	0.61	0.40	0.15	0.15	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.05
22-Nov	1.89	1.78	1.85	0.60	0.46	0.19	0.14	0.09	0.09	0.09	0.04	0.04	0.04	0.04	0.04
23-Nov	2.04	1.80	1.89	0.63	0.48	0.09	0.07	0.06	0.06	0.06	0.07	0.07	0.07	0.09	0.09
24-Nov	1.97	1.33	1.81	0.62	0.43	0.09	0.07	0.05	0.05	0.05	0.07	0.07	0.07	0.05	0.05
25-Nov	1.84	1.56	1.78	0.63	0.43	0.07	0.07	0.05	0.05	0.05	0.08	0.08	0.08	0.08	0.08
26-Nov	1.94	1.55	1.81	0.44	0.44	0.08	0.07	0.09	0.09	0.09	0.04	0.04	0.04	0.04	0.04
27-Nov	1.91	1.58	1.77	0.44	0.43	1.02	1.02	0.06	0.06	0.06	0.04	0.04	0.04	0.04	0.04
28-Nov	1.89	1.52	1.82	0.44	0.43	1.02	1.02	0.06	0.06	0.06	0.04	0.04	0.04	0.04	0.04
29-Nov	2.00	1.59	1.78	0.44	0.42	0.14	0.12	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.04
30-Nov	1.87	1.58	1.75	0.43	0.39	0.08	0.07	0.06	0.06	0.06	0.04	0.04	0.04	0.04	0.04
1-Dec															
Average	2.01	1.54	1.83	0.61	0.55	0.25	0.08	0.08	0.08	0.08	0.06	0.06	0.06	0.05	0.05

Monthly Turbidity Reading Summary  
Vermilion WTP



1-Dec-2009		Chlorine Residual (A1-95)		Fluoride Residual (HFS-Mastech)		Filter #A Turbidity (A1-98392)		Filter #B Turbidity (A1-98377)		Filter #C Turbidity (A1-98378)		Filter #D Turbidity (A1-98380)		Filter #E Turbidity (A1-98381)	
Date	Maximum	Minimum	Average	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
1-Dec	1.76	0.01	1.70	0.40	0.39	0.39	0.39	0.03	0.01	0.03	0.05	0.02	0.04	0.04	0.01
2-Dec	1.91	1.62	1.84	0.40	0.38	0.39	0.38	0.07	0.05	0.06	0.07	0.06	0.04	0.04	0.04
3-Dec	2.02	1.85	1.94	0.43	0.39	0.41	0.39	0.08	0.05	0.06	0.07	0.06	0.04	0.04	0.04
4-Dec	2.00	1.63	1.85	0.43	0.42	0.43	0.42	0.08	0.05	0.06	0.07	0.06	0.04	0.04	0.04
5-Dec	2.03	1.84	1.84	0.47	0.42	0.43	0.42	0.13	0.06	0.08	0.07	0.06	0.04	0.04	0.04
6-Dec	1.97	1.60	1.81	0.35	0.47	0.34	0.47	0.13	0.06	0.08	0.07	0.06	0.04	0.04	0.04
7-Dec	1.93	1.72	1.84	0.53	0.49	0.52	0.49	0.14	0.07	0.08	0.08	0.06	0.04	0.04	0.04
8-Dec	1.91	1.64	1.74	0.54	0.48	0.50	0.48	0.14	0.07	0.08	0.08	0.06	0.04	0.04	0.04
9-Dec	1.98	1.48	1.73	0.50	0.46	0.49	0.46	0.11	0.06	0.06	0.06	0.06	0.04	0.04	0.04
