Metals in Indoor Dust, Flin Flon

DRAFT

Prepared for:
Hudson Bay Mining and Smelting Co., Ltd
Flin Flon, Manitoba

Prepared by:
Jacques Whitford AXYS Limited
Winnipeg, Manitoba

July 2008

1032002.02

Authorship

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Christopher Ollson, Ph.D., Jacques Whitford Limited

Executive Summary

Background

Jacques Whitford AXYS Limited (JWA) was retained by Hudson Bay Mining and Smelting Co., Limited (HBM&S) in June 2008, to conduct an indoor dust sampling program for metal analyses in the City of Flin Flon, Manitoba and surrounding communities, hereafter referred to as the Site.

This report is solely intended to present factual information and analytical results in support of the Community Based Risk Assessment (CBRA) currently being conducted by Intrinsik Environmental Sciences Inc. The indoor dust metal analysis results do not necessarily indicate a risk to human health or the environment, which will be determined in the CBRA. Currently there are no federal or provincial guidelines for metals in indoor dust. As such, no comparisons to criteria or interpretations can be made.

This report summarizes the June 2008 sampling activities.

Scope of Work

The scope of work included the collection of indoor dust samples in the City of Flin Flon and the surrounding communities, their subsequent analytical analysis and the generation of the report presented herein.

Investigation Results

The number of samples collected in each portion of the City of Flin Flon and Town of Creighton provides a representative overview of indoor dust quality conditions in the area. The dust samples were analyzed for a suite of total metals. Results are tabulated in Table D-1, Appendix D.

The statements made in this Executive Summary text are subject to the same limitations described in the Closure Section 6.0 of this report, and should be read in conjunction with the remainder of this report.

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Abbreviations

JWA ..... Jacques Whitford AXYS Limited
HBM&S ..... Hudson Bay Mining and Smelting Co., Ltd.
CBRA ..... Community Based Risk Assessment
CSRA ..... Contaminated Sites Remediation Act
CCME ..... Canadian Council of Ministers of the Environment
CAEAL ..... Canadian Association of Environmental Analytical Laboratories

1 Introduction

Jacques Whitford AXYS Limited (JWA) was retained by Hudson Bay Mining and Smelting Co., Limited (HBM&S) in June 2008, to conduct an indoor dust sampling program for metal analyses in the City of Flin Flon, Manitoba and surrounding communities, hereafter referred to as the Site.

This report is solely intended to present factual information in support of the Community Based Risk Assessment (CBRA) currently being conducted by Intrinsik Environmental Sciences Inc. The indoor dust metal analysis results do not necessarily indicate a risk to human health or the environment, which will be determined in the CBRA. Currently there are no federal or provincial guidelines for metals in indoor dust. As such, no comparisons to criteria or interpretations can be made.

This report summarizes the June 2008 sampling activities.

1.1 Previous Indoor Dust Report

A previous indoor dust sampling program was conducted in November 2007 by Jacques Whitford Limited. A report entitled *"Analysis of Indoor Dust Composition, Flin Flon Manitoba and Creighton Saskatchewan"* was prepared for Intrinsik Environmental Sciences Inc. by Jacques Whitford Limited on March 26, 2008. This report concluded that a number of fabric samples contained dust with detectable metal concentrations, however many of the samples contained insufficient particulate matter for laboratory analysis. Therefore, it was determined that an alternative approach to the collection of dust from fabric surfaces was warranted.

2 Regulatory Guidelines

In Manitoba, the investigation of contaminated sites is authorized and guided under the *Contaminated Sites Remediation Act C.C.S.M. c. C205 (CSRA)*. The criteria used for reference are defined by the Canadian Council of Ministers of the Environment (CCME).

Currently there are no CCME guidelines for metals in indoor dust, therefore, only the analytical results are reported.

2.1 Contaminated Sites Remediation Act

This Act establishes a process whereby the party responsible for a contaminated site can work with the regulatory authority to ensure the protection of human health, safety and the environment, in an economically feasible and sustainable manner. It provides a baseline for developing applicable risk-based remedial action and management plans for contaminated sites and its associated Guideline 98-01, Environmental Investigations in Manitoba (June 1998, revised May 2002) outlines a three tier assessment program for a contaminated site.

Tier I – is a criteria based approach using generic guidelines to determine impact at a Site and the final remediation requirements are based on these criteria.

Tier II – is based on a Site-specific approach that determines site sensitivities and sets criteria based on site-determined parameters.

Tier III – is based on a risk management basis where methods employed at the Site contain, control, monitor, and otherwise minimize the potential negative effects of contaminated media at the Site.

For this Site, a Tier III approach will be conducted by Intrinsik Environmental Sciences Inc. using the data presented in this report.

3 Scope of Work for Indoor Dust Sampling

The scope of work included:

1. The collection of indoor dust samples in the City of Flin Flon and the surrounding communities;
2. Analytical analysis of dust samples for a suite of inorganic elements; and,
3. Product of a factual report that does not provide interpretation of the analytical results.

For the initial sampling program (conducted by Jacques Whitford Ltd. in March 2008), indoor dust samples were collected from 54 homes. For the June 2008 sampling program, the same 54 residents were to be contacted. A minimum of 30 samples were to be collected in the City of Flin Flon, Town of Creighton and Town of Channing, based on resident availability and interest.

Indoor dust was to be sampled from the following establishments:

- Residential homes;
- Daycares;
- Schools; and,
- Apartment buildings.

The samples were to be analyzed for a suite of total metals at a CAEAL accredited laboratory. Due to occupant availability, modifications to the sampling program were made as required. The final distribution of establishments included in the sampling program is discussed in Section 4.

4 Indoor Dust Sampling Methodology

JWA conducted an indoor dust sampling of select locations in the Creighton and Flin Flon areas on June 23 to 26, 2008. The data was collected to provide information for the Community Based Risk Assessment on concentrations of metals in dust in buildings.

4.1 Indoor Dust Sample Collection

Dust samples were collected in accordance with the document entitled "A Proposed Method to Conduct Indoor Dust Sampling; Indoor Dust Survey SOP (HVS3)", prepared for HBM&S by Intrinsik Environmental Sciences Inc. in April 2008. The documented procedures for indoor dust sample collection were based on the ASTM Standard Practice for Collection of Floor Dust for Chemical Analysis (Designation: D 5438-05).

Dust samples were collected using a High Volume Small Surface Sampler vacuum (HVS3). A minimum of three sample areas (at least 1 square metre (sq.m.) in size) were selected within each residence. Priority sample areas were selected based on the available carpeted floor area, high-traffic areas (family room) and children's play areas. Each sample area was measured and marked, and the HVS3 vacuum was pushed across the area at a consistent speed and pressure. On average, approximately 6 to 8 sq.m. of carpeted floor space was sampled at each establishment in order to ensure adequate sample sizes for laboratory analysis.

The composite dust sample was collected directly into a new laboratory-supplied plastic bottle, which was capped and labelled prior to exiting the establishment. The bottles were collected in a plastic bin and stored at ambient room temperature until transported to Bodycote Testing Group, a CAEAL accredited laboratory. Between sampling events, the HVS3 vacuum was disassembled and sanitized with bottle brushes, methanol and alcohol wipes. Quality Assurance/Quality Control measures are discussed in Section 4.3.

4.2 Indoor Dust Sample Locations

Sampling locations are described in Table 4-1 and displayed in Figure A-1, Appendix A. Select photographs of sampling procedures are included in Appendix B. Site Assessor qualifications are included in Appendix C.

The following series of dust samples were collected:

- Creighton, SK: The residential area sampled lies within the Town of Creighton, Saskatchewan and the extreme south end of the City of Flin Flon for homes that are across the Provincial border. In total, 8 samples were collected.
- West Flin Flon, MB: The residential area sampled lies within the City of Flin Flon, Manitoba, bordered by Highway 10 on the west, Ross Lake on the east, the northern edge of residential streets to the north, and the City of Flin Flon city limits on the south (locally referenced as "Uptown"). In total, 15 samples were collected.
- East Flin Flon, MB: The residential area sampled lies within the City of Flin Flon, Manitoba, bordered by Highway 10 on the east and north, Ross Lake on the west, and the southern edge for residential streets to the south. In total, 15 samples were collected
- No samples were collected from the Town of Channing, due to resident availability at the time of sample collection.
- Samples were collected from residential homes, schools and daycares. No samples were collected from apartment establishments due to resident availability at the time of sample collection.

Table 4-1 Indoor Dust Sampling Locations

Location	Establishment Type	Number of Samples Collected
Creighton	Home / School / Daycare	6 / 1 / 1
West Flin Flon	Home / School / Daycare	13 / 1 / 1
East Flin Flon	Home / School / Daycare	11 / 3 / 1
Channing	Home*	0

*No schools/daycares are located in the Town of Channing.

4.3 Quality Assurance/Quality Control (QA/QC)

All samples were submitted to the laboratory under a strict Chain-of-Custody protocol. Sampling protocols adhered to include the following:

- Dust samples were collected using a High Volume Small Surface Sampler vacuum (HVS3). The composite dust sample was collected directly into a new laboratory-supplied plastic bottle, which was capped and labelled prior to exiting the establishment.
- Between sampling events, the HVS3 vacuum was disassembled and sanitized with bottle brushes, methanol and alcohol wipes.
- Disposable nitrile gloves were worn during the collection of samples, and discarded between sampling events.
- Blank samples were collected during the sampling process in order to correct for any modifying factors (one blank sample at every sixth sampling location). Clean, un-used sample bottles were connected to the HVS3 vacuum, and the vacuum nozzle was tipped upwards and allowed to run for 60 seconds. The blank samples were capped, labelled and submitted for laboratory analysis along with the dust samples. Seven blank samples were submitted.
- Duplicate samples were generated by sub-sampling into an additional clean, un-used sample bottle and submitting for laboratory analysis along with the dust samples. Three duplicate samples were submitted.
- Sample bottles were collected in a plastic bin and stored at ambient room temperature until transported to Bodycote Testing Group in Edmonton, AB. Bodycote is a Canadian Association of Environmental Analytical Laboratories (CAEAL) accredited laboratory. All analytical reports include QA/QC reports.

