

FINAL

**Peer Review of
1997 to 2008 Annual Compliance Monitoring Data
Miller Environmental Corporation
St. Jean Baptiste, Manitoba**

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1.0 Introduction

Pinchin Environmental Ltd. (“Pinchin”) is pleased to provide this report summarizing the findings of an Environmental Peer Review (“EPR”) of Annual Monitoring Reports (“AMR”) prepared for the Miller Environmental Corporation (“MEC”) facility located in St Jean Baptiste, Manitoba (herein referred to as the “Site” or “facility”). The facility operates under a Manitoba Conservation *The Dangerous Goods Handling and Transportation Act* (“DGH&TA”) Licence Number 58HW S2 RR. Environmental monitoring is conducted each year and an AMR is prepared as part of the requirements of the DGH&TA Licence.

The Site location is shown on Figure 1 (all Figures are provided in Appendix I).

1.1 Background

MEC operates a waste handling facility that processes a variety of solid, liquid and oil wastes within Manitoba. This waste processing facility conducted monitoring of various environmental media (soil, water and air) to evaluate the facilities operations, waste handling practices and any impacts to the environment.

Pinchin was provided with a number of documents which included:

- “*Manitoba Environmental Centre Operations & Environmental Monitoring Program Annual Reports*” for the following years 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, and 2008; and
- Miller Environmental Corporation “*The Dangerous Goods Handling and Transportation Act*” (“DGH&TA”) Licence Number 58HW S2 RR.

Under the DGH&TA Licence, wastes that can be processed at the facility include: acid and alkaline solutions, salts, miscellaneous inorganic and organic wastes, non-halogenated solvents, halogenated wastes, fuels and oil wastes, resins and plastics, animal wastes and compressed gases. Records indicate that in 2008 just under 7,000 tonnes of waste material was handled and processed at the MEC facility.

An annual environmental monitoring program is conducted as per the Licence which generally includes monitoring of meteorological conditions, air sampling, groundwater sampling, surface water sampling and soil sampling. Details of the sampling procedures, environmental media and frequency are documented in the AMRs.

1.2 Objectives

The purpose of the EPR is to evaluate the environmental performance monitoring data conducted as part of the licence to operate the facility. At this time, the Client is reviewing the entire monitoring program as part of an effort to optimize the environmental reporting requirements of the DGH&TA Licence. Specific objectives include:

- Review of air monitoring data to determine the air quality at the Site monitoring stations relative to the DGH&TA Licence requirements;
- Review of soil monitoring data relative to the DGH&TA Licence requirements;
- Review biological indicator monitoring data (Item 64 of the DGH&TA Licence); and
- Review of water (surface water and groundwater) monitoring data relative to the DGH&TA Licence requirements.

Twelve years of data were reviewed as part of this EPR and include a review of the AMR reports outlined in Section 1.1.

1.3 Scope of Work

Pinchin staff reviewed each AMR to facilitate a comparison of annual air, soil and water monitoring data and compared these data to the standards set out in the DGH&TA Licence. Each annual report was reviewed and an assessment of the environmental conditions was conducted. A direct comparison of the annual monitoring data to DGH&TA Licence standards was conducted. This data will be used to develop an understanding of the Site history, facility operations, purpose of the environmental monitoring and to develop a Site conceptual model (Site conditions). When specific standards were not presented in the DGH&TA Licence, Pinchin compared the monitoring data to other specific media standards that apply to sites in Manitoba. During the review of the AMRs, Pinchin staff identified any potential data gaps in the monitoring data, or factors that may have affected an understanding of environmental conditions as they relate to the DGH&TA Licence.

A EPR report (this report) was prepared that included the findings of the EPR which will include a summary of each report which includes a description of monitoring completed and results air, groundwater, soil and surface water analytical characterization as it related to the limits/standards specified under the DGH&TA Licence.

2.0 Air Quality Regulatory Requirements

Regulatory requirements “Respecting Air Emissions” from the Miller Environmental Site are documented in Items 40 to 54 of the DGH&TA Licence. Regulatory requirements “*Respecting Ambient Air Monitoring*” are stated in Item 62. Pinchin’s peer review of annual reports provided by Miller Environmental specifically address the monitoring aspects of the Licence, which are summarized with commentary as follows.

2.1 Particulate Matter & Metals Emissions - Items 40 & 62

Item 40 of the DGH&TA Licence pertains to emissions of particulate matter (“PM”), as assessed at point sources and beyond the property line for opacity and PM concentration.

The presence of visible plumes from the facility and readings of opacity were not stated in any of the annual reports. As well, there were no point sources identified in the annual reports for PM concentration determination. Therefore, Pinchin has no further commentary on these aspects of the monitoring program.

Item 62 of the DGH&TA Licence requires ambient air monitoring for PM and specific metals at three locations at and beyond the property line, which are identified as “A1-Southeast Corner”, “A2-North Centre” and “C-Southwest Control”. Samples are to be collected and analyzed on alternating months from March to November. The DGH&TA Licence does not state specific limits or criteria from which to assess the significance of the results. In the absence of stated criteria and for the purposes of this peer review, Pinchin adopted the Ontario limits and guidelines (O.Reg.419/05) to flag results that potentially indicate a significant off-property impact attributable to operations at the facility. The assessment criteria are based on maximum ½-average point of impingement concentrations expressed in micrograms per cubic metre ($\mu\text{g}/\text{m}^3$).

Appendix A contains summary tables of Pinchin’s review of off-property sampling and analysis for metals and PM. Highlighted metal compounds and PM are those listed in the DGH&TA Licence. Other metal compounds were also assessed over the course of the monitoring program.

For most of the 12 years of monitoring there were samples collected and analyzed four times per year at the three subject locations, as specified in the DGH&TA Licence. Exceptions were years 2003, 2006 & 2008, which included three monitoring periods, as opposed to four. Other exceptions included: copper which was not analyzed for years 2000 to 2003, inclusive; particulate matter with suspected errors in years 1997 & 2001; and results for July 31 - August 01 and October 3 - October 4 of 2000 reporting periods, which were exactly the same.

Of the results reported over the 12 year monitoring period, there were no instances where the maximum off-property metals concentrations exceeded the corresponding limit criteria listed in the summary table. There were four results where the maximum off-property PM concentration exceeded the limit criteria. Two of the results are suspected of errors and one result occurred at the “C-Southwest Control” site and therefore is not considered attributable to the facility. One result indicates exceedance at the “A1-Southeast Corner” during the July 19 - 20, 2004 monitoring period. Wind speed was relatively high during the period and changed direction from westerly to south-easterly. PM concentration at the other two sites was roughly 30% of the subject Site. Given these findings, it is possible that the higher PM concentration was attributable to the facility. It is worth noting, however, that some construction activity at the facility was taking place during 2004; it is not known whether the construction activity contributed to the higher PM concentration.

2.2 Noise & Odour Nuisances - Items 41 & 42

Items 41 & 42 deal with noise and odour nuisances that may be created as a result of construction, operation, or any other facility work. There were no reported instances of noise and odour nuisances in the Miller Annual Reports. As well, there was no quantitative monitoring of noise and odour undertaken, nor were there requirements for quantitative monitoring in the DGH&TA Licence. As such, Pinchin's EPR does not include an assessment of a potential for noise and odour impacts.

2.3 Total Hydrocarbons & Specific Volatile Organic Compounds – Items 43 & 60

Item 43 of the DGH&TA Licence states that “The Licencee shall manage the handling, storage and treatment of hazardous waste at the facility, such that ambient air contaminants at any point of impingement beyond the boundaries of the facility do not exceed the following concentrations” as a 24-hour average:

- Total Hydrocarbons 32 mg/m³
- Benzene 150 µg/m³
- Toluene 2,000 µg/m³
- Ethylbenzene 4,000 µg/m³
- Xylenes 2,300 µg/m³

Item 60 states the monitoring periods as: monthly from March to November for volatile organic compounds (“VOCs”) at locations “A1-Southeast Corner” and A2-North Centre”; alternating months from March to November for VOCs at location “C-Southwest Control”; and alternating months through the summer for total hydrocarbons at all three of the stated locations.

Appendix II contains summary tables of Pinchin's review of the off-property sampling and analysis for VOCs. Highlighted VOCs are those listed in the DGH&TA Licence, as stated above. Other VOCs were also analyzed over the course of the monitoring program, but were not reviewed by Pinchin.

Based on the sampling schedule stated in the DGH&TA Licence, 240 samples were to be collected and analyzed from the three locations over the 12 year monitoring period. Nominally 184 samples were collected and analyzed. The maximum concentrations for each of the listed VOCs were well below their corresponding limits throughout the 12 year monitoring period. Analytical reports were complete, with the exception of year 1997 of which no analytical report was provided. Minimum detection limits throughout the monitoring program appeared adequate for appropriate determination of compliance. Sampled volumes for the monitoring periods were not always clearly stated and there was an instance where the flow rate units were incorrectly stated. It was assumed that the sampling equipment was consistent throughout the program and the sample flow rate and sample duration was 50 litres per minute over nominally 24 hours, respectively.

Appendix II contains summary tables of Pinchin's review of off-property monitoring for total hydrocarbons ("THC"). A real-time analyzer was operated continuously, with downtimes, over the 12 year monitoring period from which minimum, maximum and average THC concentration was recorded for each 24-hour period. Aside from obvious and recorded downtimes, it was necessary to screen the data for potential calibration drifts and errors. For continuous emissions monitoring equipment, an acceptable combined calibration error is typically in the range of $\pm 8\%$. However, due to the systematic offset of zero (1 to 2 ppmv) and the low span calibrations of this analyzer (10 to 20 ppmv), a combined acceptable uncertainty criteria was set to ± 2 ppm. Therefore, any zero or span calibration that fell outside the acceptable criteria range of ± 2 ppm was deemed suspect and not considered in the assessment. Given this criteria, and the reported downtimes of the analyzer, it was determined that 75% of the 12 year monitoring period yielded data that was acceptable for determination of compliance with the DGH&TA Licence limit.