10-Dec	1.81	1.58	1.72	0.31	0.44	0.45	0.44	0.10	0.05	0.07	0.06	0.06	0.04	0.04	0.04
11-Dec	2.03	1.58	1.81	0.61	0.45	0.54	0.45	0.10	0.07	0.08	0.07	0.06	0.04	0.04	0.04
12-Dec	1.93	1.76	1.88	0.60	0.58	0.59	0.58	0.13	0.06	0.06	0.07	0.06	0.04	0.04	0.04
13-Dec	1.95	1.57	1.82	0.61	0.59	0.60	0.59	0.11	0.06	0.06	0.06	0.06	0.04	0.04	0.04
14-Dec	1.97	1.55	1.76	0.61	0.58	0.59	0.58	0.11	0.07	0.08	0.07	0.06	0.04	0.04	0.04
15-Dec	1.96	1.57	1.83	0.67	0.55	0.56	0.55	0.15	0.07	0.08	0.07	0.06	0.04	0.04	0.04
16-Dec	2.07	1.56	1.85	0.55	0.52	0.53	0.52	0.16	0.07	0.08	0.07	0.06	0.04	0.04	0.04
17-Dec	2.05	1.18	1.97	0.54	0.44	0.49	0.44	0.13	0.08	0.06	0.06	0.06	0.04	0.04	0.04
18-Dec	2.13	1.40	1.70	0.30	0.43	0.45	0.43	0.11	0.05	0.05	0.05	0.05	0.04	0.04	0.04
19-Dec	1.89	1.46	1.70	0.58	0.50	0.56	0.50	0.13	0.06	0.06	0.06	0.06	0.04	0.04	0.04
20-Dec	1.86	1.56	1.73	0.59	0.55	0.56	0.55	0.09	0.09	0.09	0.09	0.09	0.04	0.04	0.04
21-Dec	1.86	1.64	1.75	0.60	0.54	0.57	0.54	0.10	0.09	0.09	0.09	0.09	0.04	0.04	0.04
22-Dec	1.93	1.58	1.75	0.57	0.52	0.54	0.52	0.10	0.08	0.08	0.08	0.08	0.04	0.04	0.04
23-Dec	2.00	1.38	1.80	0.53	0.52	0.52	0.52	0.09	0.09	0.09	0.09	0.09	0.04	0.04	0.04
24-Dec	1.86	1.17	1.78	0.58	0.51	0.53	0.51	0.09	0.05	0.05	0.05	0.05	0.04	0.04	0.04
25-Dec	1.95	1.78	1.86	0.56	0.53	0.55	0.53	0.11	0.05	0.05	0.05	0.05	0.04	0.04	0.04
26-Dec	2.06	1.80	1.90	0.56	0.54	0.55	0.54	0.11	0.05	0.05	0.05	0.05	0.04	0.04	0.04
27-Dec	1.82	1.16	1.77	0.36	0.54	0.35	0.54	0.09	0.04	0.04	0.04	0.04	0.04	0.04	0.04
28-Dec	2.04	0.01	1.78	0.57	0.55	0.56	0.55	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
29-Dec	1.96	1.65	1.78	0.57	0.55	0.56	0.55	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03
30-Dec	1.78	0.16	1.71	0.59	0.55	0.57	0.55	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
31-Dec	1.79	0.01	1.73	0.60	0.58	0.59	0.58	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
1-Jan															
Average	1.89	1.32	1.80	0.54	0.50	0.52	0.50	0.23	0.10	0.10	0.06	0.06	0.06	0.06	0.06