4.4 Indoor Dust Laboratory Analysis

Upon receipt of the samples at the laboratory, the dust samples were sieved to remove materials (including animal fur and other debris) larger than 63 µm. All 38 samples were submitted for the analysis of a suite of total metals (27 analytes). Sixteen of 38 samples were also analyzed for mercury; all samples could not be analyzed for mercury due to sample-size limitations following sieving. Laboratory analyses included the following:

- Metals ICP-MS (Hot Block) in soil, SW-846. Acid Digestion of Sediments, Sludges and Soils, EPA 3050B.
- Mercury (Hot Block) in Soil, US EPA. Determination of Hg in Sediment by Cold Vapour Atomic Absorption Spectroscopy 245.5

All indoor dust analytical results are tabulated in Appendix D. The original laboratory analysis certificates are located in Appendix E.

5 Metals Concentrations in Indoor Dust

Indoor dust samples were analyzed for a suite of metals. Results are tabulated in Table D-1, Appendix D. The results of the indoor dust sampling program are confidential to the property owners and are presented with Site location but without property identification.

The indoor dust analytical results tabulated in Table D-1 have been adjusted to account for the metals values present in the blank samples submitted to the laboratory. Seven blank samples were collected and analyzed along with the indoor dust samples. The analytical results revealed seven metals with values above the laboratory detection limits in the blank samples. Thus, the analytical results tabulated in Table D-1 have been blank corrected by subtracting the average of the metal values in the blank samples from the analytical results of each respective metal. For metal values that were below the detection limit, half of the detection limit was used for calculating the average. The blank sample analytical result values are tabulated below in Table 5-1.

Table 5-1 Blank Correction Values

	Analytical Results (mg/kg)						
Sample ID	**Cadmium**	**Copper**	**Lead**	**Nickel**	**Tin**	**Titanium**	**Zinc**
F-Blank-1	0.03	5	0.8	9	4	0.7	9
BC-Blank-2	0.01	4	0.5	9.2	4	<0.5	6
AC-Blank-3	0.01	4	0.6	9.3	4	<0.5	6
AR-Blank-4	<0.01	2	0.6	9.2	4	<0.5	6
AO-Blank-5	<0.01	2	0.4	9.2	4	<0.5	4
AY-Blank-6	0.02	2	0.3	9.1	4	<0.5	6
YZ-Blank-7	<0.01	2	0.4	9.3	5	<0.5	4
Average Concentrations (Blank Correction Values)	***0.01***	***3***	***0.5***	***9.2***	***4***	***0.3***	***6***

The original indoor dust analytical values (non-blank corrected) are available in the Laboratory Analysis Certificates located in Appendix E.

6 Closure

This report is prepared for the sole benefit of Hudson Bay Mining and Smelting Co., Limited. The report may not be relied upon by any other person or entity without the express written consent of Jacques Whitford AXYS Limited and Hudson Bay Mining and Smelting Co., Limited.

The information and conclusions contained in this report are based upon work undertaken by trained professional and technical staff in accordance with generally accepted engineering and scientific and agricultural practices current at the time the work was performed. The conclusions presented herein represent the best judgement of Jacques Whitford AXYS Limited based on the data obtained from the work and on the site conditions encountered at the time the work was performed at the specific testing and/or sampling locations, and can only be extrapolated to an undefined limited area around these locations.

In addition, analysis has been carried out for a limited number of chemical parameters, and it should not be inferred that other chemical species are not present. Due to the nature of the investigation and the limited data available, Jacques Whitford AXYS Limited cannot warrant against undiscovered environmental liabilities.

Should additional information become available which differs significantly from our understanding of conditions presented in this report, we request that this information be brought to our attention so that we may reassess the conclusions provided herein. The field work was conducted by Kimberly Marko, B.Env.Sc. of Jacques Whitford AXYS Limited and Adam Safruk of Intrinsik Environmental Sciences Inc. This report was prepared by Kimberly Marko, B.Env.Sc. and senior reviewed by Christopher Ollson, Ph.D. of Jacques Whitford AXYS Limited.

Respectfully Submitted,

JACQUES WHITFORD AXYS LIMITED

DRAFT ***DRAFT***

Kimberly Marko, B.Env.Sc.
Environmental Scientist

Christopher Ollson, Ph.D.
Director, Environmental Health Sciences

7 Literature Cited

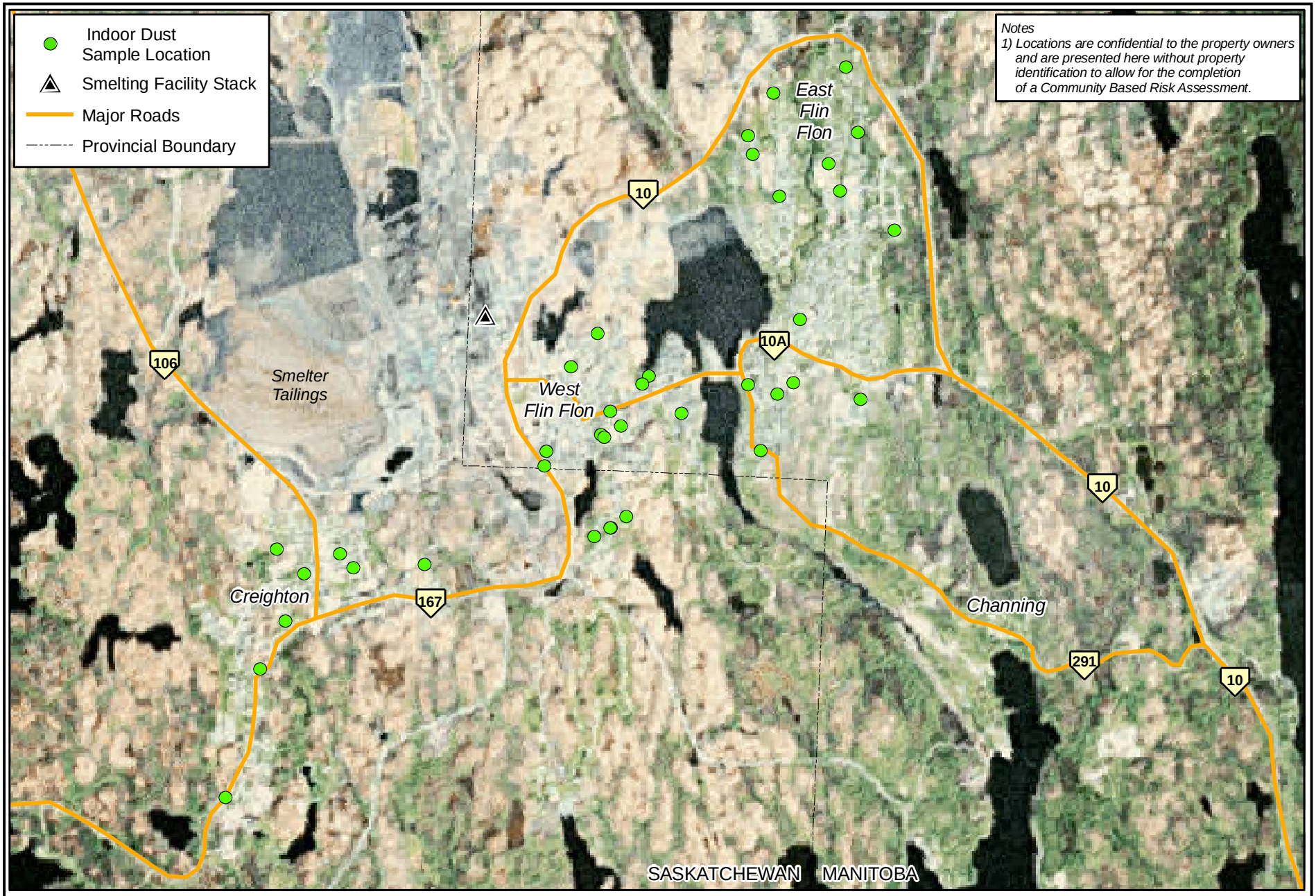
ASTM International. 2005. Standard Practice for Collection of Floor Dust for Chemical Analysis. (Designation: D 5438-05), published March 2005, approved in 1993.

Government of Manitoba. 1996. The Contaminated Sites Remediation Act C.C.S.M. c. C205. Manitoba Laws. Accessible online at: http://web2.gov.mb.ca/laws/statutes/ccsm/c205e.php.

Intrinsik Environmental Sciences Inc. 2008. A Proposed Method to Conduct Indoor Dust Sampling; Indoor Dust Survey SOP (HVS3). Prepared for HBM&S, April 2008.

Jacques Whitford Ltd. 2008. Analysis of Indoor Dust Composition, Flin Flon Manitoba and Creighton Saskatchewan. Prepared for Intrinsik Environmental Sciences Inc., March 26, 2008.

Appendix A Site Diagram



HUDSON BAY MINING AND SMELTING CO., LTD. - FLIN FLON, MB & CREIGHTON, SK

Indoor Dust Sampling Locations

NORTH

300 150 0 300 600 900

Metres

Acknowledgements:
Original Drawing by Jacques Whitford AXYS Ltd.

PREPARED BY Jacques Whitford AXYS

MAP SCALE	DATA SCALE
1:35,000	N/A

DRAFT DATE	PROJECT	FIGURE NO.
July 25, 2008	1032002.02	A-1

DRAWN	CHECKED	APPROVED
KM	KM	CO

Appendix B Site Photographs

Photo 1: Indoor dust sample collection with HSV3 vacuum.