Data from the analyzer is recorded in parts per million volume basis ("ppmv") and was calibrated with zero gas (air or nitrogen) and span gas (a certified concentration of methane in air). Since the DGH&TA Licence states a maximum limit of 32 mg/m³, a conversion to 49 ppmv (methane equivalent) limit was used to assess compliance.

Based on Pinchin's assessment there was only two readings (24-hour avg.) where the maximum THC concentration was above the limit and in both cases it was deemed that the analyzer was malfunctioning for part of the period since it was documented that analyzer problems were experienced during the previous period.

2.4 Air Pollution Control Devices – Items 44, 45 & 47 to 53

Items 44, 45 & 47 to 53 deal with air pollution control devices of which there was only a dry scrubber identified in operation from the period of 2001 to 2008, inclusive. Configuration, maintenance and sources treated by the dry scrubber are documented in the respective reports provided. Items 49 and 50 deal with monitoring instrumentation and emission limits required for the air pollution control device (dry scrubber). The emission limit is stated as a 24-hour average THC with a limit not to exceed 500 ppmv.

Appendix II contains summary tables of Pinchin's review of the maximum recorded 24-hour average concentrations of THC, as determined at the outlet of the dry scrubber. The maximum 24-hour average was tabulated for each month of operation over the eight year monitoring period. Analyzer errors, as indicated by an over-range reading of $>32,000$, were removed from the data set. With known suspect data removed, it was determined that 98.6% of the eight year monitoring period yielded data that was acceptable for determination of compliance with the DGH&TA Licence limit. Over that period there was no instance where the maximum 24-hour average THC concentration exceeded 500 ppmv.

3.0 Soil Quality Regulatory Requirements

Regulatory requirements “Respecting Soil Monitoring” from the Miller Environmental site are documented in Item 63 of the DGH&TA Licence. Pinchin’s peer review of annual reports provided by Miller Environmental specifically address the monitoring aspects of the Licence, which are summarized with commentary as follows.

Item 63 of the DGH&TA Licence requires soil monitoring as follows:

Frequency	Parameters	Locations
Semi-Annual	Arsenic, Cadmium, Chromium, Copper, Lead, Nickel, and Zinc	A1, A2, and A3
Annually	Extractables, Mercury, PCBs	A1, A2, and A3

The DGH&TA Licence does not state specific limits or criteria from which to assess the significance of the results. In the absence of stated criteria and for the purposes of this peer review; Pinchin adopted the Canadian Council of Ministers of the Environment (“CCME”) Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health (“Soil Guidelines”) to flag results that potentially indicate a significant environmental impact attributable to the operations of the facility.

For most of the 12 years, the soil sampling requirements were met; however, Pinchin notes the following exceptions:

- 1997 and 1998 – Samples were not collected from Location A3;
- 2000 – Extractables were not analyzed for either sampling event; and
- 2006 – Due to a scheduling error, only one sampling event was conducted.

No significant soil exceedances were identified with the exception of data from years 1999 and 2005, respectively. In the 1999 AMR, arsenic was present at concentrations ranging from 13 to 14 micrograms per gram (“µg/g”) at sample location A1 for both sampling events, while sample location A3 indicated an arsenic concentration of 14µg/g in the fall sampling period. Pinchin notes the CCME Soil Guideline criteria for arsenic in soil is 12 µg/g and that all sampling locations in 1999, identified arsenic concentrations ranging from 10 to 14 µg/g; which compared to other sampling years, are considered to be elevated.

Furthermore, for the year 2005, all sampling requirements were met in accordance to the Licence; however, the October sampling event identified numerous concentrations of metals which were in excess of the applicable CCME Soil Guidelines and did not appear to be consistent with any other sampling events. It is Pinchin’s opinion that the data from the October 2005 sampling event be considered as anomalous and does not represent a significant environmental concern to the Facility.

A summary of the soil monitoring program, comments and data gaps, if any, are presented in a Table provided in Appendix D.

4.0 Groundwater Quality Regulatory Requirements

Regulatory requirements “Respecting Groundwater Monitoring” from the Miller Environmental Site are documented in Items 65 and 66 of the DGH&TA Licence. Pinchin’s peer review of annual reports provided by Miller Environmental specifically address the monitoring aspects of the Licence, which are summarized with commentary as follows.

Item 65 of the DGH&TA Licence requires groundwater monitoring as follows:

Frequency	Parameters	Locations
Annually	Arsenic Cadmium Chromium Copper Lead Nickel Zinc Extractables Mercury pH Calcium Magnesium Sodium Potassium Chloride Nitrate Sulphate Total Organic Carbon Total Dissolved Solids Static Water Level (prior to purging/sampling, if possible)	OMW1, OMW2, OMW3, OMW4, OMW5

In addition, Item 66 references that groundwater samples should be collected from each of the observation wells with sampling devices or sample storage vessels that are constructed of materials as per the standard methods.

The DGH&TA Licence does not state specific limits or criteria from which to assess the significance of the results. In the absence of stated criteria and for the purposes of this peer review; Pinchin adopted the CCME Canadian Water Quality Guidelines for the Protection of Agricultural Water Uses (Irrigation) to flag results that potentially indicate a significant

environmental impact attributable to the operations of the facility. No significant concentrations were identified.

Following review of the provided data, Pinchin notes static water levels were not provided from years 1997 through to 2005 and pH was not analyzed in 1997, 1998, 2004 or 2005. Furthermore, the 2004 AMR indicated that the groundwater samples were analyzed for the same parameters analyzed in soil due to an error in the laboratory chain of custody form.

Groundwater sampling events for years 1997 to 2003 and 2006 to 2008 appear to have met all of the requirements of the Licence. It should be noted that the groundwater concentrations of the parameters analyzed appear to be low and relatively consistent between years and/or sampling events.

A summary of the groundwater monitoring program, comments and data gaps, if any, are presented in a Table provided in Appendix E.

5.0 Surface Water Quality Regulatory Requirements

Regulatory requirements “Respecting Surface Water Monitoring” from the Miller Environmental site are documented in Item 67 of the DGH&TA Licence. Pinchin’s peer review of annual reports provided by Miller Environmental specifically address the monitoring aspects of the Licence, which are summarized with commentary as follows.

Item 67 of the DGH&TA Licence requires surface water monitoring as follows:

Frequency	Parameters	Locations
Annually during the summer months	Arsenic Cadmium Chromium Copper Lead Nickel Zinc Extractables Mercury Bioassay	Retention Ponds

The DGH&TA Licence does not state specific limits or criteria from which to assess the significance of the results. In the absence of stated criteria and for the purposes of this peer review Pinchin adopted the CCME Canadian Water Quality Guidelines for the Protection of Agricultural Water Uses (Irrigation) to flag results that potentially indicate a significant environmental impact attributable to the operations of the facility. No significant concentrations were identified.

For most of the 12 years, the surface water sampling requirements were met; however, Pinchin notes the following exceptions:

- 1997 – Mercury was not analyzed and some Sample Identifiers were incorrect;
- 1998 – All parameters were analyzed; however, some Sample Identifiers were incorrect;
- 1999, 2000, 2001 – Sample Identifiers were incorrect and a sample was collected during fall/winter; and
- 2005, 2007, and 2008 – Analysis of Daphnia Magna was not reported and samples collected in spring and fall.

A summary of the surface water monitoring program, comments and data gaps, if any, are presented in a Table provided in Appendix F.

6.0 Biological Regulatory Requirements

Regulatory requirements “Respecting Biological Monitoring” from the Miller Environmental Site are documented in Item 64 of the DGH&TA Licence. Item 64 of the DGH&TA Licence requires monitoring of vegetation as follows:

Frequency	Parameters	Locations
Every three years	Arsenic Cadmium Chromium Copper Lead Mercury Nickel Zinc Extractables PCBs	A1, A2, A3, C, Fontaine Farms and the field immediately north of the site on the opposite side of Highway 14.

The DGH&TA Licence does not state specific limits or criteria from which to assess the significance of the results. Based on Pinchin’s review of the monitoring reports, the following data gaps were identified: In 2000, total extractable hydrocarbons (“TEH”) were not analyzed; and, in 2006, the sample location “C” was not assessed. Based on Pinchin’s review of the laboratory analytical results, concentrations of the above-noted parameters are variable between data sets (collected in 2000, 2003 and 2006) and varied by vegetation/crop type (i.e., grass, alfalfa, corn, etc.) and sample location. Plant types will have a significant effect on accumulation of metals and partially explains the variability of results.

Pinchin notes that sample locations A1, A2 and A3 were also sampled as part of the soil monitoring program. Soil analytical results generally complied with the requirements of the DGH&TA Licence and concentrations of metals, extractables and PCBs were below the CCME

Soil Guidelines. The CCME soil guidelines were generated to be protective of biota (plants and animals). Based this comparison, the concentrations of these parameters detected in vegetation samples are likely with normal ranges.

7.0 Summary and Conclusions

Pinchin reviewed AMRs, from years 1997 through to 2008, relating to the MEC facility located in St. Jean Baptiste, Manitoba. As part of the EPR, Pinchin also reviewed the licence in which the facility operates under in order to determine if the Site has been operating in accordance with the Licence, identify any data gaps, and ultimately determine if the Site is having a negative impact on the local environment.

Based on the work completed the following is a summary of the findings of this EPR.

7.1 Air Quality Regulatory Requirements

- Of the results reported over the 12 year monitoring period, there were no instances where the maximum off-property metals concentrations exceeded the corresponding limit criteria listed in the summary table or the DGH&TA Licence;
- Throughout the 12 years of data, there were four results where the maximum off-property PM concentration exceeded the DGH&TA Licence limit criteria;
- The maximum concentrations for each of the listed VOCs were well below their corresponding DGH&TA Licence limits throughout the 12 year monitoring period;
- Based on Pinchin's assessment there was only two readings (24-hour avg.) where the maximum THC concentration was above the limit and in both cases it was deemed that the analyzer was malfunctioning for part of the period since it was documented that analyzer problems were experienced during the previous period; and
- With suspect outlier data removed, it was determined that 98.6% of the eight year monitoring period yielded data that was acceptable for determination of compliance with the DGH&TA Licence limit. Over that period there was no instance where the maximum 24-hour average THC concentration exceeded 500 ppmv.