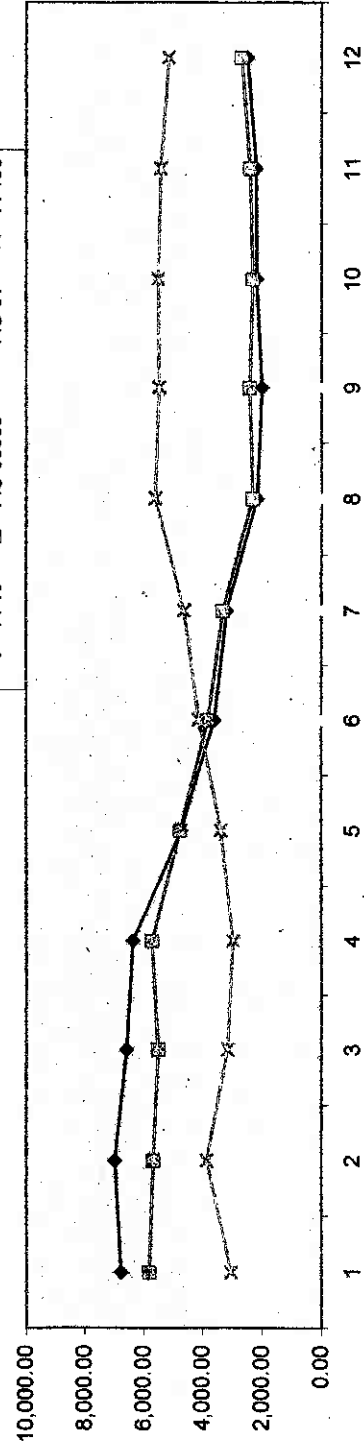
**Annual Average Flow Summary  
Vermilion WTP**