Photo 2: HSV3 vacuum sanitization between sampling events.

Appendix C Assessor Qualifications

Christopher Ollson, Ph.D.

Director
Environmental Health Sciences

PROFILE

Dr. Ollson is Jacques Whitford's National Director of Environmental Health Sciences. Dr. Ollson is located within the Burlington office of Jacques Whitford and is recognized by the Ontario Ministry of the Environment as a Qualified Person Risk Assessment under Ontario Regulation 153/04 and as a Qualified Toxicologist through the Air Standards Development Branch. He is responsible for the performance of health and ecological risk assessment professionals across the company, ensuring the highest quality and technical standards of our reports, senior project review, financial accountability, and overseeing training programs for intermediate/junior risk assessors.

Throughout his career, Dr. Ollson has led numerous multidisciplinary risk assessments and facilitated community consultation and risk communication for both industry and government agencies. Stakeholder engagement ensured that communities were part of the decision-making process with regards to issues surrounding airborne, soil and water contaminant emissions, or public health concerns associated with industrial facilities or contaminated site remediation. Dr. Ollson is also a recognized expert in the field of oral bioavailability of contaminants in the environment, and a founding member of the Bioavailability Research Canada (BARC) working group and Bioavailability Research Group Europe (BARGE).

EDUCATION

Doctorate of Environmental Science (Specialization in Risk Assessment), Royal Military College of Canada

Master of Environmental Science, Environmental Chemistry, Royal Military College of Canada

Bachelor of Science (Honours), Biology (Specialization in Pharmacology and Toxicology), Queen's University

Kimberly Marko, B.Env.Sc. – Environmental Scientist

EDUCATION

Ms. Marko received her Bachelor of Environmental Sciences degree from the University of Manitoba.

SUMMARY OF QUALIFICATIONS

Ms. Marko is an Environmental Scientist and Geomatics Specialist with Jacques Whitford AXYS Ltd. in Winnipeg, Manitoba. She obtained her Bachelor of Environmental Science degree specializing in environmental stewardship from the University of Manitoba.

Ms. Marko is knowledgeable in the fields of natural sciences, environmental legislation and natural resource management. She has a wide range of field experience on research projects involving amphibian and invertebrate sampling, vegetation surveys, soil and water chemistry, air quality, algal ecology and avian fecundity.

Ms. Marko has gained valuable experience working on numerous Phase I & II Environmental Site Assessments (ESAs) for over two years. This has included planning and conducting site assessments for various types of developments (rural and urban), and writing and compiling ESA reports. She is focused on detail-oriented research and in generating concise, comprehensive documents.

Primary Areas of Expertise

- Geomatics
- Environmental Site Assessment and Remediation
- Environmental Sciences

As the Geomatics Specialist in the Winnipeg office, Ms. Marko is fluent with Geographic Information Systems (GIS) software, and is skilled in using these tools for database management and map production. She has applied her GIS skills to numerous soil survey and mapping projects. This experience has included rectifying aerial imagery, developing and managing soil-landscape databases, digitizing soil polygon line work and producing mapping end products. She also generates site figures for all ESAR projects completed through the Winnipeg Office.

Intrinsik Environmental Sciences Inc.

ADAM SAFRUK, M.E.S., B.Sc

Environmental Scientist

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EDUCATION

2003 Master's of Environmental Studies (M.E.S.), York University/University of Toronto

1999 B.Sc., Honours, University of Guelph

Mr. Safruk is a Scientist and Project Manager with Intrinsik. He completed his MES in Toxicology and Risk Assessment at York University/University of Toronto (2003), and his Honours B.Sc. in Fish and Wildlife Biology from the University of Guelph (1999). His academic training has provided him with experience in environmental toxicology, fugacity modelling, aquatic toxicology, risk assessment, risk management, and environmental law/public policy.

Since February 2003, Mr. Safruk has worked on and managed both human health and ecological risk assessments involving exposure assessment, hazard assessment and the determination of site specific risk management criteria. Past and current work includes the completion of numerous risk assessments under O. Reg. 153/04 to be submitted to the MOE for the purpose of obtaining a Record of Site Condition (RSC). His work at Intrinsik has also focused on the fate and toxicity of chemicals in the aquatic environment as they impact both human and ecological receptors. He is responsible for the development of computer models used to predict fate and transport as well as potential exposure and risk to human and ecological receptors in ecological and HHRAs. Mr. Safruk has also gained significant experience in predicting fate, transport and potential exposure of human receptors to volatile organic chemicals (VOCs) at contaminated sites. Mr. Safruk has managed, prepared and participated in numerous human health and ERAs throughout Canada and abroad, including several probabilistic assessments.