7.2 Soil Quality Regulatory Requirements

- The soil monitoring program satisfied the requirements of the DGH&TA License with the exception of four events, where sampling errors were identified and resulted in the only exceptions; and
- Soil concentrations identified in the submitted and analyzed samples were generally well below the DGH&TA Licence criteria throughout the 12 year sampling period. The only exceptions would be for years 1999 and 2005 where elevated metals were noted.

7.3 Groundwater Quality Regulatory Requirements

- The groundwater monitoring program generally satisfied the requirements of the DGH&TA License; and

- Groundwater concentrations identified in the submitted and analyzed samples were generally well below the DGH&TA Licence criteria throughout the twelve (12) year sampling period.

7.4 Surface Water Quality Regulatory Requirements

- The surface water monitoring program generally satisfied the requirements of the DGH&TA License. However Pinchin did note sampling errors during several years relating to the use of wrong Sample Identifiers; and
- Surface water concentrations identified in the submitted and analyzed samples were generally well below the DGH&TA Licence criteria throughout the 12 year sampling period.

7.5 Biological Quality Regulatory Requirements

- The biological monitoring program generally satisfied the requirements of the DGH&TA License with the exception of two events (2000 and 2006), where sampling errors were identified and resulted in the only exceptions; and
- Based on a comparison of soil analytical results from samples collected from similar locations (A1, A2 and A3), the presence of metals, extractables and PCBs in biological media is very likely within expected ranges for site unaffected by Site activities.

8.0 Recommendations

Based on Pinchin's review of the AMR's for the facility as described above, Pinchin provides the following recommendations:

- The data evaluated as part of this EPR indicated that air monitoring and sampling conducted from 1997 to 2008 suggests that air quality meets the DGH&TA Licence requirements. Consequently, air monitoring is not recommended at this time going forward;
- Continuous recording of data from the meteorological station was primarily intended to determine if excursions in air monitoring and sampling results were a result of operations at the site. Since air quality over the monitoring period was found to meet the DGH&TA Licence requirements and further air monitoring is no longer recommended, there is no perceivable need for continued operation of the meteorological station;
- Throughout the monitoring period, soil sampling monitoring data did not identify significant concentrations of the parameters of concern. Based on this information, Site operations appear to be meeting the requirements of the DGH&TA Licence and a semi-annual to annual soil monitoring program is likely no longer required;
- Given the inconsistencies in the data for select years of both the surface and groundwater quality sampling events, Pinchin recommends annual surface and groundwater sampling for select parameters as per the DGH&TA License. It is Pinchin's understanding that additional groundwater monitoring wells exist at the Site beyond those which are sampled per the requirements of the DGH&TA License. Pinchin recommends that monitoring wells which are not being sampled be properly decommissioned; and

- Biological monitoring is likely no longer required, given that the air and soil samples collected from the Site did not identify significant concentrations of the parameters of concern, which would directly influence concentrations identified in local grasses and/or crops.

9.0 Closing Remarks

We trust that the information provided in this document is sufficient for Client. If you have any questions, or require additional information, please do not hesitate to contact the undersigned at (204) 452-0983.

We look forward to working with you on this assignment.

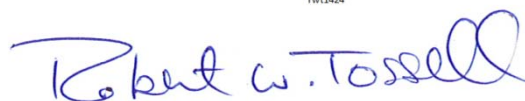
Yours truly,

PINCHIN ENVIRONMENTAL LTD.



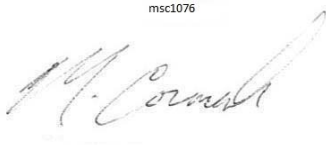
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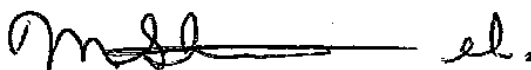


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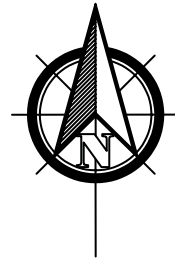
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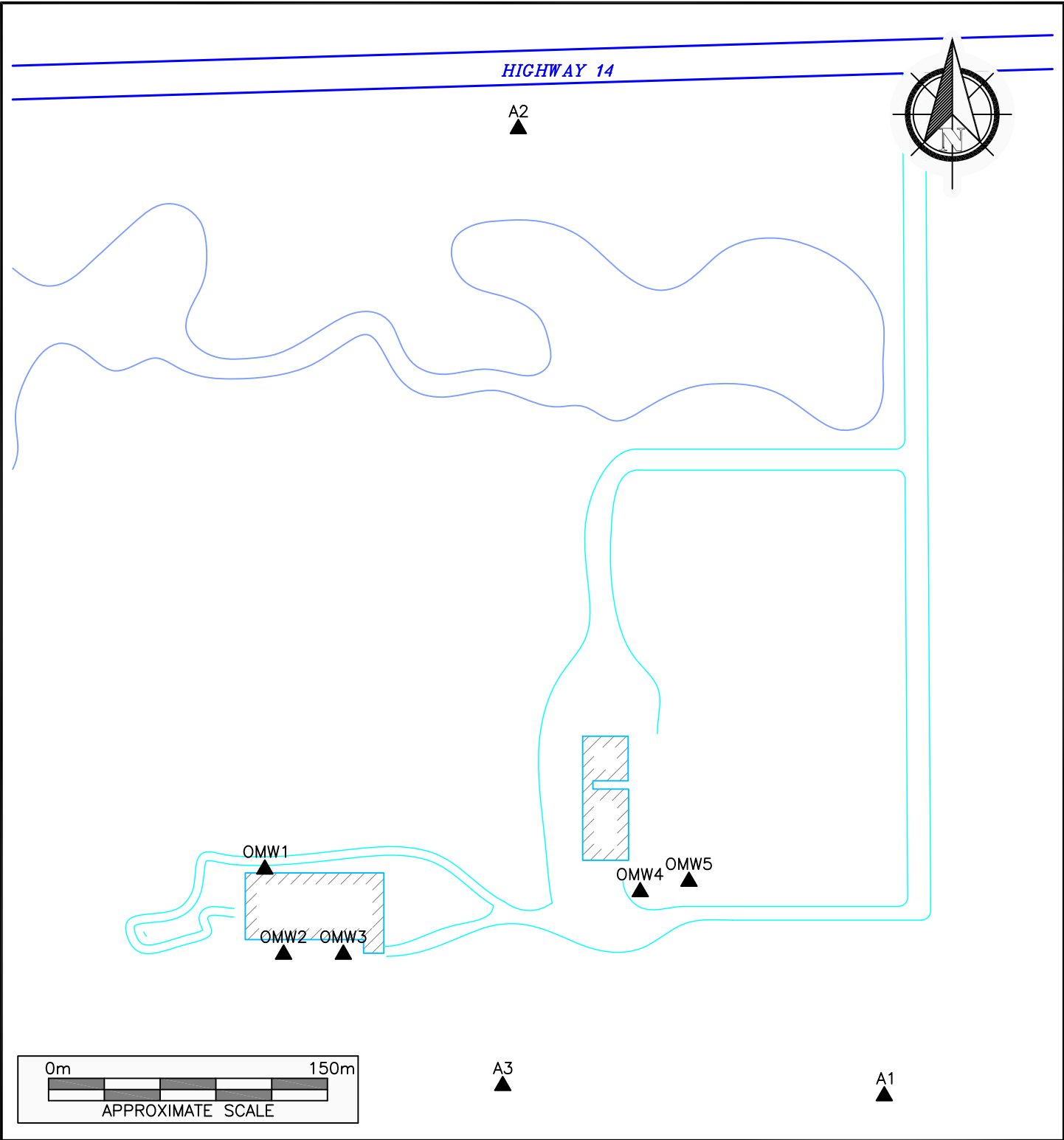
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APPENDIX I

FIGURES



PROJECT NAME				ENVIRONMENTAL PEER REVIEW			
CLIENT NAME				THE MILLER ENVIRONMENTAL CORPORATION			
PROJECT LOCATION				HIGHWAY 14 AND 75, ST. JOHN BAPTISTE, MANITOBA			
FIGURE NAME				KEY MAP			FIGURE NO.
SCALE		PROJECT NO.		DATE:		1	
AS SHOWN		57798		MARCH 2010			



	PROJECT NAME			ENVIRONMENTAL PEER REVIEW
	CLIENT NAME			THE MILLER ENVIRONMENTAL CORPORATION
	PROJECT LOCATION			HIGHWAY 14 and 75, ST. JEAN BAPTISTE, MANITOBA
	FIGURE NAME			SAMPLE LOCATION
	APPROXIMATE SCALE	PROJECT NO.	DATE	FIGURE NO. 2
AS SHOWN	57798	MARCH 2010		

APPENDIX II

SUMMARY TABLES

**TABLE 1
 AMBIENT AIR QUALITY MONITORING SUMMARY TABLE
 Miller Environmental Corp.
 Manitoba Environmental Centre**

Metals & Particulate Matter

Highlighted cells indicated compounds sample & analyzed as a requirement of Miller Environmental's DGH&TA Licence No. 58 HW S2 RR.

Guideline Criteria and Concentration are those stated in Ontario Regulation 419 - Summary of Air Standards & Guidelines, 2008.

Results for Jul. 31-Aug.01 and Oct.3-Oct.04 of 2000 are exactly the same.