Summary : 2009

Month	Raw Inlet Flow (FI-10) GPM	CC Treated Flow (FIC-98530) GPM	Creighton Flow (FIC-31) GPM	U-Drain Flow (FI-100) USGPM
January	6,769.54	5,810.96	274.76	3,041.38
February	6,971.51	5,667.55	262.18	3,864.16
March	6,569.33	5,505.11	254.37	3,158.67
April	6,354.52	5,710.75	279.30	2,968.46
May	4,720.63	4,757.51	263.74	3,389.16
June	3,601.92	3,815.35	105.08	4,119.65
July	3,192.88	3,316.38	81.98	4,621.29
August	2,164.29	2,318.40	52.39	5,604.88
September	2,005.58	2,413.33	82.75	5,469.81
October	2,181.40	2,312.68	463.93	5,504.48
November	2,199.20	2,405.36	473.05	5,421.29
December	2,491.19	2,690.32	268.09	5,142.05
<b>Annual Average:</b>	<b>4,102.66</b>	<b>3,893.64</b>	<b>235.17</b>	<b>4,358.77</b>

Monthly Summary / Station









Monthly Flow Reading Summary  
Vermilion WTP

VALE INCO

1-Apr-2009		Raw Inlet Flow (FI-10)		CC Treated Flow (FI-C-98650)		Creighton Flow (FI-C-31)		U-Drain Flow (FI-100)		Average	
Month Min	Month Max	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Average
Date		GPM	GPM	GPM	GPM	GPM	GPM	USGPM	USGPM	USGPM	USGPM
1-Apr	6,607.90	8,271.56	2301.75	6,187.96	1470.26	5,933.70	522.43	9,481.11	152.62	9,481.11	2,088.54
2-Apr	13,292.47	7,608.90	3,022.09	5,597.03	2,886.56	11,390.77	532.57	11,213.48	364.56	11,213.48	3,793.42
3-Apr		8,182.29	436.77	5,734.15	393.19	4,942.21	523.95	1,038.43	279.07	1,038.43	3,271.83
4-Apr		8,192.80	5,208.67	6,014.51	4,139.79	5,996.33	537.04	1,088.31	308.92	1,088.31	3,793.42
5-Apr		8,653.40	5,496.02	6,952.38	4,713.24	6,945.62	525.62	1,049.75	277.90	1,049.75	3,697.19
6-Apr		9,368.01	5,022.62	7,628.15	3,758.39	6,033.65	524.70	979.06	325.31	979.06	3,012.06
7-Apr		9,456.14	6,720.23	7,584.91	4,272.77	6,571.13	530.57	978.69	293.80	978.69	2,508.65
8-Apr		9,236.28	5,731.46	7,204.88	4,456.86	5,790.77	527.55	1,018.36	270.04	1,018.36	2,518.71
9-Apr		9,377.76	5,788.65	7,195.47	3,352.95	5,691.63	532.05	1,042.19	307.62	1,042.19	3,013.83
10-Apr		9,347.42	4,822.70	6,772.19	4,106.67	5,363.94	531.27	1,066.82	298.19	1,066.82	3,290.17
11-Apr		8,919.92	5,755.48	6,716.55	4,143.56	5,291.09	530.37	1,123.48	237.06	1,123.48	3,424.66
12-Apr		8,907.87	3,048.22	6,684.87	4,089.15	5,320.75	530.88	1,086.90	211.90	1,086.90	3,413.20
13-Apr		10,017.89	5,198.55	7,016.53	4,209.46	5,487.41	530.06	1,030.34	311.43	1,030.34	3,129.75
14-Apr		9,049.98	4,591.08	7,257.96	4,749.79	5,788.21	525.44	993.26	322.51	993.26	2,772.52
15-Apr		13,282.17	-88.78	7,594.52	4,491.93	5,922.91	528.67	961.82	358.50	961.82	2,563.85
16-Apr		8,853.44	5.78	6,826.29	-520.97	5,761.56	523.39	1,004.27	347.51	1,004.27	2,820.18
17-Apr		7,687.74	4,977.06	6,244.60	4,445.29	5,606.25	528.07	1,023.37	348.12	1,023.37	3,094.00
18-Apr		7,137.38	4,750.85	5,911.78	4,692.98	5,731.34	529.48	958.43	212.63	958.43	3,087.59
19-Apr		6,621.76	4,499.65	5,613.07	4,480.23	5,756.83	525.78	997.47	180.97	997.47	3,105.97
20-Apr		6,668.75	4,611.67	5,633.84	4,755.59	5,886.17	530.32	1,017.94	230.10	1,017.94	2,905.45
21-Apr		6,663.32	4,915.44	5,671.37	4,640.93	5,886.72	522.43	1,006.87	251.20	1,006.87	2,878.78
22-Apr		6,647.91	5,221.78	5,747.43	4,443.61	5,862.76	528.35	1,006.85	313.04	1,006.85	2,831.33
23-Apr		6,607.90	3,977.39	5,811.25	3,914.57	5,876.18	532.57	986.72	261.65	986.72	2,867.14
24-Apr		6,729.85	4,380.35	5,480.75	4,123.80	5,603.22	528.25	1,120.31	244.86	1,120.31	3,190.84
25-Apr		6,911.38	4,393.22	5,393.56	4,767.83	5,770.42	529.57	1,082.04	199.24	1,082.04	3,088.16
26-Apr		6,696.11	4,499.38	5,345.36	4,647.89	5,659.42	525.04	1,072.81	152.62	1,072.81	3,047.42
27-Apr		7,081.29	4,475.65	5,691.31	4,788.44	6,133.91	528.37	970.73	292.34	970.73	2,517.14
28-Apr		7,627.57	72.17	6,052.09	-494.82	6,391.87	523.84	948.11	292.22	948.11	2,069.54
29-Apr		8,135.72	6,057.34	6,668.54	5,121.53	6,317.58	529.51	957.88	361.56	957.88	2,085.44
30-Apr		7,968.84	5,363.95	6,402.40	4,816.56	6,102.08	532.51	972.18	321.66	972.18	2,444.76
1-May											
Average		8,228.51	4,175.24	6,354.52	3,969.70	5,710.75	528.09	10,202.67	279.30	10,202.67	2,968.46