Appendix D Tabulated Analytical Results

Table D-1. Metals in Flin Flon Area Indoor Dust

Laboratory Lot Ref. #	Laboratory Sample #	Sample ID	Sample Date	Analytical Results (mg/kg)																										
				Aluminum	Antimony	Arsenic	Barium	Beryllium	Bismuth	Cadmium	Chromium	Calcium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Phosphorus	Selenium	Silicon	Silver	Strontium	Thallium	Tin	Titanium	Vanadium	Zinc
1	2773454	AA-DS-1	6/23/08	8590	2.2	36.2	162	0.2	3.1	11.79	57.8	41600	12.3	1397	16800	152	14000	235	-	3	30.1	900	2.8	1090	2.1	425	0.16	5	496	28.6	1764
2	2773606	AG-DS-1	6/23/08	7530	7.1	47.0	200	<0.5	8.0	35.09	85.7	56300	14.0	3297	23100	943	9400	250	-	10	131.8	1700	5.2	1600	30.0	130	<0.20	583	445	23.0	2894
3	2773607	BD-DS-1	6/23/08	3190	2.4	29.0	100	<0.1	22.3	8.43	43.8	65900	7.9	1097	13500	568	8200	142	-	6	63.2	1900	2.4	860	5.8	69	0.09	294	177	11.0	2294
4	2773608	AS-DS-1	6/23/08	9910	1.4	52.1	174	0.3	3.0	16.09	49.9	52200	17.3	2377	22700	166	29100	294	2.40	4	19.9	910	5.0	1320	2.5	45	0.22	9	658	35.0	2544
5	2773609	A-DS-1	6/23/08	5110	4.8	102.0	87	0.1	3.3	19.19	57.4	68400	18.8	3517	22100	231	23000	206	10.10	5	37.0	1360	8.6	1420	4.3	93	0.23	346	309	17.8	3644
6	2773610	F-DS-1	6/23/08	4060	2.5	31.5	125	<0.1	2.9	14.19	46.0	16500	8.2	2057	9290	124	6300	107	1.97	26	18.7	830	3.1	860	4.5	27	0.12	13	223	11.5	1374
7	2773611	Q-DS-1	6/23/08	8070	3.6	36.7	206	0.2	2.1	14.89	62.2	25400	13.2	1557	17400	284	10200	213	5.40	34	45.6	1540	4.2	1200	4.1	50	0.16	16	432	20.4	3884
45	2773649	QZ-DS-1*	6/23/08	7670	4.4	36.3	204	0.2	1.5	14.59	60.4	24100	13.0	1507	16900	504	9900	205	-	31	44.6	1540	3.8	1160	3.8	50	0.16	166	420	19.7	3594
8	2773612	O-DS-1	6/23/08	8080	9.5	56.3	257	<0.2	<1.0	27.59	76.4	40300	11.0	2197	17500	722	12000	230	-	6	89.8	1000	5.1	4230	4.1	200	0.10	353	345	16.0	4294
9	2773613	X-DS-1	6/23/08	6850	2.9	52.9	276	0.1	24.0	25.59	46.5	33300	17.1	3307	16200	306	5200	228	16.00	4	51.5	970	9.4	800	2.8	139	0.15	20	462	20.8	3424
10	2773614	AH-DS-1	6/24/08	10900	4.0	54.7	260	0.2	2.7	12.59	60.2	80600	12.5	2337	16900	171	10600	192	7.20	3	24.4	1090	6.2	1650	2.4	76	0.17	26	560	27.5	2334
11	2773615	K-DS-1	6/24/08	6460	3.1	97.1	277	0.2	2.3	20.49	44.2	34200	18.3	4817	23600	331	10900	223	7.70	6	24.1	810	9.6	1250	6.3	149	0.26	32	311	15.8	4624
12	2773616	BC-DS-1	6/24/08	6160	12.0	78.4	170	<0.6	<3.0	23.19	63.9	28000	15.0	2797	18800	1179	7300	180	-	<6	44.8	1600	10.0	2200	6.7	68	<0.30	773	362	17.0	3314
13	2773617	W-DS-1	6/24/08	9810	6.0	31.0	340	<0.8	<4.0	11.59	68.0	34000	9.4	1857	14400	919	12000	170	-	<8	27.8	1300	3.0	4000	4.0	79	<0.40	616	347	15.0	2364
14	2773618	BB-DS-1	6/24/08	13100	4.6	38.1	293	0.2	3.0	13.49	82.9	58000	17.5	1497	26900	163	16600	330	2.85	5	199.8	1400	3.6	1500	30.8	77	0.18	30	787	44.7	2324
15	2773619	E-DS-1	6/24/08	5940	3.2	78.3	205	<0.1	3.6	23.29	36.3	19600	17.8	5507	23600	585	10600	183	-	8	14.7	1360	15.9	830	5.4	40	0.27	174	379	20.6	4974
16	2773620	L-DS-1	6/24/08	8460	16.0	71.2	409	0.2	3.3	26.49	62.8	29000	14.0	2887	23400	399	12500	392	8.10	11	30.6	1190	7.8	1170	10.0	52	0.28	26	540	26.3	3604
17	2773621	Y-DS-1	6/24/08	7980	2.9	79.4	314	0.2	3.9	20.99	47.4	40500	20.7	5607	25400	210	14500	307	13.30	7	18.8	1620	11.1	1880	4.0	92	0.24	24	608	26.8	4894
46	2773650	YZ-DS-1*	6/24/08	7610	2.9	83.9	305	0.2	3.2	21.09	43.7	38600	21.1	5707	25100	226	15000	299	11.90	7	19.9	1620	11.1	1500	4.0	90	0.24	28	466	25.1	4224
18	2773622	AC-DS-1	6/24/08	7700	45.0	86.0	220	<1.0	<7.0	24.69	61.0	38000	23.0	4727	23700	11399	10000	170	-	<10	34.8	1000	10.0	5800	18.0	80	<0.70	7896	341	16.0	4434
19	2773623	AL-DS-1	6/24/08	8970	6.5	50.7	225	0.2	28.3	9.23	54.7	31700	11.5	1357	18100	279	15700	226	-	4	30.6	880	3.4	1020	2.2	44	0.14	125	446	21.2	1664
20	2773624	AW-DS-1	6/24/08	7980	1.6	55.8	161	0.2	9.6	9.35	51.5	26600	11.8	1187	18200	96	10700	197	1.65	2	15.8	1810	4.0	1130	1.6	47	0.16	14	410	24.1	1804
21	2773625	AB-DS-1	6/25/08	9180	2.2	50.3	207	0.2	1.4	10.99	48.3	28000	12.5	1237	18700	128	12200	219	1.52	4	22.2	1810	3.2	1230	1.7	42	0.19	16	550	29.0	5344
22	2773626	C-DS-1	6/25/08	8300	54.0	56.0	300	<5.0	<30.0	28.39	110.0	30000	20.0	4997	23000	34399	10000	<500	-	<50	71.8	3000	<20.0	9000	40.0	70	<3.00	20996	646	30.0	6674
23	2773627	U-DS-1	6/25/08	8600	3.6	51.1	224	0.2	5.1	14.69	92.9	31800	13.7	1907	15000	185	11200	199	1.90	4	27.6	2290	2.9	1740	2.2	78	0.15	45	438	20.0	2534
24	2773628	R-DS-1	6/25/08	7140	9.8	73.0	244	<0.2	3.5	28.19	45.3	24700	15.0	4317	20600	1289	12000	210	-	6	22.4	1800	5.4	1600	9.3	48	0.20	656	462	22.0	3954
25	2773629	AR-DS-1	6/25/08	8130	14.0	38.9	408	0.5	<2.0	16.49	116.0	80500	13.0	1667	16100	2199	23000	250	-	4	23.8	2000	3.8	2200	3.8	549	0.20	996	398	17.0	2154
26	2773630	AT-DS-1	6/25/08	17600	1.0	27.5	220	0.4	2.1	11.79	109.0	30400	17.8	1087	28200	129	19200	402	2.04	4	55.6	1490	2.8	1950	1.6	82	0.28	7	1180	59.0	1724
27	2773631	N-DS-1	6/25/08	9930	1.6	22.9	213	0.3	1.7	12.59	56.6	28900	11.4	1177	17200	119	11600	232	1.79	4	35.4	1470	2.3	940	3.1	47	0.15	12	632	31.3	2734
28	2773632	D-DS-1	6/25/08	6460	12.0	66.9	270	<0.3	5.4	49.79	53.0	34600	15.0	3177	18200	1829	12000	190	-	4	20.3	1700	9.2	2800	4.8	67	0.20	1196	370	18.0	4014
29	2773633	T-DS-1	6/25/08	7270	7.9	83.3	170	<0.5	8.8	16.39	90.2	44000	12.0	1677	17400	997	19000	190	-	<5	72.1	1400	4.0	2800	5.2	150	<0.20	627	340	16.0	1984
30	2773634	AN-DS-1	6/25/08	8010	2.7	38.7	412	0.2	1.4	16.19	104.0	35200	19.8	1897	22300	314	12000	323	-	56	34.2	1070	3.6	1850	1.8	178	0.16	110	452	40.0	2034
31	2773635	AO-DS-1	6/25/08	4570	4.4	85.7	358	<0.1	2.2	24.59	35.4	23100	21.8	7517	25000	304	12000	204	35.00	9	24.1	840	16.0	1090	5.5	48	0.24	19	296	17.1	6014
32	2773636	AJ-DS-1	6/26/08	10200	3.7	65.7	349	0.3	4.2	19.99	63.6	31800	17.1	4257	22900	346	12000	244	9.93	7	49.9	1420	8.7	1150	4.4	53	0.22	53	617	31.9	4984
47	2773651	AJZ-DS-1*	6/26/08	9690	4.7	64.0	331	0.3	4.6	19.79	60.6	30800	17.4	4077	22300	855	11500	238	-	6	47.1	1310	9.1	1000	5.3	51	0.22	396	590	30.8	4974
33	2773637	P-DS-1	6/26/08	9000	5.6	53.3	938	0.2	3.7	19.79	65.0	32900	14.6	4657	20300	833	13000	208	-	6	45.3	1000	5.8	2140	4.7	62	0.17	486	495	22.0	3384
34	2773638	AD-DS-1	6/26/08	6810	4.6	187.0	219	0.1	2.1	15.99	56.9	60100	23.9	2477	32100	306	28400	261	5.10	10	43.7	4580	7.8	1500	3.2	1040	0.36	70	395	20.4	3244
35	2773639	J-DS-1	6/26/08	5800	14.0	60.0	200	<0.9	5.0	16.39	54.0	36000	14.0	2807	17300	1969	14000	160	-	<9	25.8	1200	5.0	4600	11.0	230	<0.40	1586	369	16.0	3334
36	2773640	AK-DS-1	6/26/08	6050	4.9	56.0	204	0.2	3.5	10.79	39.7	25800	11.4	1377	15100	455	9200	145	-	4	17.7	1000	5.6	960	2.7	56	0.17	214	293	14.4	1864
37	2773641	S-DS-1	6/26/08	9020	7.2	41.7	257	0.2	2.3	12.89	41.9	22800	8.7	997	14000	1059	7600	180	-	4	40.2	1960	2.6	1600	2.9	72	0.10	370	404	18.9	1324
38	2773642	AY-DS-1	6/26/08	7920	4.0	84.6	146	0.2	2.6	29.99	46.6	20200	16.6	3517	24100	340	8600	237	26.00	7	25.5	980	13.3	1140	3.5	47	0.34	20	449	27.4	5054
Laboratory Detection Limits				*20*	*0.2*	*0.2*	*1*	*0.1*	*0.5*	*0.01*	*0.5*	*200*	*0.1*	*1*	*100*	*0.1*	*100*	*10*	*0.01*	*1*	*0.5*	*30*	*0.3*	*50*	*0.1*	*1*	*0.05*	*1*	*0.5*	*0.1*	*1*

Notes

* = Duplicate sample analyzed

- = Insufficient sample available for Mercury analysis

1. Analytical results have been blank corrected (Cadmium, Copper, Lead, Nickel, Tin, Titanium, Zinc). Original values are displayed in Laboratory Analysis Certificates.

2. Results are confidential to the property owners and are presented here without property identification to allow for the completion of a Community Based Risk Assessment.

3. These samples were collected as a part of the Community Based Risk Assessment (currently being conducted by Intrinsik Environmental Sciences Inc.) and do not necessarily indicate a risk to human health or the environment without further assessment.

4. Currently there are no federal or provincial guidelines for metals in indoor dust. As such, no comparisons to criteria or interpretations can be made.

Appendix E Laboratory Analysis Certificates

Bodycote TESTING GROUP

Analytical Report

Bill To:	Jacques Whitford AXYS Ltd.	Project:			
Report To:	Jacques Whitford AXYS Ltd.	ID:	1032002.02	Lot ID:	**629236**
	103-611 Corydon	Name:	HBM&S Dust Sampling	Control Number:	
	Winnipeg, MB, Canada	Location:	Flin Flon, MB and Creighton, Sk	Date Received:	Jul 8, 2008
	R3M 0S1	LSD:		Date Reported:	Jul 18, 2008
Attn:	Kimberly Marko	P.O.:	1032002.02 Z9100	Report Number:	1133033
Sampled By:	Kimberly Marko	Acct code:			
Company:	JWAXYS				

Reference Number	629236-1	629236-2	629236-3
Sample Date	Jun 23, 2008	Jun 23, 2008	Jun 23, 2008
Sample Location			
Sample Description	AA-DS-1	AG-DS-1	BD-DS-1
Matrix	Waste - industrial	Waste - industrial	Waste - industrial