Year (yyyy)	Chemical	Samples Analyzed (n)	Assessment Criteria	Assessment Criteria (ug/m ³)	Maximum Concentration (ug/m ³)	Exceedances		Comments
						Attributable (n)	Non-Attributable (n)	
1997	Arsenic	14	G	1.00	0.018	0	0	
	Barium	14	G	30.0	6.56	0	0	
	Cadmium	14	2	0.075	0.001	0	0	
	Chromium	14	G	5.00	0.493	0	0	
	Copper	14	2	100	0.118	0	0	
	Iron	14	2	10.0	3.93	0	0	
	Lead	14	2	1.50	0.146	0	0	
	Magnesium	14	2	100	45.40	0	0	as magnesium oxide
	Manganese	14	G	7.50	0.130	0	0	
	Mercury	14	2	5.00	<MDL	0	0	MDL & recovery acceptable
	Nickel	14	2	5.00	0.528	0	0	
	Selenium	14	G	20.0	0.018	0	0	
	Silver	14	2	3.00	0.004	0	0	
	Titanium	14	2	100	0.29	0	0	
Vanadium	14	2	5.00	0.011	0	0		
Zinc	14	2	100.00	0.234	0	0		
Total Particulate	14	2	100.00	0.125	0	0	Result questionable	
1998	Arsenic	12	G	1.00	0.03	0	0	
	Barium	12	G	30.0	12.58	0	0	
	Cadmium	12	2	0.075	<MDL	0	0	MDL & recovery acceptable
	Chromium	12	G	5.00	0.08	0	0	
	Copper	12	2	100	0.17	0	0	
	Iron	12	2	10.0	2.77	0	0	
	Lead	12	2	1.50	0.03	0	0	
	Magnesium	12	2	100	51.26	0	0	as magnesium oxide
	Manganese	12	G	7.50	0.14	0	0	
	Mercury	12	2	5.00	<MDL	0	0	MDL & recovery acceptable
	Nickel	12	2	5.00	0.01	0	0	
	Selenium	12	G	20.0	0.02	0	0	
	Silver	12	2	3.00	0.01	0	0	
	Titanium	12	2	100	0.37	0	0	
Vanadium	12	2	5.00	0.01	0	0		
Zinc	12	2	100	0.75	0	0		
Total Particulate	12	2	100	120.00	0	1	occurred at control site	

TABLE 1
AMBIENT AIR QUALITY MONITORING SUMMARY TABLE
Miller Environmental Corp.
Manitoba Environmental Centre

Metals & Particulate Matter

Highlighted cells indicated compounds sample & analyzed as a requirement of Miller Environmental's DGH&TA Licence No. 58 HW S2 RR.

Guideline Criteria and Concentration are those stated in Ontario Regulation 419 - Summary of Air Standards & Guidelines, 2008.

Results for Jul. 31-Aug.01 and Oct.3-Oct.04 of 2000 are exactly the same.

Year (yyyy)	Chemical	Samples Analyzed (n)	Assessment Criteria	Assessment Criteria (ug/m ³)	Maximum Concentration (ug/m ³)	Exceedances		Comments	
						Attributable (n)	Non-Attributable (n)		
1999	Arsenic	12	G	1.00	0.02	0	0	MDL & recovery acceptable	
	Barium	12	G	30.0	10.07	0	0		
	Cadmium	12	2	0.075	<MDL	0	0		
	Chromium	12	G	5.00	0.07	0	0		
	Copper	12	2	100	0.11	0	0		
	Iron	12	2	10.0	3.39	0	0		
	Lead	12	2	1.50	0.04	0	0		
	Magnesium	12	2	100	41.46	0	0		as magnesium oxide
	Manganese	12	G	7.50	0.18	0	0		
	Mercury	12	2	5.00	<MDL	0	0		MDL & recovery acceptable
	Nickel	12	2	5.00	0.01	0	0		
	Selenium	12	G	20.0	0.01	0	0		
	Silver	12	2	3.00	0.01	0	0		
	Titanium	12	2	100	0.69	0	0		
	Vanadium	12	2	5.00	1.08	0	0		
	Zinc	12	2	100	0.89	0	0		
Total Particulate	9	2	100	190.00	0	1	occurred at control site		
2000	Arsenic	12	G	1.00	<MDL	0	0	MDL & recovery acceptable	
	Barium	12	G	30.0	0.06	0	0		
	Cadmium	12	2	0.075	0.003	0	0		
	Chromium	12	G	5.00	0.005	0	0		
	Cobalt	12	G	0.30	0.01	0	0		added to analysis
	Copper	0	2	100	n/a	n/a	n/a		not analyzed
	Iron	12	2	10.0	0.54	0	0		
	Lead	12	2	1.50	0.02	0	0		
	Magnesium	12	2	100	1.70	0	0		as magnesium oxide
	Manganese	12	G	7.50	0.02	0	0		
	Mercury	12	2	5.00	0.001	0	0		
	Nickel	12	2	5.00	0.01	0	0		
	Selenium	12	G	20.0	<MDL	0	0		MDL & recovery acceptable
	Silver	12	2	3.00	0.04	0	0		
	Titanium	12	2	100	0.01	0	0		
	Vanadium	12	2	5.00	<MDL	0	0		MDL & recovery acceptable
Zinc	12	2	100	0.04	0	0			
Total Particulate	12	2	100	40.00	0	0			

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Miller Environmental Corp.
Manitoba Environmental Centre

Metals & Particulate Matter

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Year (yyyy)	Chemical	Samples Analyzed (n)	Assessment Criteria	Assessment Criteria (ug/m ³)	Maximum Concentration (ug/m ³)	Exceedances		Comments
						Attributable (n)	Non-Attributable (n)	
2001	Arsenic	12	G	1.00	<MDL	0	0	MDL & recovery acceptable
	Barium	12	G	30.0	0.05	0	0	
	Cadmium	12	2	0.075	<MDL	0	0	MDL & recovery acceptable
	Chromium	12	G	5.00	0.17	0	0	
	Cobalt	12	G	0.30	0.001	0	0	not analyzed
	Copper	0	2	100	n/a	n/a	n/a	
	Iron	12	2	10.0	1.30	0	0	as magnesium oxide
	Lead	12	2	1.50	0.02	0	0	
	Magnesium	12	2	100	1.65	0	0	MDL & recovery acceptable
	Manganese	12	G	7.50	0.02	0	0	
	Mercury	12	2	5.00	<MDL	0	0	MDL & recovery acceptable
	Nickel	12	2	5.00	0.01	0	0	
	Selenium	12	G	20.0	<MDL	0	0	MDL & recovery acceptable
	Silver	12	2	3.00	0.02	0	0	
	Titanium	12	2	100	0.01	0	0	Calculation error suspected
	Vanadium	12	2	5.00	0.002	0	0	
	Zinc	12	2	100	0.04	0	0	Calculation error suspected
Total Particulate	12	2	100	42,610.00	0	1		
2002	Arsenic	12	G	1.00	0.02	0	0	as magnesium oxide
	Barium	12	G	30.0	0.08	0	0	
	Cadmium	12	2	0.075	0.003	0	0	not analyzed
	Chromium	12	G	5.00	0.01	0	0	
	Copper	12	2	100	0.09	0	0	as magnesium oxide
	Iron	12	2	10.0	1.13	0	0	
	Lead	12	2	1.50	0.01	0	0	not analyzed
	Magnesium	12	2	100	2.94	0	0	
	Manganese	12	G	7.50	0.05	0	0	as magnesium oxide
	Mercury	0	2	5.00	n/a	n/a	n/a	
	Nickel	12	2	5.00	0.01	0	0	not analyzed
	Selenium	12	G	20.0	0.03	0	0	
	Silver	12	2	3.00	0.003	0	0	as magnesium oxide
	Titanium	12	2	100	0.02	0	0	
	Vanadium	12	2	5.00	4.10	0	0	not analyzed
	Zinc	12	2	100	0.05	0	0	
	Total Particulate	12	2	100	70.00	0	0	not analyzed

TABLE 1
AMBIENT AIR QUALITY MONITORING SUMMARY TABLE
Miller Environmental Corp.
Manitoba Environmental Centre

Metals & Particulate Matter

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Year (yyyy)	Chemical	Samples Analyzed (n)	Assessment Criteria	Assessment Criteria (ug/m ³)	Maximum Concentration (ug/m ³)	Exceedances		Comments
						Attributable (n)	Non-Attributable (n)	
2003	Arsenic	9	G	1.00	0.02	0	0	not analyzed as magnesium oxide MDL & recovery acceptable no results reported
	Barium	9	G	30.0	0.27	0	0	
	Cadmium	9	2	0.075	0.01	0	0	
	Chromium	9	G	5.00	0.01	0	0	
	Cobalt	9	G	0.30	0.01	0	0	
	Copper	0	2	100	n/a	n/a	n/a	
	Iron	9	2	10.0	3.63	0	0	
	Lead	9	2	1.50	0.07	0	0	
	Magnesium	9	2	100	12.20	0	0	
	Manganese	9	G	7.50	0.27	0	0	
	Mercury	9	2	5.00	<MDL	0	0	
	Nickel	9	2	5.00	0.004	0	0	
	Selenium	9	G	20.0	0.06	0	0	
	Silver	9	2	3.00	0.02	0	0	
	Titanium	9	2	100	0.07	0	0	
	Vanadium	9	2	5.00	0.01	0	0	
	Zinc	9	2	100	0.20	0	0	
Total Particulate	0	2	100	n/a	n/a	n/a		