# Monthly Flow Reading Summary Vermilion WTP



1-May-2009															
Month Min	5,432.37	-80.20	3,612.78	4,714.38	-3,734.27	2,832.42	527.77	-0.05	112.87	8,269.83	0.00	2,354.77			
Month Max	12,672.44	5,259.40	6,666.52	8,666.85	4,683.15	6,047.95	1,543.68	21.79	463.20	11,911.70	1,615.47	4,624.70			
Date	Raw Inlet Flow (FI-10)					Creighton Flow (FIC-31)					U-Drain Flow (FI-100)				
	Maximum GPM	Minimum GPM	Average GPM	Maximum GPM	Minimum GPM	Maximum GPM	Minimum GPM	Average GPM	Maximum GPM	Minimum GPM	Maximum USGPM	Minimum USGPM	Average USGPM		
1-May	7467.00	4692.80	5989.74	7602.38	4418.38	5726.27	531.41	7.86	335.30	10403.04	516.84	2975.50			
2-May	6974.02	4636.71	5335.51	7382.81	4359.08	5375.85	528.21	10.25	210.45	11199.61	805.54	3444.04			
3-May	7201.46	4567.98	5460.59	7525.14	4266.94	5498.57	527.77	10.93	248.31	10493.29	413.83	3298.01			
4-May	7240.56	4358.40	5340.42	8300.83	4516.45	5591.16	530.38	21.79	284.94	9305.04	0.00	3171.87			
5-May	7094.11	4099.20	5195.90	8656.85	4666.78	5604.02	528.02	10.45	277.15	9665.31	0.00	3183.54			
6-May	6813.85	1793.52	4564.96	6434.51	1639.86	4825.72	529.09	9.36	318.92	11911.70	337.37	3892.87			
7-May	7429.67	5085.55	5772.76	7215.92	4610.36	6047.95	533.17	9.30	354.13	9802.97	31.28	2542.46			
8-May	7169.63	4470.08	5813.82	6866.15	4448.94	5836.04	536.23	11.68	358.89	9537.96	441.74	2783.76			
9-May	6389.98	2005.67	4855.20	6355.76	2828.33	4625.80	534.96	8.22	281.79	10882.64	1184.86	4157.45			
10-May	6087.97	1789.31	4185.37	6952.22	2904.20	4403.27	531.88	9.48	183.66	11152.24	1418.90	4535.21			
11-May	5848.33	3355.77	3991.73	5819.16	3459.14	4212.89	533.49	9.96	283.11	11701.90	1615.47	4624.70			
12-May	6492.13	3730.04	4528.21	7557.25	3729.43	4680.36	531.12	8.39	331.48	11417.89	1212.14	4106.41			
13-May	7155.70	-70.04	5367.48	8265.98	-995.73	4162.11	1019.21	1.69	338.40	10945.59	0.00	3456.83			
14-May	8264.37	5259.40	6656.52	6980.06	4627.50	6038.00	528.65	7.46	296.33	9802.32	3.99	2697.60			
15-May	8413.38	2574.39	4943.90	6863.50	3709.09	4369.03	529.65	8.05	254.87	10320.50	517.60	3603.31			
16-May	7189.63	3308.44	4735.25	7649.45	3372.87	4102.29	535.61	8.99	218.71	10599.23	0.00	3381.46			
17-May	7065.32	2959.34	3768.97	6090.50	2590.76	3387.16	533.72	15.23	201.94	11442.69	306.90	4100.74			
18-May	7098.96	3030.85	4480.21	8293.58	1821.80	3966.48	532.24	10.81	247.11	11819.90	0.00	3482.11			
19-May	7126.71	3578.49	4581.21	6262.62	3004.71	4079.75	533.38	10.60	280.64	10909.58	0.00	3258.88			
20-May	12672.44	-90.20	4664.60	6547.15	-1525.46	2832.42	1543.66	15.93	483.20	8269.83	0.00	2768.48			
21-May	7290.33	354.82	5122.03	8619.68	4683.15	5621.92	534.41	8.88	286.52	11117.07	0.00	3388.38			
22-May	6708.43	3111.10	4270.95	7061.76	3806.78	4919.46	532.20	10.48	336.50	10747.26	264.98	3419.22			
23-May	6045.19	2742.15	3801.80	5048.33	3829.06	4316.90	533.67	9.35	206.19	10992.20	0.00	3504.83			
24-May	6053.88	2830.20	3842.30	4809.29	3713.58	4350.66	530.81	12.07	155.34	10821.54	0.00	3501.18			
25-May	6228.87	3396.32	4194.69	5184.03	3107.70	4581.53	531.04	10.42	274.40	10546.25	9.84	3209.24			
26-May	6120.91	3427.08	4227.49	5420.02	-3734.27	4713.75	533.44	9.35	243.97	10239.82	0.00	3100.77			
27-May	6064.53	3449.18	4253.92	5425.02	3086.84	4730.98	532.19	-0.05	283.54	10435.77	367.75	3057.49			
28-May	6099.48	3263.86	4302.72	6494.73	2618.02	4903.21	529.86	8.58	186.43	10454.33	186.75	2959.07			
29-May	5914.78	3896.45	4738.09	6037.18	3112.94	5372.22	536.35	9.46	188.41	9799.19	76.56	2354.77			
30-May	5867.55	2932.26	3940.47	5888.58	2811.71	4545.51	534.91	9.57	134.59	10652.07	401.64	3278.04			
31-May	5432.37	2386.73	3612.78	4714.38	2868.03	4042.14	531.41	9.23	112.67	11197.33	842.57	3825.76			
1-Jun															
Average	6,839.40	3,125.96	4,720.63	6,720.16	2,989.58	4,757.51	580.39	9.80	263.74	10,586.65	353.44	3,389.16			