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	mg/kg	8590	7530	3190	20
Antimony	Strong Acid Extractable	mg/kg	2.2	7.1	2.4	0.2
Arsenic	Strong Acid Extractable	mg/kg	36.2	47	29.0	0.2
Barium	Strong Acid Extractable	mg/kg	162	200	100	1
Beryllium	Strong Acid Extractable	mg/kg	0.2	<0.5	<0.1	0.1
Bismuth	Strong Acid Extractable	mg/kg	3.1	8.0	22.3	0.5
Cadmium	Strong Acid Extractable	mg/kg	11.8	35.1	8.44	0.01
Chromium	Strong Acid Extractable	mg/kg	57.8	85.7	43.8	0.5
Calcium	Strong Acid Extractable	mg/kg	41600	56300	65900	200
Cobalt	Strong Acid Extractable	mg/kg	12.3	14	7.9	0.1
Copper	Strong Acid Extractable	mg/kg	1400	3300	1100	1
Iron	Strong Acid Extractable	mg/kg	16800	23100	13500	100
Lead	Strong Acid Extractable	mg/kg	153	944	569	0.1
Magnesium	Strong Acid Extractable	mg/kg	14000	9400	8200	100
Manganese	Strong Acid Extractable	mg/kg	235	250	142	10
Molybdenum	Strong Acid Extractable	mg/kg	3	10	6	1
Nickel	Strong Acid Extractable	mg/kg	39.3	141	72.4	0.5
Phosphorus	Strong Acid Extractable	mg/kg	900	1700	1900	30
Selenium	Strong Acid Extractable	mg/kg	2.8	5.2	2.4	0.3
Silicon	Strong Acid Extractable	mg/kg	1090	1600	860	50
Silver	Strong Acid Extractable	mg/kg	2.1	30	5.8	0.1
Strontium	Strong Acid Extractable	mg/kg	425	130	69	1
Thallium	Strong Acid Extractable	mg/kg	0.16	<0.2	0.09	0.05
Tin	Strong Acid Extractable	mg/kg	9	587	298	1
Titanium	Strong Acid Extractable	mg/kg	496	445	177	0.5
Vanadium	Strong Acid Extractable	mg/kg	28.6	23	11	0.1
Zinc	Strong Acid Extractable	mg/kg	1770	2900	2300	1

Bodycote TESTING GROUP

Analytical Report

Bill To:	Jacques Whitford AXYS Ltd.	Project:			
Report To:	Jacques Whitford AXYS Ltd.	ID:	1032002.02	Lot ID:	**629236**
	103-611 Corydon	Name:	HBM&S Dust Sampling	Control Number:	
	Winnipeg, MB, Canada	Location:	Flin Flon, MB and Creighton, Sk	Date Received:	Jul 8, 2008
	R3M 0S1	LSD:		Date Reported:	Jul 18, 2008
Attn:	Kimberly Marko	P.O.:	1032002.02 Z9100	Report Number:	1133033
Sampled By:	Kimberly Marko	Acct code:			
Company:	JWAXYS				

Reference Number	629236-4	629236-5	629236-6
Sample Date	Jun 23, 2008	Jun 23, 2008	Jun 23, 2008
Sample Location			
Sample Description	AS-DS-1	A-DS-1	F-DS-1
Matrix	Waste - industrial	Waste - industrial	Waste - industrial

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Mercury	Strong Acid Extractable	mg/kg	2.40	10.1	1.97	0.01
Aluminum	Strong Acid Extractable	mg/kg	9910	5110	4060	20
Antimony	Strong Acid Extractable	mg/kg	1.4	4.8	2.5	0.2
Arsenic	Strong Acid Extractable	mg/kg	52.1	102	31.5	0.2
Barium	Strong Acid Extractable	mg/kg	174	87	125	1
Beryllium	Strong Acid Extractable	mg/kg	0.3	0.1	<0.1	0.1
Bismuth	Strong Acid Extractable	mg/kg	3.0	3.3	2.9	0.5
Cadmium	Strong Acid Extractable	mg/kg	16.1	19.2	14.2	0.01
Chromium	Strong Acid Extractable	mg/kg	49.9	57.4	46.0	0.5
Calcium	Strong Acid Extractable	mg/kg	52200	68400	16500	200
Cobalt	Strong Acid Extractable	mg/kg	17.3	18.8	8.2	0.1
Copper	Strong Acid Extractable	mg/kg	2380	3520	2060	1
Iron	Strong Acid Extractable	mg/kg	22700	22100	9290	100
Lead	Strong Acid Extractable	mg/kg	167	232	125	0.1
Magnesium	Strong Acid Extractable	mg/kg	29100	23000	6300	100
Manganese	Strong Acid Extractable	mg/kg	294	206	107	10
Molybdenum	Strong Acid Extractable	mg/kg	4	5	26	1
Nickel	Strong Acid Extractable	mg/kg	29.1	46.2	27.9	0.5
Phosphorus	Strong Acid Extractable	mg/kg	910	1360	830	30
Selenium	Strong Acid Extractable	mg/kg	5.0	8.6	3.1	0.3
Silicon	Strong Acid Extractable	mg/kg	1320	1420	860	50
Silver	Strong Acid Extractable	mg/kg	2.5	4.3	4.5	0.1
Strontium	Strong Acid Extractable	mg/kg	45	93	27	1
Thallium	Strong Acid Extractable	mg/kg	0.22	0.23	0.12	0.05
Tin	Strong Acid Extractable	mg/kg	13	350	17	1
Titanium	Strong Acid Extractable	mg/kg	658	309	223	0.5
Vanadium	Strong Acid Extractable	mg/kg	35.0	17.8	11.5	0.1
Zinc	Strong Acid Extractable	mg/kg	2550	3650	1380	1

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Analytical Report

Bill To:	Jacques Whitford AXYS Ltd.	Project:		Lot ID:	**629236**
Report To:	Jacques Whitford AXYS Ltd.	ID:	1032002.02	Control Number:	
	103-611 Corydon	Name:	HBM&S Dust Sampling	Date Received:	Jul 8, 2008
	Winnipeg, MB, Canada	Location:	Flin Flon, MB and Creighton, Sk	Date Reported:	Jul 18, 2008
	R3M 0S1	LSD:		Report Number:	1133033
Attn:	Kimberly Marko	P.O.:	1032002.02 Z9100		
Sampled By:	Kimberly Marko	Acct code:			
Company:	JWAXYS				

Reference Number	629236-7	629236-8	629236-9
Sample Date	Jun 23, 2008	Jun 23, 2008	Jun 23, 2008
Sample Location			
Sample Description	Q-DS-1	O-DS-1	X-DS-1
Matrix	Waste - industrial	Waste - industrial	Waste - industrial

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Mercury	Strong Acid Extractable	mg/kg	5.4		16	0.01
Aluminum	Strong Acid Extractable	mg/kg	8070	8080	6850	20
Antimony	Strong Acid Extractable	mg/kg	3.6	9.5	2.9	0.2
Arsenic	Strong Acid Extractable	mg/kg	36.7	56.3	52.9	0.2
Barium	Strong Acid Extractable	mg/kg	206	257	276	1
Beryllium	Strong Acid Extractable	mg/kg	0.2	<0.2	0.1	0.1
Bismuth	Strong Acid Extractable	mg/kg	2.1	<1	24.0	0.5
Cadmium	Strong Acid Extractable	mg/kg	14.9	27.6	25.6	0.01
Chromium	Strong Acid Extractable	mg/kg	62.2	76.4	46.5	0.5
Calcium	Strong Acid Extractable	mg/kg	25400	40300	33300	200
Cobalt	Strong Acid Extractable	mg/kg	13.2	11	17.1	0.1
Copper	Strong Acid Extractable	mg/kg	1560	2200	3310	1
Iron	Strong Acid Extractable	mg/kg	17400	17500	16200	100
Lead	Strong Acid Extractable	mg/kg	285	723	307	0.1
Magnesium	Strong Acid Extractable	mg/kg	10200	12000	5200	100
Manganese	Strong Acid Extractable	mg/kg	213	230	228	10
Molybdenum	Strong Acid Extractable	mg/kg	34	6	4	1
Nickel	Strong Acid Extractable	mg/kg	54.8	99.0	60.7	0.5
Phosphorus	Strong Acid Extractable	mg/kg	1540	1000	970	30
Selenium	Strong Acid Extractable	mg/kg	4.2	5.1	9.4	0.3
Silicon	Strong Acid Extractable	mg/kg	1200	4230	800	50
Silver	Strong Acid Extractable	mg/kg	4.1	4.1	2.8	0.1
Strontium	Strong Acid Extractable	mg/kg	50	200	139	1
Thallium	Strong Acid Extractable	mg/kg	0.16	0.1	0.15	0.05
Tin	Strong Acid Extractable	mg/kg	20	357	24	1
Titanium	Strong Acid Extractable	mg/kg	432	345	462	0.5
Vanadium	Strong Acid Extractable	mg/kg	20.4	16	20.8	0.1
Zinc	Strong Acid Extractable	mg/kg	3890	4300	3430	1

Bodycote TESTING GROUP

Analytical Report

Bill To:	Jacques Whitford AXYS Ltd.	Project:		Lot ID:	**629236**
Report To:	Jacques Whitford AXYS Ltd.	ID:	1032002.02	Control Number:	
	103-611 Corydon	Name:	HBM&S Dust Sampling	Date Received:	Jul 8, 2008
	Winnipeg, MB, Canada	Location:	Flin Flon, MB and Creighton, Sk	Date Reported:	Jul 18, 2008
	R3M 0S1	LSD:		Report Number:	1133033
Attn:	Kimberly Marko	P.O.:	1032002.02 Z9100		
Sampled By:	Kimberly Marko	Acct code:			
Company:	JWAXYS				