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Year (yyyy)	Chemical	Samples Analyzed (n)	Assessment Criteria	Assessment Criteria (ug/m ³)	Maximum Concentration (ug/m ³)	Exceedances		Comments
						Attributable (n)	Non-Attributable (n)	
2004	Aluminum	12	G	100	1.43	0	0	as aluminum oxide
	Antimony	12	2.0	75.0	0.04	0	0	
	Arsenic	12	G	1.00	0.0001	0	0	
	Barium	12	G	30.0	0.10	0	0	
	Beryllium	12	2	0.030	0.0004	0	0	
	Boron	12	2	100	0.46	0	0	
	Cadmium	12	2	0.075	<MDL	0	0	MDL & recovery acceptable
	Calcium	12	n/a	n/a	3.99	0	0	
	Chromium	12	G	5.00	0.01	0	0	
	Cobalt	12	G	0.30	0.00	0	0	
	Copper	12	2	100	0.18	0	0	
	Iron	12	2	10.0	0.32	0	0	
	Lead	12	2	1.50	0.001	0	0	
	Magnesium	12	2	100	1.40	0	0	as magnesium oxide
	Manganese	12	G	7.50	0.01	0	0	
	Mercury	12	2	5.00	<MDL	0	0	MDL & recovery acceptable
	Molybdenum	12	G	100	<MDL	0	0	MDL & recovery acceptable
	Nickel	12	2	5.00	0.01	0	0	
	Phosphorus	12	JSL	1.05	0.03	0	0	
	Potassium	12	JSL	24.00	1.61	0	0	
	Selenium	12	G	20.0	<MDL	0	0	MDL & recovery acceptable
	Silver	12	2	3.00	0.002	0	0	
	Sodium	12	n/a	n/a	20.32	0	0	
	Strontium	12	G	100	0.03	0	0	
	Tellurium	12	2	30.0	<MDL	0	0	MDL & recovery acceptable
	Thallium	12	JSL	0.72	0.01	0	0	
	Tin	12	2	30.0	0.03	0	0	
	Titanium	12	2	100	0.04	0	0	
	Vanadium	12	2	5.00	0.002	0	0	
	Zinc	12	2	100	0.04	0	0	
	Zirconium	12	JSL	60.0	<MDL	0	0	MDL & recovery acceptable
	Total Particulates	12	2	100	170.97	1	0	possibly attributable

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Miller Environmental Corp.
Manitoba Environmental Centre

Metals & Particulate Matter

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Year (yyyy)	Chemical	Samples Analyzed (n)	Assessment Criteria	Assessment Criteria (ug/m ³)	Maximum Concentration (ug/m ³)	Exceedances		Comments
						Attributable (n)	Non-Attributable (n)	
2005	Aluminum	12	G	100	1.37	0	0	as aluminum oxide
	Antimony	12	2.0	75.0	0.0004	0	0	
	Arsenic	12	G	1.00	0.0001	0	0	
	Barium	12	G	30.0	0.03	0	0	MDL & recovery acceptable
	Beryllium	12	2	0.030	<MDL	0	0	
	Boron	12	2	100	0.44	0	0	MDL & recovery acceptable
	Cadmium	12	2	0.075	<MDL	0	0	
	Calcium	12	n/a	n/a	2.44	0	0	MDL & recovery acceptable
	Chromium	12	G	5.00	0.001	0	0	
	Cobalt	12	G	0.30	0.0001	0	0	MDL & recovery acceptable
	Copper	12	2	100	0.01	0	0	
	Iron	12	2	10.0	0.07	0	0	as magnesium oxide
	Lead	12	2	1.50	0.001	0	0	
	Magnesium	12	2	100	0.51	0	0	MDL & recovery acceptable
	Manganese	12	G	7.50	0.002	0	0	
	Mercury	12	2	5.00	<MDL	0	0	MDL & recovery acceptable
	Molybdenum	12	G	100	0.0001	0	0	
	Nickel	12	2	5.00	0.0003	0	0	MDL & recovery acceptable
	Phosphorus	12	JSL	1.05	0.02	0	0	
	Potassium	12	JSL	24.00	0.08	0	0	MDL & recovery acceptable
	Selenium	12	G	20.0	<MDL	0	0	
	Silver	12	2	3.00	<MDL	0	0	MDL & recovery acceptable
	Sodium	12	n/a	n/a	0.20	0	0	
	Strontium	12	G	100	0.03	0	0	MDL & recovery acceptable
	Tellurium	12	2	30.0	<MDL	0	0	
	Thallium	12	JSL	0.72	<MDL	0	0	MDL & recovery acceptable
	Tin	12	2	30.0	0.0002	0	0	
	Titanium	12	2	100	0.04	0	0	MDL & recovery acceptable
	Vanadium	12	2	5.00	0.001	0	0	
	Zinc	12	2	100	0.03	0	0	MDL & recovery acceptable
Zirconium	12	JSL	60.0	0.00	0	0		
Total Particulates	12	2	100	36.44	0	0		

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Miller Environmental Corp.
Manitoba Environmental Centre

Metals & Particulate Matter

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Year (yyyy)	Chemical	Samples Analyzed (n)	Assessment Criteria	Assessment Criteria (ug/m ³)	Maximum Concentration (ug/m ³)	Exceedances		Comments	
						Attributable (n)	Non-Attributable (n)		
2006	Aluminum	9	G	100	53.32	0	0	as aluminum oxide	
	Antimony	9	2.0	75.0	0.001	0	0		
	Arsenic	9	G	1.00	0.01	0	0		
	Barium	9	G	30.0	13.31	0	0		
	Beryllium	9	2	0.030	0.00	0	0		
	Boron	9	2	100	22.56	0	0		
	Cadmium	9	2	0.075	0.0004	0	0		
	Calcium	9	n/a	n/a	77.08	0	0		
	Chromium	9	G	5.00	0.06	0	0		
	Cobalt	9	G	0.30	0.002	0	0		
	Copper	9	2	100	0.33	0	0		
	Iron	9	2	10.0	1.92	0	0		
	Lead	9	2	1.50	0.02	0	0		
	Magnesium	9	2	100	15.28	0	0		as magnesium oxide
	Manganese	9	G	7.50	0.05	0	0		
	Mercury	9	2	5.00	<MDL	0	0	MDL & recovery acceptable	
	Molybdenum	9	G	100	0.004	0	0		
	Nickel	9	2	5.00	0.01	0	0		
	Phosphorus	9	JSL	1.05	0.26	0	0		
	Potassium	9	JSL	24.00	8.41	0	0		
	Selenium	9	G	20.0	0.003	0	0		
	Silver	9	2	3.00	0.0002	0	0		
	Sodium	9	n/a	n/a	22.49	0	0		
	Strontium	9	G	100	0.80	0	0		
	Tellurium	9	2	30.0	<MDL	0	0	MDL & recovery acceptable	
	Thallium	9	JSL	0.72	<MDL	0	0		
	Tin	9	2	30.0	0.01	0	0	MDL & recovery acceptable	
	Titanium	9	2	100	1.45	0	0		
	Vanadium	9	2	5.00	0.05	0	0		
	Zinc	9	2	100	3.39	0	0		
Zirconium	9	JSL	60.0	0.03	0	0			
Total Particulates	9	2	100	36.44	0	0			

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Miller Environmental Corp.
Manitoba Environmental Centre

Metals & Particulate Matter

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Year (yyyy)	Chemical	Samples Analyzed (n)	Assessment Criteria	Assessment Criteria (ug/m ³)	Maximum Concentration (ug/m ³)	Exceedances		Comments	
						Attributable (n)	Non-Attributable (n)		
2007	Aluminum	12	G	100	45.33	0	0	as aluminum oxide	
	Antimony	12	2.0	75.0	0.002	0	0		
	Arsenic	12	G	1.00	0.004	0	0		
	Barium	12	G	30.0	3.66	0	0		
	Beryllium	12	2	0.030	0.0004	0	0		
	Boron	12	2	100	14.22	0	0		
	Cadmium	12	2	0.075	0.0004	0	0		
	Calcium	12	n/a	n/a	77.08	0	0		
	Chromium	12	G	5.00	0.06	0	0		
	Cobalt	12	G	0.30	0.002	0	0		
	Copper	12	2	100	1.25	0	0		
	Iron	12	2	10.0	2.14	0	0		
	Lead	12	2	1.50	0.02	0	0		
	Magnesium	12	2	100	16.19	0	0		as magnesium oxide
	Manganese	12	G	7.50	0.07	0	0		
	Mercury	12	2	5.00	<MDL	0	0		MDL & recovery acceptable
	Molybdenum	12	G	100	0.003	0	0		
	Nickel	12	2	5.00	0.02	0	0		
	Phosphorus	12	JSL	1.05	0.19	0	0		
	Potassium	12	JSL	24.00	3.01	0	0		
	Selenium	12	G	20.0	<MDL	0	0	MDL & recovery acceptable	
	Silver	12	2	3.00	0.001	0	0		
	Sodium	12	n/a	n/a	8.34	0	0		
	Strontium	12	G	100	1.02	0	0		
	Tellurium	12	2	30.0	<MDL	0	0	MDL & recovery acceptable	
	Thallium	12	JSL	0.72	0.00	0	0		
	Tin	12	2	30.0	0.004	0	0		
	Titanium	12	2	100	1.41	0	0		
	Vanadium	12	2	5.00	0.02	0	0		
	Zinc	12	2	100	2.64	0	0		
	Zirconium	12	JSL	60.0	0.03	0	0		
	Total Particulates		12	2	100	59.98	0	0	

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Miller Environmental Corp.
Manitoba Environmental Centre