Monthly Flow Reading Summary  
Vermilion WTP



1-Nov-2009		2,318.78		-47.99		1,894.58		2,570.82		3.38		2,233.99		541.65		-5.76		399.53		5,406.50		0.00		5,174.05			
Month Min		6,195.30		2,076.31		2,476.54		4,168.47		2,004.42		2,702.19		611.36		-4.21		491.26		12,934.14		5,395.19		5,583.75			
Month Max																											
Date	Raw Inlet Flow (FI-10)		CC Treated Flow (PIC-38530)		Creighton Flow (FC-31)		U-Drain Flow (FI-100)		Average		Minimum		Maximum		Average		Minimum		Maximum		Average		Minimum		Average		
	Maximum	GPM	Minimum	GPM	Maximum	GPM	Minimum	GPM	Maximum	GPM	Minimum	GPM	Maximum	GPM	Maximum	GPM	Minimum	GPM	Maximum	GPM	Maximum	GPM	Minimum	GPM	Maximum	GPM	
1-Nov	2484.74	1996.41	1489.17	1382.89	2916.97	1899.53	1899.53	2409.10	611.03	611.03	611.03	611.03	611.03	5976.59	5190.20	5190.20	5190.20	5976.59	5976.59	5976.59	5976.59	5190.20	5190.20	5190.20	5190.20	5190.20	5190.20
2-Nov	5419.50	2056.29	181.08	1692.95	3237.36	1918.38	1918.38	2395.07	604.81	604.81	604.81	604.81	604.81	11719.45	2179.88	2179.88	2179.88	11719.45	11719.45	11719.45	11719.45	2179.88	2179.88	2179.88	2179.88	2179.88	2179.88
3-Nov	5736.00	2209.04	199.96	2577.83	2577.83	1938.90	1938.90	2343.88	607.44	607.44	607.44	607.44	607.44	10727.71	1744.99	1744.99	1744.99	10727.71	10727.71	10727.71	10727.71	1744.99	1744.99	1744.99	1744.99	1744.99	1744.99
4-Nov	4709.33	2190.11	123.24	1347.62	3219.81	1942.88	1942.88	2313.90	611.36	611.36	611.36	611.36	611.36	12577.17	3521.65	3521.65	3521.65	12577.17	12577.17	12577.17	12577.17	3521.65	3521.65	3521.65	3521.65	3521.65	3521.65
5-Nov	2318.78	2115.88	1945.37	2623.26	2623.26	1942.88	1942.88	2313.90	603.44	603.44	603.44	603.44	603.44	5682.26	5395.19	5395.19	5395.19	5682.26	5682.26	5682.26	5682.26	5395.19	5395.19	5395.19	5395.19	5395.19	5395.19
6-Nov	2994.29	2248.36	1874.40	2570.82	2570.82	1899.53	1899.53	2409.10	604.80	604.80	604.80	604.80	604.80	5753.54	4828.98	4828.98	4828.98	5753.54	5753.54	5753.54	5753.54	4828.98	4828.98	4828.98	4828.98	4828.98	4828.98
7-Nov	4789.28	2197.04	93.05	2580.03	2580.03	1918.38	1918.38	2395.07	583.25	583.25	583.25	583.25	583.25	12327.29	3479.65	3479.65	3479.65	12327.29	12327.29	12327.29	12327.29	3479.65	3479.65	3479.65	3479.65	3479.65	3479.65
8-Nov	4780.94	2213.07	81.27	3180.18	3180.18	1217.08	1217.08	2436.27	592.00	592.00	592.00	592.00	592.00	11891.74	1684.96	1684.96	1684.96	11891.74	11891.74	11891.74	11891.74	1684.96	1684.96	1684.96	1684.96	1684.96	1684.96
9-Nov	5705.91	2164.11	165.12	1664.80	2786.47	1664.80	1664.80	2321.85	600.28	600.28	600.28	600.28	600.28	8400.04	596.21	596.21	596.21	8400.04	8400.04	8400.04	8400.04	596.21	596.21	596.21	596.21	596.21	596.21
10-Nov	3265.87	1955.73	26.44	4168.47	4168.47	3.70	3.70	2289.29	600.56	600.56	600.56	600.56	600.56	6320.96	3411.90	3411.90	3411.90	6320.96	6320.96	6320.96	6320.96	3411.90	3411.90	3411.90	3411.90	3411.90	3411.90
11-Nov	4918.82	2016.66	501.25	2757.34	2757.34	1789.02	1789.02	2300.04	598.79	598.79	598.79	598.79	598.79	12934.14	468.21	468.21	468.21	12934.14	12934.14	12934.14	12934.14	468.21	468.21	468.21	468.21	468.21	468.21
12-Nov	5836.66	2122.02	840.99	2749.26	2749.26	1579.78	1579.78	2272.19	599.82	599.82	599.82	599.82	599.82	11969.16	1398.81	1398.81	1398.81	11969.16	11969.16	11969.16	11969.16	1398.81	1398.81	1398.81	1398.81	1398.81	1398.81
13-Nov	5294.48	2162.14	297.92	2832.80	2832.80	1703.23	1703.23	2312.36	604.16	604.16	604.16	604.16	604.16	11667.51	1228.59	1228.59	1228.59	11667.51	11667.51	11667.51	11667.51	1228.59	1228.59	1228.59	1228.59	1228.59	1228.59
14-Nov	5911.81	2127.97	70.52	2833.50	2833.50	1714.57	1714.57	2329.74	603.03	603.03	603.03	603.03	603.03	8833.30	4874.77	4874.77	4874.77	8833.30	8833.30	8833.30	8833.30	4874.77	4874.77	4874.77	4874.77	4874.77	4874.77