Reference Number	629236-10	629236-11	629236-12	
Sample Date	Jun 24, 2008	Jun 24, 2008	Jun 24, 2008	
Sample Location				
Sample Description	AH-DS-1	K-DS-1	BC-DS-1	
Matrix	Waste - industrial	Waste - industrial	Waste - industrial	
Analyte	**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Metals Strong Acid Digestion					
Mercury Strong Acid Extractable	mg/kg	7.20	7.7		0.01
Aluminum Strong Acid Extractable	mg/kg	10900	6460	6160	20
Antimony Strong Acid Extractable	mg/kg	4.0	3.1	12	0.2
Arsenic Strong Acid Extractable	mg/kg	54.7	97.1	78.4	0.2
Barium Strong Acid Extractable	mg/kg	260	277	170	1
Beryllium Strong Acid Extractable	mg/kg	0.2	0.2	<0.6	0.1
Bismuth Strong Acid Extractable	mg/kg	2.7	2.3	<3	0.5
Cadmium Strong Acid Extractable	mg/kg	12.6	20.5	23.2	0.01
Chromium Strong Acid Extractable	mg/kg	60.2	44.2	63.9	0.5
Calcium Strong Acid Extractable	mg/kg	80600	34200	28000	200
Cobalt Strong Acid Extractable	mg/kg	12.5	18.3	15	0.1
Copper Strong Acid Extractable	mg/kg	2340	4820	2800	1
Iron Strong Acid Extractable	mg/kg	16900	23600	18800	100
Lead Strong Acid Extractable	mg/kg	172	332	1180	0.1
Magnesium Strong Acid Extractable	mg/kg	10600	10900	7300	100
Manganese Strong Acid Extractable	mg/kg	192	223	180	10
Molybdenum Strong Acid Extractable	mg/kg	3	6	<6	1
Nickel Strong Acid Extractable	mg/kg	33.6	33.3	54	0.5
Phosphorus Strong Acid Extractable	mg/kg	1090	810	1600	30
Selenium Strong Acid Extractable	mg/kg	6.2	9.6	10	0.3
Silicon Strong Acid Extractable	mg/kg	1650	1250	2200	50
Silver Strong Acid Extractable	mg/kg	2.4	6.3	6.7	0.1
Strontium Strong Acid Extractable	mg/kg	76	149	68	1
Thallium Strong Acid Extractable	mg/kg	0.17	0.26	<0.3	0.05
Tin Strong Acid Extractable	mg/kg	30	36	777	1
Titanium Strong Acid Extractable	mg/kg	560	311	362	0.5
Vanadium Strong Acid Extractable	mg/kg	27.5	15.8	17	0.1
Zinc Strong Acid Extractable	mg/kg	2340	4630	3320	1

Bodycote TESTING GROUP

Analytical Report

Bill To:	Jacques Whitford AXYS Ltd.	Project:		Lot ID:	**629236**
Report To:	Jacques Whitford AXYS Ltd.	ID:	1032002.02	Control Number:	
	103-611 Corydon	Name:	HBM&S Dust Sampling	Date Received:	Jul 8, 2008
	Winnipeg, MB, Canada	Location:	Flin Flon, MB and Creighton, Sk	Date Reported:	Jul 18, 2008
	R3M 0S1	LSD:		Report Number:	1133033
Attn:	Kimberly Marko	P.O.:	1032002.02 Z9100		
Sampled By:	Kimberly Marko	Acct code:			
Company:	JWAXYS				

Reference Number	629236-13	629236-14	629236-15
Sample Date	Jun 24, 2008	Jun 24, 2008	Jun 24, 2008
Sample Location			
Sample Description	W-DS-1	BB-DS-1	E-DS-1
Matrix	Waste - industrial	Waste - industrial	Waste - industrial

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Mercury	Strong Acid Extractable	mg/kg		2.85		0.01
Aluminum	Strong Acid Extractable	mg/kg	9810	13100	5940	20
Antimony	Strong Acid Extractable	mg/kg	6	4.6	3.2	0.2
Arsenic	Strong Acid Extractable	mg/kg	31	38.1	78.3	0.2
Barium	Strong Acid Extractable	mg/kg	340	293	205	1
Beryllium	Strong Acid Extractable	mg/kg	<0.8	0.2	<0.1	0.1
Bismuth	Strong Acid Extractable	mg/kg	<4	3.0	3.6	0.5
Cadmium	Strong Acid Extractable	mg/kg	11.6	13.5	23.3	0.01
Chromium	Strong Acid Extractable	mg/kg	68	82.9	36.3	0.5
Calcium	Strong Acid Extractable	mg/kg	34000	58000	19600	200
Cobalt	Strong Acid Extractable	mg/kg	9.4	17.5	17.8	0.1
Copper	Strong Acid Extractable	mg/kg	1860	1500	5510	1
Iron	Strong Acid Extractable	mg/kg	14400	26900	23600	100
Lead	Strong Acid Extractable	mg/kg	920	164	586	0.1
Magnesium	Strong Acid Extractable	mg/kg	12000	16600	10600	100
Manganese	Strong Acid Extractable	mg/kg	170	330	183	10
Molybdenum	Strong Acid Extractable	mg/kg	<8	5	8	1
Nickel	Strong Acid Extractable	mg/kg	37	209	23.9	0.5
Phosphorus	Strong Acid Extractable	mg/kg	1300	1400	1360	30
Selenium	Strong Acid Extractable	mg/kg	3	3.6	15.9	0.3
Silicon	Strong Acid Extractable	mg/kg	4000	1500	830	50
Silver	Strong Acid Extractable	mg/kg	4	30.8	5.4	0.1
Strontium	Strong Acid Extractable	mg/kg	79	77	40	1
Thallium	Strong Acid Extractable	mg/kg	<0.4	0.18	0.27	0.05
Tin	Strong Acid Extractable	mg/kg	620	34	178	1
Titanium	Strong Acid Extractable	mg/kg	347	787	379	0.5
Vanadium	Strong Acid Extractable	mg/kg	15	44.7	20.6	0.1
Zinc	Strong Acid Extractable	mg/kg	2370	2330	4980	1

Bodycote TESTING GROUP

Analytical Report

Bill To:	Jacques Whitford AXYS Ltd.	Project:		Lot ID:	**629236**
Report To:	Jacques Whitford AXYS Ltd.	ID:	1032002.02	Control Number:	
	103-611 Corydon	Name:	HBM&S Dust Sampling	Date Received:	Jul 8, 2008
	Winnipeg, MB, Canada	Location:	Flin Flon, MB and Creighton, Sk	Date Reported:	Jul 18, 2008
	R3M 0S1	LSD:		Report Number:	1133033
Attn:	Kimberly Marko	P.O.:	1032002.02 Z9100		
Sampled By:	Kimberly Marko	Acct code:			
Company:	JWAXYS				

Reference Number	629236-16	629236-17	629236-18
Sample Date	Jun 24, 2008	Jun 24, 2008	Jun 24, 2008
Sample Location			
Sample Description	L-DS-1	Y-DS-1	AC-DS-1
Matrix	Waste - industrial	Waste - industrial	Waste - industrial

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Mercury	Strong Acid Extractable	mg/kg	8.1	13.3		0.01
Aluminum	Strong Acid Extractable	mg/kg	8460	7980	7700	20
Antimony	Strong Acid Extractable	mg/kg	16.0	2.9	45	0.2
Arsenic	Strong Acid Extractable	mg/kg	71.2	79.4	86	0.2
Barium	Strong Acid Extractable	mg/kg	409	314	220	1
Beryllium	Strong Acid Extractable	mg/kg	0.2	0.2	<1	0.1
Bismuth	Strong Acid Extractable	mg/kg	3.3	3.9	<7	0.5
Cadmium	Strong Acid Extractable	mg/kg	26.5	21.0	24.7	0.01
Chromium	Strong Acid Extractable	mg/kg	62.8	47.4	61	0.5
Calcium	Strong Acid Extractable	mg/kg	29000	40500	38000	200
Cobalt	Strong Acid Extractable	mg/kg	14.0	20.7	23	0.1
Copper	Strong Acid Extractable	mg/kg	2890	5610	4730	1
Iron	Strong Acid Extractable	mg/kg	23400	25400	23700	100
Lead	Strong Acid Extractable	mg/kg	400	211	11400	0.1
Magnesium	Strong Acid Extractable	mg/kg	12500	14500	10000	100
Manganese	Strong Acid Extractable	mg/kg	392	307	170	10
Molybdenum	Strong Acid Extractable	mg/kg	11	7	<10	1
Nickel	Strong Acid Extractable	mg/kg	39.8	28.0	44	0.5
Phosphorus	Strong Acid Extractable	mg/kg	1190	1620	1000	30
Selenium	Strong Acid Extractable	mg/kg	7.8	11.1	10	0.3
Silicon	Strong Acid Extractable	mg/kg	1170	1880	5800	50
Silver	Strong Acid Extractable	mg/kg	10.0	4.0	18	0.1
Strontium	Strong Acid Extractable	mg/kg	52	92	80	1
Thallium	Strong Acid Extractable	mg/kg	0.28	0.24	<0.7	0.05
Tin	Strong Acid Extractable	mg/kg	30	28	7900	1
Titanium	Strong Acid Extractable	mg/kg	540	608	341	0.5
Vanadium	Strong Acid Extractable	mg/kg	26.3	26.8	16	0.1
Zinc	Strong Acid Extractable	mg/kg	3610	4900	4440	1

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Analytical Report

Bill To:	Jacques Whitford AXYS Ltd.	Project:		Lot ID:	**629236**
Report To:	Jacques Whitford AXYS Ltd.	ID:	1032002.02	Control Number:	
	103-611 Corydon	Name:	HBM&S Dust Sampling	Date Received:	Jul 8, 2008
	Winnipeg, MB, Canada	Location:	Flin Flon, MB and Creighton, Sk	Date Reported:	Jul 18, 2008
	R3M 0S1	LSD:		Report Number:	1133033
Attn:	Kimberly Marko	P.O.:	1032002.02 Z9100		
Sampled By:	Kimberly Marko	Acct code:			
Company:	JWAXYS				

Reference Number	629236-19	629236-20	629236-21
Sample Date	Jun 24, 2008	Jun 24, 2008	Jun 25, 2008
Sample Location			
Sample Description	AL-DS-1	AW-DS-1	AB-DS-1
Matrix	Waste - industrial	Waste - industrial	Waste - industrial