Metals & Particulate Matter

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Year (yyyy)	Chemical	Samples Analyzed (n)	Assessment Criteria	Assessment Criteria (ug/m ³)	Maximum Concentration (ug/m ³)	Exceedances		Comments
						Attributable (n)	Non-Attributable (n)	
2008	Aluminum	6	G	100	1.36	0	0	as aluminum oxide
	Antimony	6	2.0	75.0	0.0003	0	0	
	Arsenic	9	G	1.00	0.001	0	0	
	Barium	6	G	30.0	1.00	0	0	MDL & recovery acceptable
	Beryllium	6	2	0.030	<MDL	0	0	
	Boron	6	2	100	1.99	0	0	
	Cadmium	9	2	0.075	0.00	0	0	
	Calcium	6	n/a	n/a	7.22	0	0	
	Chromium	9	G	5.00	0.02	0	0	
	Cobalt	9	G	0.30	<MDL	0	0	MDL & recovery acceptable
	Copper	9	2	100	1.69	0	0	
	Iron	9	2	10.0	0.42	0	0	
	Lead	9	2	1.50	0.00	0	0	as magnesium oxide
	Magnesium	6	2	100	2.68	0	0	
	Manganese	6	G	7.50	0.02	0	0	
	Mercury	9	2	5.00	0.00	0	0	
	Molybdenum	6	G	100	0.00	0	0	
	Nickel	9	2	5.00	0.003	0	0	
	Phosphorus	6	JSL	1.05	0.06	0	0	
	Potassium	6	JSL	24.00	1.25	0	0	
	Selenium	9	G	20.0	0.00	0	0	
	Silver	6	2	3.00	0.00	0	0	
	Sodium	6	n/a	n/a	24.45	0	0	
	Strontium	6	G	100	0.01	0	0	
	Sulphate	6	n/a	n/a	3.70	0	0	
	Tellurium	3	2	30.0	<MDL	0	0	MDL & recovery acceptable
	Thallium	6	JSL	0.72	0.00	0	0	
	Tin	6	2	30.0	0.01	0	0	
	Titanium	6	2	100	0.01	0	0	
	Vanadium	6	2	5.00	0.00	0	0	
Zinc	9	2	100	0.65	0	0		
Zirconium	6	JSL	60.0	0.01	0	0		
Total Particulates	9	2	100	53.30	0	0		

TABLE 2
AMBIENT AIR QUALITY MONITORING SUMMARY TABLE
Miller Environmental Corp.
Manitoba Environmental Centre

Volatile Organic Compounds

Year (yyyy)	Chemical	Samples Analyzed (n)	Limit Concentration (ug/m ³)	Maximum Concentration (ug/m ³)	Exceedances		Comments
					Attributable (n)	Non-Attributable (n)	
1997	Benzene	19	150	0.87	0	0	
	Toluene	20	2,000	4.76	0	0	
	Xylenes	20	2,300	0.95	0	0	
1998	Benzene	18	150	1.22	0	0	
	Toluene	18	2,000	5.51	0	0	
	Xylenes	18	2,300	3.60	0	0	
1999	Benzene	18	150	0.69	0	0	
	Toluene	18	2,000	3.48	0	0	
	Xylenes	18	2,300	4.12	0	0	
2000	Benzene	16	150	0.59	0	0	
	Toluene	17	2,000	5.26	0	0	
	Xylenes	16	2,300	2.11	0	0	
2001	Benzene	19	150	0.54	0	0	
	Toluene	19	2,000	8.75	0	0	
	Xylenes	19	2,300	19.60	0	0	
2002	Benzene	19	150	0.66	0	0	
	Toluene	19	2,000	3.49	0	0	
	Xylenes	19	2,300	3.11	0	0	
2003	Benzene	17	150	0.43	0	0	
	Toluene	17	2,000	3.23	0	0	
	Xylenes	17	2,300	1.42	0	0	
2004	Benzene	20	150	0.41	0	0	Analytical labs changed during monitoring year
	Ethylbenzene	13	1,400	<MDL	0	0	
	Toluene	20	2,000	2.06	0	0	
	Xylenes	20	2,300	0.53	0	0	
2005	Benzene	14	150	<MDL	0	0	Sampler volume flow was stated as 50 ml/min; however should be 50 l/min.
	Ethylbenzene	14	1,400	0.27	0	0	
	Toluene	14	2,000	4.40	0	0	
	Xylenes	14	2,300	1.80	0	0	
2006	Benzene	14	150	<MDL	0	0	
	Ethylbenzene	14	1,400	<MDL	0	0	
	Toluene	14	2,000	0.003	0	0	
	Xylenes	14	2,300	<MDL	0	0	
2007	Benzene	16	150	<MDL	0	0	
	Ethylbenzene	16	1,400	<MDL	0	0	
	Toluene	16	2,000	<MDL	0	0	
	Xylenes	16	2,300	<MDL	0	0	
2008	Benzene	10	150	0.003	0	0	
	Ethylbenzene	10	1,400	0.001	0	0	
	Toluene	10	2,000	0.002	0	0	
	Xylenes	10	2,300	0.01	0	0	

TABLE 3
CONTINUOUS EMISSIONS MONITORING SUMMARY TABLE
Miller Environmental Corp.
Manitoba Environmental Centre

Total Hydrocarbons (THC) - Methane Equivalent

Concentration Limit 32 mg/m³ (49 ppmv)
Acceptable Criteria ±2 ppm

Year (yyyy)	Month (mmm)	Acceptable Readings (days)	Corrected Average Concentration		Maximum Concentration		Exceedances		Comments
			(ppm)	(mg/m ³)	(ppm)	(mg/m ³)	Attributable (n)	Non-Attributable (n)	
1997	Jan.	31	1.6	1.0	2.0	1.3	0	0	likely analyzer error.
	Feb.	16	1.6	1.0	1.9	1.2	0	0	
	Mar	11	1.6	1.0	2.4	1.6	0	0	
	Apr	19	1.7	1.1	2.9	1.9	0	0	
	May	10	0.0	0.0	2.0	1.3	0	0	
	Jun	30	0.0	0.0	1.8	1.2	0	0	
	Jul	24	1.7	1.1	3.5	2.3	0	0	
	Aug	18	2.0	1.3	64.9	42.6	0	1	
	Sep	15	-0.1	-0.1	1.9	1.2	0	0	
	Oct	31	0.0	0.0	4.8	3.1	0	0	
	Nov	25	0.1	0.1	3.4	2.2	0	0	
	Dec	8	0.4	0.3	1.7	1.1	0	0	
1998	Jan	31	0.0	0.0	2.4	1.6	0	0	
	Feb	28	0.0	0.0	2.3	1.5	0	0	
	Mar	31	0.0	0.0	2.0	1.3	0	0	
	Apr	30	0.0	0.0	2.0	1.3	0	0	
	May	31	0.0	0.0	2.3	1.5	0	0	
	Jun	20	0.0	0.0	3.2	2.1	0	0	
	Jul	29	0.0	0.0	4.6	3.0	0	0	
	Aug	10	0.1	0.1	2.9	1.9	0	0	
	Sep	28	0.0	0.0	2.2	1.4	0	0	
	Oct	31	0.0	0.0	2.8	1.8	0	0	
	Nov	30	0.0	0.0	2.2	1.4	0	0	
	Dec	31	0.0	0.0	2.0	1.3	0	0	

TABLE 3
CONTINUOUS EMISSIONS MONITORING SUMMARY TABLE
Miller Environmental Corp.
Manitoba Environmental Centre

Total Hydrocarbons (THC) - Methane Equivalent

Concentration Limit 32 mg/m³ (49 ppmv)
Acceptable Criteria ±2 ppm

Year (yyyy)	Month (mmm)	Acceptable Readings (days)	Corrected Average Concentration		Maximum Concentration		Exceedances		Comments	
			(ppm)	(mg/m ³)	(ppm)	(mg/m ³)	Attributable (n)	Non-Attributable (n)		
1999	Jan	31	0.0	0.0	2.1	1.4	0	0		
	Feb	20	0.2	0.1	2.3	1.5	0	0		
	Mar	20	0.1	0.1	2.0	1.3	0	0		
	Apr	30	0.1	0.1	1.9	1.2	0	0		
	May	31	0.0	0.0	2.4	1.6	0	0		
	Jun	30	0.0	0.0	2.1	1.4	0	0		
	Jul	31	0.0	0.0	2.6	1.7	0	0		
	Aug	31	0.0	0.0	2.0	1.3	0	0		
	Sep	30	0.0	0.0	2.4	1.6	0	0		
	Oct	16	0.0	0.0	1.8	1.2	0	0		
	Nov	0	n/a	n/a	n/a	n/a	n/a	n/a		ran out of fuel
	Dec	15	0.0	0.0	1.9	1.2	0	0		
2000	Jan	31	0.0	0.0	2.1	1.4	0	0		
	Feb	29	0.1	0.1	2.2	1.4	0	0		
	Mar	31	0.0	0.0	2.1	1.4	0	0		
	Apr	1	-0.1	-0.1	1.9	1.2	0	0		
	May	0	n/a	n/a	n/a	n/a	n/a	n/a		calibration exceeded criteria
	Jun	0	n/a	n/a	n/a	n/a	n/a	n/a		calibration exceeded criteria
	Jul	0	n/a	n/a	n/a	n/a	n/a	n/a		calibration exceeded criteria
	Aug	2	-0.4	-0.3	3.1	2.0	0	0		
	Sep	12	-0.2	-0.1	2.5	1.6	0	0		
	Oct	3	0.0	0.0	2.6	1.7	0	0		
	Nov	9	-0.1	-0.1	3.3	2.2	0	0		
	Dec	6	0.1	0.1	2.7	1.8	0	0		

TABLE 3
CONTINUOUS EMISSIONS MONITORING SUMMARY TABLE
Miller Environmental Corp.
Manitoba Environmental Centre