15-Nov	2900.48	2106.50	1795.39	2841.16	2841.16	1691.59	1691.59	2345.79	598.67	598.67	598.67	598.67	598.67	7822.06	0.00	0.00	0.00	7822.06	7822.06	7822.06	7822.06	0.00	0.00	0.00	0.00	0.00	0.00
16-Nov	2983.92	1894.58	-47.99	3320.23	3320.23	3.38	3.38	2367.50	597.65	597.65	597.65	597.65	597.65	12638.13	3148.76	3148.76	3148.76	12638.13	12638.13	12638.13	12638.13	3148.76	3148.76	3148.76	3148.76	3148.76	3148.76
17-Nov	4866.74	2059.19	130.48	3813.18	3813.18	1041.01	1041.01	2329.12	597.90	597.90	597.90	597.90	597.90	11787.98	3214.14	3214.14	3214.14	11787.98	11787.98	11787.98	11787.98	3214.14	3214.14	3214.14	3214.14	3214.14	3214.14
18-Nov	4902.11	2300.14	137.65	2914.39	2914.39	1689.26	1689.26	2455.90	608.04	608.04	608.04	608.04	608.04	12436.28	4966.70	4966.70	4966.70	12436.28	12436.28	12436.28	12436.28	4966.70	4966.70	4966.70	4966.70	4966.70	4966.70
19-Nov	4946.63	2306.26	181.07	2971.94	2971.94	1689.26	1689.26	2512.82	607.01	607.01	607.01	607.01	607.01	5445.09	4830.43	4830.43	4830.43	5445.09	5445.09	5445.09	5445.09	4830.43	4830.43	4830.43	4830.43	4830.43	4830.43
20-Nov	2717.88	2327.07	2076.31	3066.27	3066.27	1936.15	1936.15	2590.30	605.87	605.87	605.87	605.87	605.87	11811.36	631.25	631.25	631.25	11811.36	11811.36	11811.36	11811.36	631.25	631.25	631.25	631.25	631.25	631.25
21-Nov	2896.96	2324.09	1875.81	3085.22	3085.22	2004.42	2004.42	2702.19	541.65	541.65	541.65	541.65	541.65	11015.31	1677.40	1677.40	1677.40	11015.31	11015.31	11015.31	11015.31	1677.40	1677.40	1677.40	1677.40	1677.40	1677.40
22-Nov	6185.30	2476.54	125.03	3086.86	3086.86	1841.08	1841.08	2625.77	595.28	595.28	595.28	595.28	595.28	10820.76	1553.37	1553.37	1553.37	10820.76	10820.76	10820.76	10820.76	1553.37	1553.37	1553.37	1553.37	1553.37	1553.37
23-Nov	5800.40	2385.38	162.09	3081.04	3081.04	1304.56	1304.56	2554.11	598.49	598.49	598.49	598.49	598.49	5824.59	4908.86	4908.86	4908.86	5824.59	5824.59	5824.59	5824.59	4908.86	4908.86	4908.86	4908.86	4908.86	4908.86
24-Nov	5778.88	2294.79	127.65	3127.29	3127.29	1772.17	1772.17	2550.47	598.44	598.44	598.44	598.44	598.44	5648.47	4966.55	4966.55	4966.55	5648.47	5648.47	5648.47	5648.47	4966.55	4966.55	4966.55	4966.55	4966.55	4966.55
25-Nov	2841.10	2294.79	1711.50	3152.63	3152.63	1749.37	1749.37	2550.47	598.44	598.44	598.44	598.44	598.44	12517.98	1646.17	1646.17	1646.17	12517.98	12517.98	12517.98	12517.98	1646.17	1646.17	1646.17	1646.17	1646.17	1646.17
26-Nov	2731.01	2270.59	1712.90	3119.57	3119.57	1721.56	1721.56	2435.82	597.03	597.03	597.03	597.03	597.03	12435.35	2957.52	2957.52	2957.52	12435.35	12435.35	12435.35	12435.35	2957.52	2957.52	2957.52	2957.52	2957.52	2957.52
27-Nov	5706.33	2379.62	110.30	3053.76	3053.76	1889.42	1889.42	2515.23	596.54	596.54	596.54	596.54	596.54	11363.54	1743.35	1743.35	1743.35	11363.54	11363.54	11363.54	11363.54	1743.35	1743.35	1743.35	1743.35	1743.35	1743.35
28-Nov	5148.25	2121.81	79.42	2850.63	2850.63	1699.98	1699.98	2233.89	584.68	584.68	584.68	584.68	584.68	11393.44	1395.29	1395.29	1395.29	11393.44	11393.44	11393.44	11393.44	1395.29	1395.29	1395.29	1395.29	1395.29	1395.29
29-Nov	5675.71	2197.35	38.77	2907.72	2907.72	1711.94	1711.94	2312.59	584.88	584.88	584.88	584.88	584.88	11987.22	473.05	473.05	473.05	11987.22	11987.22	11987.22	11987.22	473.05	473.05	473.05	473.05	473.05	473.05
30-Nov	5838.54	2387.17	103.51	3225.10	3225.10	1798.84	1798.84	2526.10	592.94	592.94	592.94	592.94	592.94	9818.37	2875.94	2875.94	2875.94	9818.37	9818.37	9818.37	9818.37	2875.94	2875.94	2875.94	2875.94	2875.94	2875.94
1-Dec																											
Average	4,535.57	2,199.20	610.42	3,020.70	3,020.70	1,565.65	1,565.65	2,405.36	597.59	597.59	597.59	597.59	597.59	9,818.37	2,875.94	2,875.94	2,875.94	9,818.37	9,818.37	9,818.37	9,818.37	2,875.94	2,875.94	2,875.94	2,875.9		