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Mercury	Strong Acid Extractable	mg/kg		1.65	1.52	0.01
Aluminum	Strong Acid Extractable	mg/kg	8970	7980	9180	20
Antimony	Strong Acid Extractable	mg/kg	6.5	1.6	2.2	0.2
Arsenic	Strong Acid Extractable	mg/kg	50.7	55.8	50.3	0.2
Barium	Strong Acid Extractable	mg/kg	225	161	207	1
Beryllium	Strong Acid Extractable	mg/kg	0.2	0.2	0.2	0.1
Bismuth	Strong Acid Extractable	mg/kg	28.3	9.6	1.4	0.5
Cadmium	Strong Acid Extractable	mg/kg	9.24	9.36	11.0	0.01
Chromium	Strong Acid Extractable	mg/kg	54.7	51.5	48.3	0.5
Calcium	Strong Acid Extractable	mg/kg	31700	26600	28000	200
Cobalt	Strong Acid Extractable	mg/kg	11.5	11.8	12.5	0.1
Copper	Strong Acid Extractable	mg/kg	1360	1190	1240	1
Iron	Strong Acid Extractable	mg/kg	18100	18200	18700	100
Lead	Strong Acid Extractable	mg/kg	280	96.7	129	0.1
Magnesium	Strong Acid Extractable	mg/kg	15700	10700	12200	100
Manganese	Strong Acid Extractable	mg/kg	226	197	219	10
Molybdenum	Strong Acid Extractable	mg/kg	4	2	4	1
Nickel	Strong Acid Extractable	mg/kg	39.8	25.0	31.4	0.5
Phosphorus	Strong Acid Extractable	mg/kg	880	1810	1810	30
Selenium	Strong Acid Extractable	mg/kg	3.4	4.0	3.2	0.3
Silicon	Strong Acid Extractable	mg/kg	1020	1130	1230	50
Silver	Strong Acid Extractable	mg/kg	2.2	1.6	1.7	0.1
Strontium	Strong Acid Extractable	mg/kg	44	47	42	1
Thallium	Strong Acid Extractable	mg/kg	0.14	0.16	0.19	0.05
Tin	Strong Acid Extractable	mg/kg	129	18	20	1
Titanium	Strong Acid Extractable	mg/kg	446	410	550	0.5
Vanadium	Strong Acid Extractable	mg/kg	21.2	24.1	29.0	0.1
Zinc	Strong Acid Extractable	mg/kg	1670	1810	5350	1

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Analytical Report

Bill To:	Jacques Whitford AXYS Ltd.	Project:			
Report To:	Jacques Whitford AXYS Ltd.	ID:	1032002.02	Lot ID:	**629236**
	103-611 Corydon	Name:	HBM&S Dust Sampling	Control Number:	
	Winnipeg, MB, Canada	Location:	Flin Flon, MB and Creighton, Sk	Date Received:	Jul 8, 2008
	R3M 0S1	LSD:		Date Reported:	Jul 18, 2008
Attn:	Kimberly Marko	P.O.:	1032002.02 Z9100	Report Number:	1133033
Sampled By:	Kimberly Marko	Acct code:			
Company:	JWAXYS				

Reference Number	629236-22	629236-23	629236-24
Sample Date	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Sample Location			
Sample Description	C-DS-1	U-DS-1	R-DS-1
Matrix	Waste - industrial	Waste - industrial	Waste - industrial

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Mercury	Strong Acid Extractable	mg/kg		1.9		0.01
Aluminum	Strong Acid Extractable	mg/kg	8300	8600	7140	20
Antimony	Strong Acid Extractable	mg/kg	54	3.6	9.8	0.2
Arsenic	Strong Acid Extractable	mg/kg	56	51.1	73.0	0.2
Barium	Strong Acid Extractable	mg/kg	300	224	244	1
Beryllium	Strong Acid Extractable	mg/kg	<5	0.2	<0.2	0.1
Bismuth	Strong Acid Extractable	mg/kg	<30	5.1	3.5	0.5
Cadmium	Strong Acid Extractable	mg/kg	28.4	14.7	28.2	0.01
Chromium	Strong Acid Extractable	mg/kg	110	92.9	45.3	0.5
Calcium	Strong Acid Extractable	mg/kg	30000	31800	24700	200
Cobalt	Strong Acid Extractable	mg/kg	20	13.7	15	0.1
Copper	Strong Acid Extractable	mg/kg	5000	1910	4320	1
Iron	Strong Acid Extractable	mg/kg	23000	15000	20600	100
Lead	Strong Acid Extractable	mg/kg	34400	186	1290	0.1
Magnesium	Strong Acid Extractable	mg/kg	10000	11200	12000	100
Manganese	Strong Acid Extractable	mg/kg	<500	199	210	10
Molybdenum	Strong Acid Extractable	mg/kg	<50	4	6	1
Nickel	Strong Acid Extractable	mg/kg	81	36.8	31.6	0.5
Phosphorus	Strong Acid Extractable	mg/kg	3000	2290	1800	30
Selenium	Strong Acid Extractable	mg/kg	<20	2.9	5.4	0.3
Silicon	Strong Acid Extractable	mg/kg	9000	1740	1600	50
Silver	Strong Acid Extractable	mg/kg	40	2.2	9.3	0.1
Strontium	Strong Acid Extractable	mg/kg	70	78	48	1
Thallium	Strong Acid Extractable	mg/kg	<3	0.15	0.2	0.05
Tin	Strong Acid Extractable	mg/kg	21000	49	660	1
Titanium	Strong Acid Extractable	mg/kg	646	438	462	0.5
Vanadium	Strong Acid Extractable	mg/kg	30	20.0	22	0.1
Zinc	Strong Acid Extractable	mg/kg	6680	2540	3960	1

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Analytical Report

Bill To:	Jacques Whitford AXYS Ltd.	Project:		Lot ID:	**629236**
Report To:	Jacques Whitford AXYS Ltd.	ID:	1032002.02	Control Number:	
	103-611 Corydon	Name:	HBM&S Dust Sampling	Date Received:	Jul 8, 2008
	Winnipeg, MB, Canada	Location:	Flin Flon, MB and Creighton, Sk	Date Reported:	Jul 18, 2008
	R3M 0S1	LSD:		Report Number:	1133033
Attn:	Kimberly Marko	P.O.:	1032002.02 Z9100		
Sampled By:	Kimberly Marko	Acct code:			
Company:	JWAXYS				

Reference Number	629236-25	629236-26	629236-27	
Sample Date	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008	
Sample Location				
Sample Description	AR-DS-1	AT-DS-1	N-DS-1	
Matrix	Waste - industrial	Waste - industrial	Waste - industrial	

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Mercury	Strong Acid Extractable	mg/kg		2.04	1.79	0.01
Aluminum	Strong Acid Extractable	mg/kg	8130	17600	9930	20
Antimony	Strong Acid Extractable	mg/kg	14	1.0	1.6	0.2
Arsenic	Strong Acid Extractable	mg/kg	38.9	27.5	22.9	0.2
Barium	Strong Acid Extractable	mg/kg	408	220	213	1
Beryllium	Strong Acid Extractable	mg/kg	0.5	0.4	0.3	0.1
Bismuth	Strong Acid Extractable	mg/kg	<2	2.1	1.7	0.5
Cadmium	Strong Acid Extractable	mg/kg	16.5	11.8	12.6	0.01
Chromium	Strong Acid Extractable	mg/kg	116	109	56.6	0.5
Calcium	Strong Acid Extractable	mg/kg	80500	30400	28900	200
Cobalt	Strong Acid Extractable	mg/kg	13	17.8	11.4	0.1
Copper	Strong Acid Extractable	mg/kg	1670	1090	1180	1
Iron	Strong Acid Extractable	mg/kg	16100	28200	17200	100
Lead	Strong Acid Extractable	mg/kg	2200	130	120	0.1
Magnesium	Strong Acid Extractable	mg/kg	23000	19200	11600	100
Manganese	Strong Acid Extractable	mg/kg	250	402	232	10
Molybdenum	Strong Acid Extractable	mg/kg	4	4	4	1
Nickel	Strong Acid Extractable	mg/kg	33	64.8	44.6	0.5
Phosphorus	Strong Acid Extractable	mg/kg	2000	1490	1470	30
Selenium	Strong Acid Extractable	mg/kg	3.8	2.8	2.3	0.3
Silicon	Strong Acid Extractable	mg/kg	2200	1950	940	50
Silver	Strong Acid Extractable	mg/kg	3.8	1.6	3.1	0.1
Strontium	Strong Acid Extractable	mg/kg	549	82	47	1
Thallium	Strong Acid Extractable	mg/kg	0.2	0.28	0.15	0.05
Tin	Strong Acid Extractable	mg/kg	1000	11	16	1
Titanium	Strong Acid Extractable	mg/kg	398	1180	632	0.5
Vanadium	Strong Acid Extractable	mg/kg	17	59.0	31.3	0.1
Zinc	Strong Acid Extractable	mg/kg	2160	1730	2740	1

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Analytical Report

Bill To:	Jacques Whitford AXYS Ltd.	Project:		Lot ID:	**629236**
Report To:	Jacques Whitford AXYS Ltd.	ID:	1032002.02	Control Number:	
	103-611 Corydon	Name:	HBM&S Dust Sampling	Date Received:	Jul 8, 2008
	Winnipeg, MB, Canada	Location:	Flin Flon, MB and Creighton, Sk	Date Reported:	Jul 18, 2008
	R3M 0S1	LSD:		Report Number:	1133033
Attn:	Kimberly Marko	P.O.:	1032002.02 Z9100		
Sampled By:	Kimberly Marko	Acct code:			
Company:	JWAXYS				

Reference Number	629236-28	629236-29	629236-30
Sample Date	Jun 25, 2008	Jun 25, 2008	Jun 25, 2008
Sample Location			
Sample Description	D-DS-1	T-DS-1	AN-DS-1
Matrix	Waste - industrial	Waste - industrial	Waste - industrial