Total Hydrocarbons (THC) - Methane Equivalent

Concentration Limit 32 mg/m³ (49 ppmv)
Acceptable Criteria ±2 ppm

Year (yyyy)	Month (mmm)	Acceptable Readings (days)	Corrected Average Concentration		Maximum Concentration		Exceedances		Comments
			(ppm)	(mg/m ³)	(ppm)	(mg/m ³)	Attributable (n)	Non-Attributable (n)	
2001	Jan	0	n/a	n/a	n/a	n/a	n/a	n/a	calibration exceeded criteria likely analyzer error. calibration exceeded criteria
	Feb	11	-0.1	-0.1	4.2	2.8	0	0	
	Mar	7	-0.1	-0.1	1.9	1.2	0	0	
	Apr	17	-0.1	-0.1	2.5	1.6	0	0	
	May	15	-0.1	-0.1	1.8	1.2	0	0	
	Jun	30	0.0	0.0	2.5	1.6	0	0	
	Jul	27	1.9	1.2	64.7	42.4	0	1	
	Aug	26	0.0	0.0	2.4	1.6	0	0	
	Sep	0	n/a	n/a	n/a	n/a	n/a	n/a	
	Oct	28	-0.1	-0.1	2.7	1.8	0	0	
	Nov	30	0.0	0.0	2.3	1.5	0	0	
	Dec	31	0.0	0.0	2.9	1.9	0	0	
2002	Jan	0	n/a	n/a	n/a	n/a	n/a	n/a	no data no data span gas set 0.1 span gas set 0.1
	Feb	0	n/a	n/a	n/a	n/a	n/a	n/a	
	Mar	0	n/a	n/a	n/a	n/a	n/a	n/a	
	Apr	27	-0.1	-0.1	4.3	2.8	0	0	
	May	16	0.1	0.1	2.5	1.6	0	0	
	Jun	0	n/a	n/a	n/a	n/a	n/a	n/a	
	Jul	21	0.0	0.0	4.5	3.0	0	0	
	Aug	31	0.0	0.0	2.3	1.5	0	0	
	Sep	30	-0.1	-0.1	3.8	2.5	0	0	
	Oct	31	0.0	0.0	1.9	1.2	0	0	
	Nov	25	0.0	0.0	1.9	1.2	0	0	
	Dec	30	0.0	0.0	2.0	1.3	0	0	

TABLE 3
CONTINUOUS EMISSIONS MONITORING SUMMARY TABLE
Miller Environmental Corp.
Manitoba Environmental Centre

Total Hydrocarbons (THC) - Methane Equivalent

Concentration Limit 32 mg/m³ (49 ppmv)
Acceptable Criteria ±2 ppm

Year (yyyy)	Month (mmm)	Acceptable Readings (days)	Corrected Average Concentration		Maximum Concentration		Exceedances		Comments
			(ppm)	(mg/m ³)	(ppm)	(mg/m ³)	Attributable (n)	Non-Attributable (n)	
2003	Jan	31	0.0	0.0	2.1	1.4	0	0	
	Feb	28	0.0	0.0	2.1	1.4	0	0	
	Mar	31	-0.1	-0.1	1.8	1.2	0	0	
	Apr	30	-0.1	-0.1	1.9	1.2	0	0	
	May	31	-0.4	-0.3	2.1	1.4	0	0	
	Jun	30	-0.3	-0.2	2.0	1.3	0	0	
	Jul	31	-0.5	-0.3	2.1	1.4	0	0	
	Aug	22	-0.8	-0.5	2.5	1.6	0	0	
	Sep	27	-1.8	-1.2	2.0	1.3	0	0	
	Oct	31	-1.8	-1.2	2.1	1.4	0	0	
	Nov	30	-2.3	-1.5	2.3	1.5	0	0	
	Dec	31	-1.9	-1.2	2.4	1.6	0	0	
2004	Jan	31	-0.4	-0.3	2.4	1.6	0	0	
	Feb	29	-0.3	-0.2	2.3	1.5	0	0	
	Mar	23	-0.6	-0.4	2.8	1.8	0	0	
	Apr	0	n/a	n/a	n/a	n/a	n/a	n/a	calibration exceeded criteria
	May	12	-0.1	-0.1	2.1	1.4	0	0	
	Jun	1	-0.3	-0.2	2.8	1.8	0	0	
	Jul	13	-8.5	-5.6	2.1	1.4	0	0	
	Aug	16	-4.8	-3.1	2.1	1.4	0	0	
	Sep	30	-4.7	-3.1	2.8	1.8	0	0	
	Oct	31	-5.8	-3.8	2.4	1.6	0	0	
	Nov	30	-3.2	-2.1	2.1	1.4	0	0	span incorrectly stated
	Dec	21	-2.4	-1.6	3.2	2.1	0	0	

TABLE 3
CONTINUOUS EMISSIONS MONITORING SUMMARY TABLE
Miller Environmental Corp.
Manitoba Environmental Centre

Total Hydrocarbons (THC) - Methane Equivalent

Concentration Limit 32 mg/m³ (49 ppmv)
Acceptable Criteria ±2 ppm

Year (yyyy)	Month (mmm)	Acceptable Readings (days)	Corrected Average Concentration		Maximum Concentration		Exceedances		Comments
			(ppm)	(mg/m ³)	(ppm)	(mg/m ³)	Attributable (n)	Non-Attributable (n)	
2005	Jan	21	-0.4	-0.3	2.5	1.6	0	0	
	Feb	28	-0.6	-0.4	2.9	1.9	0	0	
	Mar	31	0.3	0.2	3.2	2.1	0	0	
	Apr	30	0.4	0.3	3.9	2.6	0	0	
	May	31	0.6	0.4	3.2	2.1	0	0	
	Jun	28	0.4	0.3	1.7	1.1	0	0	
	Jul	31	0.2	0.1	1.9	1.2	0	0	
	Aug	31	0.1	0.1	2.4	1.6	0	0	
	Sep	30	0.4	0.3	3.3	2.2	0	0	
	Oct	31	0.9	0.6	2.6	1.7	0	0	
	Nov	30	0.8	0.5	2.5	1.6	0	0	
	Dec	31	0.7	0.5	2.7	1.8	0	0	
2006	Jan	31	0.5	0.3	2.5	1.6	0	0	
	Feb	28	0.5	0.3	2.6	1.7	0	0	
	Mar	30	0.5	0.3	2.4	1.6	0	0	
	Apr	23	1.0	0.7	3.2	2.1	0	0	
	May	31	1.2	0.8	2.6	1.7	0	0	
	Jun	30	0.8	0.5	2.5	1.6	0	0	
	Jul	31	0.1	0.1	2.8	1.8	0	0	
	Aug	31	1.9	1.2	2.8	1.8	0	0	
	Sep	30	1.6	1.0	4.2	2.8	0	0	
	Oct	16	1.8	1.2	2.7	1.8	0	0	
	Nov	30	0.9	0.6	2.7	1.8	0	0	
	Dec	31	1.2	0.8	6.8	4.5	0	0	span incorrectly stated

TABLE 3
CONTINUOUS EMISSIONS MONITORING SUMMARY TABLE
Miller Environmental Corp.
Manitoba Environmental Centre

Total Hydrocarbons (THC) - Methane Equivalent

Concentration Limit 32 mg/m³ (49 ppmv)
Acceptable Criteria ±2 ppm

Year (yyyy)	Month (mmm)	Acceptable Readings (days)	Corrected Average Concentration		Maximum Concentration		Exceedances		Comments
			(ppm)	(mg/m ³)	(ppm)	(mg/m ³)	Attributable (n)	Non-Attributable (n)	
2007	Jan	31	1.5	1.0	6.4	4.2	0	0	span cal slightly out
	Feb	28	1.1	0.7	2.7	1.8	0	0	
	Mar	31	0.6	0.4	2.7	1.8	0	0	
	Apr	30	1.3	0.9	2.6	1.7	0	0	
	May	31	0.3	0.2	2.4	1.6	0	0	
	Jun	30	0.7	0.5	3.1	2.0	0	0	
	Jul	31	0.5	0.3	2.9	1.9	0	0	
	Aug	26	0.4	0.3	2.0	1.3	0	0	
	Sep	3	0.1	0.1	2.3	1.5	0	0	
	Oct	4	0.2	0.1	2.5	1.6	0	0	
	Nov	0	n/a	n/a	n/a	n/a	n/a	n/a	
	Dec	11	0.4	0.3	2.6	1.7	0	0	
2008	Jan	29	0.5	0.3	3.3	2.2	0	0	
	Feb	23	0.7	0.5	4.1	2.7	0	0	
	Mar	29	1.3	0.9	3.5	2.3	0	0	
	Apr	30	0.7	0.5	3.6	2.4	0	0	
	May	27	1.3	0.9	3.5	2.3	0	0	
	Jun	22	0.6	0.4	2.9	1.9	0	0	
	Jul	30	1.0	0.7	3.2	2.1	0	0	
	Aug	29	0.6	0.4	3.5	2.3	0	0	
	Sep	26	1.1	0.7	3.0	2.0	0	0	
	Oct	31	0.8	0.5	3.9	2.6	0	0	
	Nov	29	1.2	0.8	3.1	2.0	0	0	
	Dec	31	1.3	0.9	3.9	2.6	0	0	

TABLE 4
CONTINUOUS EMISSIONS MONITORING SUMMARY TABLE
Miller Environmental Corp.
Manitoba Environmental Centre

Dry Scrubber - Total Volatile Hydrocarbons (THC)

Concentration Limit 500 ppmv, 24 hour average
Acceptable Criteria Monitoring started in 2001

Year (yyyy)	Month (mmm)	Acceptable Readings (days)	Maximum 24-Hour Average Concentration (ppm)	Exceedances		Comments
				Attributable (n)	Non-Attributable (n)	
2001	Jan	29	208	0	0	
	Feb	28	245	0	0	
	Mar	31	214	0	0	
	Apr	30	219	0	0	
	May	31	188	0	0	
	Jun	30	327	0	0	
	Jul	31	287	0	0	
	Aug	31	329	0	0	
	Sep	30	194	0	0	
	Oct	31	132	0	0	
	Nov	30	164	0	0	
	Dec	31	190	0	0	
2002	Jan	27	180	0	0	
	Feb	24	235	0	0	
	Mar	29	127	0	0	
	Apr	28	220	0	0	
	May	31	183	0	0	
	Jun	30	214	0	0	
	Jul	30	138	0	0	
	Aug	30	195	0	0	
	Sep	29	119	0	0	
	Oct	31	92	0	0	
	Nov	30	102	0	0	
	Dec	30	166	0	0	

TABLE 4
CONTINUOUS EMISSIONS MONITORING SUMMARY TABLE
Miller Environmental Corp.
Manitoba Environmental Centre