# Monthly Flow Reading Summary Vermilion WTP

## VALE INCO

1-Dec-2009		Raw Inlet Flow (FI-10)		CC Treated Flow (FI-98530)		Creighton Flow (FI-31)		U-Drain Flow (FI-100)	
Date	Maximum GPM	Minimum GPM	Average GPM	Maximum GPM	Minimum GPM	Average GPM	Maximum GPM	Minimum GPM	Average GPM
1-Dec	2,391.84	-85.99	2,039.46	2,388.03	3.52	2,188.76	40.78	-12.00	20.26
Month Min	6,741.57	2,454.44	3,187.86	6,638.27	2,977.23	3,558.40	2,001.76	12.38	499.34
Month Max									
1-Dec	3213.92	1607.24	2250.53	3243.62	1459.49	2449.62	2001.76	5872.57	5301.29
2-Dec	2810.93	1808.83	2212.61	3028.20	1607.17	2454.37	613.29	4937.08	5326.20
3-Dec	5088.40	110.04	2087.04	4120.61	1666.70	2188.75	601.72	12062.04	5527.32
4-Dec	4971.74	235.93	2087.93	3400.25	1262.75	2261.36	605.23	12716.70	5498.72
5-Dec	4983.76	234.50	2120.69	2475.75	1223.90	2242.26	607.78	12536.44	5484.76
6-Dec	2552.45	1728.39	2039.45	2478.26	1931.90	2243.59	605.95	5755.40	5473.34
7-Dec	3209.04	1730.07	2290.87	3447.50	1077.44	2404.29	611.65	5726.90	5258.88
8-Dec	5570.20	1148.62	2884.83	3485.31	2311.53	3076.08	610.72	12255.37	1904.23
9-Dec	5584.47	25.36	2879.25	3492.83	2291.40	3072.01	612.93	12372.23	4843.39
10-Dec	5508.98	1293.04	2798.93	3494.67	2309.76	3012.04	613.89	12440.15	1899.00
11-Dec	3094.90	192.81	2431.96	3181.39	1983.77	2664.94	613.03	6139.03	4857.18
12-Dec	3204.27	1852.02	2410.47	3140.36	1901.11	2615.71	612.22	5621.33	5149.39
13-Dec	5383.70	194.89	2441.56	3179.12	1882.60	2547.82	618.61	6212.88	460.93
14-Dec	4856.77	183.62	2344.00	2909.41	1663.70	2437.38	614.96	12017.92	2468.49
15-Dec	5755.72	1974.20	2876.13	3742.35	1790.69	3043.63	617.47	12671.67	3231.61
16-Dec	5216.62	2454.44	3187.86	4254.07	2977.23	3558.40	610.04	11891.96	1508.37
17-Dec	6741.57	-55.99	3151.15	5638.27	3.52	3460.97	793.83	11822.88	2927.85
18-Dec	3706.03	2369.62	2804.55	3481.59	2628.19	3081.54	612.26	14063.45	7.39
19-Dec	5633.03	2078.62	2913.73	3724.24	2138.14	3135.28	616.97	5187.66	3966.76
20-Dec	3034.88	201.59	2508.36	3263.39	1924.69	2753.86	611.16	12180.72	1860.68
21-Dec	2983.49	1966.94	2563.58	3282.56	2130.53	2836.02	614.50	6253.14	486.09
22-Dec	5431.45	201.51	2361.87	3745.85	1505.59	2424.03	1051.45	479.31	156.26
23-Dec	5526.69	320.15	2305.90	3351.97	2086.24	2462.48	49.33	5512.30	20.26
24-Dec	5590.94	269.80	2757.97	4903.20	2043.23	2956.84	43.30	15928.75	15698.04
25-Dec	3323.25	862.42	2466.47	2873.88	2329.16	2742.17	40.78	2691.65	1801.32
26-Dec	2391.84	1758.61	2054.44	2460.95	2203.43	2315.12	40.85	7288.23	4795.33
27-Dec	5101.41	91.61	2134.89	2368.03	1788.79	2273.70	42.84	15698.14	1801.32
28-Dec	5913.74	142.62	2245.29	2478.13	1982.81	2376.05	46.02	5616.83	20.36
29-Dec	5636.90	161.84	2355.29	3177.83	1914.53	2497.22	46.47	5616.83	20.36
30-Dec	2985.49	2402.03	2634.94	3291.80	2602.74	2902.32	43.59	15351.39	2849.55
31-Dec	3452.80	2120.38	2623.95	3234.51	2597.29	2903.91	44.42	15557.69	1014.37
1-Jan								15390.16	20.41
Average	4,472.24	1,021.10	2,491.19	3,366.13	1,910.00	2,690.32	511.87	4703.42	20.36
								4855.34	268.09
								4709.10	3,257.60
								5,142.05	5,142.05