Dry Scrubber - Total Volatile Hydrocarbons (THC)

Concentration Limit 500 ppmv, 24 hour average
Acceptable Criteria Monitoring started in 2001

Year (yyyy)	Month (mmm)	Acceptable Readings (days)	Maximum 24-Hour Average Concentration (ppm)	Exceedances		Comments
				Attributable (n)	Non-Attributable (n)	
2003	Jan	31	209	0	0	
	Feb	28	193	0	0	
	Mar	31	127	0	0	
	Apr	30	208	0	0	
	May	31	70	0	0	
	Jun	30	115	0	0	
	Jul	30	133	0	0	
	Aug	30	62	0	0	
	Sep	28	62	0	0	
	Oct	31	84	0	0	
	Nov	30	183	0	0	
	Dec	31	123	0	0	
2004	Jan	31	144	0	0	
	Feb	28	231	0	0	
	Mar	29	122	0	0	
	Apr	30	55	0	0	
	May	30	154	0	0	
	Jun	30	107	0	0	
	Jul	29	130	0	0	
	Aug	31	163	0	0	
	Sep	29	191	0	0	
	Oct	31	207	0	0	
	Nov	31	204	0	0	
	Dec	31	74	0	0	

TABLE 4
CONTINUOUS EMISSIONS MONITORING SUMMARY TABLE
Miller Environmental Corp.
Manitoba Environmental Centre

Dry Scrubber - Total Volatile Hydrocarbons (THC)

Concentration Limit 500 ppmv, 24 hour average
Acceptable Criteria Monitoring started in 2001

Year (yyyy)	Month (mmm)	Acceptable Readings (days)	Maximum 24-Hour Average Concentration (ppm)	Exceedances		Comments
				Attributable (n)	Non-Attributable (n)	
2005	Jan	31	198	0	0	
	Feb	28	63	0	0	
	Mar	31	128	0	0	
	Apr	29	180	0	0	
	May	31	107	0	0	
	Jun	28	67	0	0	
	Jul	31	101	0	0	
	Aug	30	162	0	0	
	Sep	30	84	0	0	
	Oct	30	135	0	0	
	Nov	30	222	0	0	
	Dec	31	103	0	0	
2006	Jan	31	119	0	0	
	Feb	28	119	0	0	
	Mar	31	98	0	0	
	Apr	29	174	0	0	
	May	29	183	0	0	
	Jun	30	257	0	0	
	Jul	31	163	0	0	
	Aug	31	183	0	0	
	Sep	29	205	0	0	
	Oct	31	66	0	0	
	Nov	30	119	0	0	
	Dec	30	162	0	0	

TABLE 4
CONTINUOUS EMISSIONS MONITORING SUMMARY TABLE
Miller Environmental Corp.
Manitoba Environmental Centre

Dry Scrubber - Total Volatile Hydrocarbons (THC)

Concentration Limit 500 ppmv, 24 hour average
Acceptable Criteria Monitoring started in 2001

Year (yyyy)	Month (mmm)	Acceptable Readings (days)	Maximum 24-Hour Average Concentration (ppm)	Exceedances		Comments
				Attributable (n)	Non-Attributable (n)	
2007	Jan	31	130	0	0	
	Feb	28	107	0	0	
	Mar	31	129	0	0	
	Apr	30	184	0	0	
	May	30	121	0	0	
	Jun	30	164	0	0	
	Jul	31	139	0	0	
	Aug	31	52	0	0	
	Sep	30	116	0	0	
	Oct	31	213	0	0	
	Nov	30	238	0	0	
	Dec	31	282	0	0	
2008	Jan	31	140	0	0	
	Feb	29	261	0	0	
	Mar	31	223	0	0	
	Apr	30	256	0	0	
	May	30	397	0	0	
	Jun	30	180	0	0	
	Jul	30	239	0	0	
	Aug	29	227	0	0	
	Sep	30	223	0	0	
	Oct	31	174	0	0	
	Nov	29	180	0	0	
	Dec	31	254	0	0	

TABLE 5
SOIL MONITORING SUMMARY TABLE
Miller Environmental Corp.
Manitoba Environmental Centre

Annual Report Date	# of Samples Collected	Percentage of Samples below Applicable Criteria	All Parameters Analyzed (Y/N)	Sampling Frequency Met (Y/N)	Samples Collected from Designated Locations (Y/N)	Data Gaps	General Comments
Soil							
2008	6	100	Y	Y	Y		
2007	6	100	Y	Y	Y		
2006	3	100	Y	N	N	Only 1 sampling event due to scheduling error	Date discrepancies between report and lab data
2005	6	85	Y	Y	Y		Sampling events were only 1 month apart; several exceedances identified in October
2004	6	100	Y	Y	Y		Sampling events only 1 month apart
2003	6	100	Y	Y	Y		
2002	6	100	Y	Y	Y		
2001	6	100	Y	Y	Y		Discrepancy between lab data and report table
2000	6	100	N	Y	Y	TEH was not analyzed	
1999	6	100	Y	Y	Y	Discrepancy between lab data sample ID and report table Sample ID	Arsenic exceedances at select locations for both sampling events.
1998	6	100	Y	Y	N	Sample Location A3 not sampled; location "C" was listed	
1997	7	100	Y	Y	N	Sample Location A3 not sampled; soil cell and Tr. Stn listed	

*Highlighted cells indicate License requirements not met

TABLE 6
GROUNDWATER MONITORING SUMMARY TABLE
Miller Environmental Corp.
Manitoba Environmental Centre

Annual Report Date	# of Samples Collected	Percentage of Samples below Applicable Criteria	All Parameters Analyzed (Y/N)	Sampling Frequency Met (Y/N)	Samples Collected from Designated Locations (Y/N)	Data Gaps	General Comments
Groundwater							
2008	5	100	Y	Y	Y	N	2004 Report indicated that groundwater samples were analyzed for the same parameters analyzed in soil, due to an error on the Chain of Custody form. Static water levels to be measured prior to purging and sampling, if possible, according to the license.
2007	5	100	Y	Y	Y	N	
2006	5	100	Y	Y	Y	N	
2005	5	100	N	Y	Y	pH not analyzed Extractable metals analyzed only.	
2004	5	100	N	Y	Y	Parameters not analyzed included pH, chloride, nitrate, sulphate, total organic carbon, total dissolved solids. Static water levels not provided.	
2003	5	100	Y	Y	Y	Static water levels not provided.	
2002	5	100	Y	Y	Y	Static water levels not provided.	
2001	5	100	Y	Y	Y	Static water levels not provided.	
2000	5	100	Y	Y	Y	Static water levels not provided.	
1999	5	100	Y	Y	Y	Static water levels not provided.	
1998	5	100	N	Y	Y	Parameters not analyzed included pH. Static water levels not provided.	
1997	5	99	N	Y	Y	Parameters not analyzed included pH. Static water levels not provided.	

*Highlighted cells indicate License requirements not met

TABLE 7
SURFACE WATER MONITORING SUMMARY TABLE
Miller Environmental Corp.
Manitoba Environmental Centre

Annual Report Date	# of Samples Collected	Percentage of Samples below Applicable Criteria	All Parameters Analyzed (Y/N)	Sampling Frequency Met (Y/N)	Samples Collected from Designated Locations (Y/N)	Data Gaps	General Comments
Surface Water							
2008	1	100	N	Y	Y	Sample results did not appear to include an analysis for LC50 of Daphnia Magna	- Report indicated that a sample was obtained in April 2007 and in August 2007. Results were presented for both sampling events.
2007	1	100	N	Y	Y		
2006	1	100	Y	Y	Y	April sample results did not appear to include an analysis for LC50 of Daphnia Magna.	- Report indicated that a sample was obtained in April 2006 due to a required discharge; however, the discharge did not take place and the water evaporated naturally. A sample was obtained in September 2006. Only results for the April sampling event were presented.
2005	1	100	N	Y	N		- Report indicated that samples were collected in April and September 2005 due to a discharge requirement from the pond in April.
2004	1	100	Y	Y	Y	- Sample collected from retention pond, west outlet.	- Sample collected from pond in September 2004. The report indicated a sample was also obtained in April 2004 due to a required discharge; however, no data was presented for this sampling event.
2003	1	100	Y	Y	N		- Laboratory analytical report indicated the pond was re-sampled in October 2004.
2002	1	100	Y	Y	Y	- Report indicated that water was not required to be released from the pond in 2003.	- Sample ID: West End Sample - Report indicated that "water was not required to be released from the pond during 2002 and the additional surface water criteria sampling was not required". Only one sample collected versus two samples collected in 1997 and 1998.

TABLE 7
SURFACE WATER MONITORING SUMMARY TABLE
Miller Environmental Corp.
Manitoba Environmental Centre

Annual Report Date	# of Samples Collected	Percentage of Samples below Applicable Criteria	All Parameters Analyzed (Y/N)	Sampling Frequency Met (Y/N)	Samples Collected from Designated Locations (Y/N)	Data Gaps	General Comments
Surface Water							
2001	1	100	Y	Y	N		- Sample ID: West End Sample - Sample was collected in October 2001; however, license indicates sampling to be conducted during summer months. Only one sample collected versus two samples collected in 1997 and 1998.
2000	1	100	Y	Y	N		- Sample ID: West End Sample - Sample was collected in October 2000; however, license indicates sampling to be conducted during summer months - Only one sample collected versus two samples collected in 1997 and 1998.
1999	1	100	Y	Y	N		- Sample ID: West End Sample - Sample was collected in November 1999; however, license indicates sampling to be conducted during summer months -Only one sample collected versus two samples collected in 1997 and 1998.
1998	2	100	Y	Y	Y		- All parameters tested according to the license but not the TDGHTA - Sample IDs: #1 Retention Pond and North Pond Outlet.
1997	2	90	N	Y	Y	Mercury not analyzed.	- Sample IDs: Retention Pond and Site Ponds

*Highlighted cells indicate License requirements not met