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	mg/kg	6460	7270	8010	20
Antimony	Strong Acid Extractable	mg/kg	12	7.9	2.7	0.2
Arsenic	Strong Acid Extractable	mg/kg	66.9	83.3	38.7	0.2
Barium	Strong Acid Extractable	mg/kg	270	170	412	1
Beryllium	Strong Acid Extractable	mg/kg	<0.3	<0.5	0.2	0.1
Bismuth	Strong Acid Extractable	mg/kg	5.4	8.8	1.4	0.5
Cadmium	Strong Acid Extractable	mg/kg	49.8	16.4	16.2	0.01
Chromium	Strong Acid Extractable	mg/kg	53.0	90.2	104	0.5
Calcium	Strong Acid Extractable	mg/kg	34600	44000	35200	200
Cobalt	Strong Acid Extractable	mg/kg	15	12	19.8	0.1
Copper	Strong Acid Extractable	mg/kg	3180	1680	1900	1
Iron	Strong Acid Extractable	mg/kg	18200	17400	22300	100
Lead	Strong Acid Extractable	mg/kg	1830	998	315	0.1
Magnesium	Strong Acid Extractable	mg/kg	12000	19000	12000	100
Manganese	Strong Acid Extractable	mg/kg	190	190	323	10
Molybdenum	Strong Acid Extractable	mg/kg	4	<5	56	1
Nickel	Strong Acid Extractable	mg/kg	29.5	81.3	43.4	0.5
Phosphorus	Strong Acid Extractable	mg/kg	1700	1400	1070	30
Selenium	Strong Acid Extractable	mg/kg	9.2	4	3.6	0.3
Silicon	Strong Acid Extractable	mg/kg	2800	2800	1850	50
Silver	Strong Acid Extractable	mg/kg	4.8	5.2	1.8	0.1
Strontium	Strong Acid Extractable	mg/kg	67	150	178	1
Thallium	Strong Acid Extractable	mg/kg	0.2	<0.2	0.16	0.05
Tin	Strong Acid Extractable	mg/kg	1200	631	114	1
Titanium	Strong Acid Extractable	mg/kg	370	340	452	0.5
Vanadium	Strong Acid Extractable	mg/kg	18	16	40.0	0.1
Zinc	Strong Acid Extractable	mg/kg	4020	1990	2040	1

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Analytical Report

Bill To:	Jacques Whitford AXYS Ltd.	Project:		Lot ID:	**629236**
Report To:	Jacques Whitford AXYS Ltd.	ID:	1032002.02	Control Number:	
	103-611 Corydon	Name:	HBM&S Dust Sampling	Date Received:	Jul 8, 2008
	Winnipeg, MB, Canada	Location:	Flin Flon, MB and Creighton, Sk	Date Reported:	Jul 18, 2008
	R3M 0S1	LSD:		Report Number:	1133033
Attn:	Kimberly Marko	P.O.:	1032002.02 Z9100		
Sampled By:	Kimberly Marko	Acct code:			
Company:	JWAXYS				

Reference Number	629236-31	629236-32	629236-33
Sample Date	Jun 25, 2008	Jun 26, 2008	Jun 26, 2008
Sample Location			
Sample Description	AO-DS-1	AJ-DS-1	P-DS-1
Matrix	Waste - industrial	Waste - industrial	Waste - industrial

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Mercury	Strong Acid Extractable	mg/kg	35	9.93		0.01
Aluminum	Strong Acid Extractable	mg/kg	4570	10200	9000	20
Antimony	Strong Acid Extractable	mg/kg	4.4	3.7	5.6	0.2
Arsenic	Strong Acid Extractable	mg/kg	85.7	65.7	53.3	0.2
Barium	Strong Acid Extractable	mg/kg	358	349	938	1
Beryllium	Strong Acid Extractable	mg/kg	<0.1	0.3	0.2	0.1
Bismuth	Strong Acid Extractable	mg/kg	2.2	4.2	3.7	0.5
Cadmium	Strong Acid Extractable	mg/kg	24.6	20.0	19.8	0.01
Chromium	Strong Acid Extractable	mg/kg	35.4	63.6	65.0	0.5
Calcium	Strong Acid Extractable	mg/kg	23100	31800	32900	200
Cobalt	Strong Acid Extractable	mg/kg	21.8	17.1	14.6	0.1
Copper	Strong Acid Extractable	mg/kg	7520	4260	4660	1
Iron	Strong Acid Extractable	mg/kg	25000	22900	20300	100
Lead	Strong Acid Extractable	mg/kg	305	347	834	0.1
Magnesium	Strong Acid Extractable	mg/kg	12000	12000	13000	100
Manganese	Strong Acid Extractable	mg/kg	204	244	208	10
Molybdenum	Strong Acid Extractable	mg/kg	9	7	6	1
Nickel	Strong Acid Extractable	mg/kg	33.3	59.1	54.5	0.5
Phosphorus	Strong Acid Extractable	mg/kg	840	1420	1000	30
Selenium	Strong Acid Extractable	mg/kg	16.0	8.7	5.8	0.3
Silicon	Strong Acid Extractable	mg/kg	1090	1150	2140	50
Silver	Strong Acid Extractable	mg/kg	5.5	4.4	4.7	0.1
Strontium	Strong Acid Extractable	mg/kg	48	53	62	1
Thallium	Strong Acid Extractable	mg/kg	0.24	0.22	0.17	0.05
Tin	Strong Acid Extractable	mg/kg	23	57	490	1
Titanium	Strong Acid Extractable	mg/kg	296	617	495	0.5
Vanadium	Strong Acid Extractable	mg/kg	17.1	31.9	22.0	0.1
Zinc	Strong Acid Extractable	mg/kg	6020	4990	3390	1

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Analytical Report

Bill To:	Jacques Whitford AXYS Ltd.	Project:		Lot ID:	**629236**
Report To:	Jacques Whitford AXYS Ltd.	ID:	1032002.02	Control Number:	
	103-611 Corydon	Name:	HBM&S Dust Sampling	Date Received:	Jul 8, 2008
	Winnipeg, MB, Canada	Location:	Flin Flon, MB and Creighton, Sk	Date Reported:	Jul 18, 2008
	R3M 0S1	LSD:		Report Number:	1133033
Attn:	Kimberly Marko	P.O.:	1032002.02 Z9100		
Sampled By:	Kimberly Marko	Acct code:			
Company:	JWAXYS				

Reference Number	629236-34	629236-35	629236-36
Sample Date	Jun 26, 2008	Jun 26, 2008	Jun 26, 2008
Sample Location			
Sample Description	AD-DS-1	J-DS-1	AK-DS-1
Matrix	Waste - industrial	Waste - industrial	Waste - industrial

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Mercury	Strong Acid Extractable	mg/kg	5.1			0.01
Aluminum	Strong Acid Extractable	mg/kg	6810	5800	6050	20
Antimony	Strong Acid Extractable	mg/kg	4.6	14	4.9	0.2
Arsenic	Strong Acid Extractable	mg/kg	187	60	56.0	0.2
Barium	Strong Acid Extractable	mg/kg	219	200	204	1
Beryllium	Strong Acid Extractable	mg/kg	0.1	<0.9	0.2	0.1
Bismuth	Strong Acid Extractable	mg/kg	2.1	5	3.5	0.5
Cadmium	Strong Acid Extractable	mg/kg	16.0	16.4	10.8	0.01
Chromium	Strong Acid Extractable	mg/kg	56.9	54	39.7	0.5
Calcium	Strong Acid Extractable	mg/kg	60100	36000	25800	200
Cobalt	Strong Acid Extractable	mg/kg	23.9	14	11.4	0.1
Copper	Strong Acid Extractable	mg/kg	2480	2810	1380	1
Iron	Strong Acid Extractable	mg/kg	32100	17300	15100	100
Lead	Strong Acid Extractable	mg/kg	307	1970	456	0.1
Magnesium	Strong Acid Extractable	mg/kg	28400	14000	9200	100
Manganese	Strong Acid Extractable	mg/kg	261	160	145	10
Molybdenum	Strong Acid Extractable	mg/kg	10	<9	4	1
Nickel	Strong Acid Extractable	mg/kg	52.9	35	26.9	0.5
Phosphorus	Strong Acid Extractable	mg/kg	4580	1200	1000	30
Selenium	Strong Acid Extractable	mg/kg	7.8	5	5.6	0.3
Silicon	Strong Acid Extractable	mg/kg	1500	4600	960	50
Silver	Strong Acid Extractable	mg/kg	3.2	11	2.7	0.1
Strontium	Strong Acid Extractable	mg/kg	1040	230	56	1
Thallium	Strong Acid Extractable	mg/kg	0.36	<0.4	0.17	0.05
Tin	Strong Acid Extractable	mg/kg	74	1590	218	1
Titanium	Strong Acid Extractable	mg/kg	395	369	293	0.5
Vanadium	Strong Acid Extractable	mg/kg	20.4	16	14.4	0.1
Zinc	Strong Acid Extractable	mg/kg	3250	3340	1870	1

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Analytical Report

Bill To:	Jacques Whitford AXYS Ltd.	Project:			
Report To:	Jacques Whitford AXYS Ltd.	ID:	1032002.02	Lot ID:	**629236**
	103-611 Corydon	Name:	HBM&S Dust Sampling	Control Number:	
	Winnipeg, MB, Canada	Location:	Flin Flon, MB and Creighton, Sk	Date Received:	Jul 8, 2008
	R3M 0S1	LSD:		Date Reported:	Jul 18, 2008
Attn:	Kimberly Marko	P.O.:	1032002.02 Z9100	Report Number:	1133033
Sampled By:	Kimberly Marko	Acct code:			
Company:	JWAXYS				

Reference Number	629236-37	629236-38	629236-39
Sample Date	Jun 26, 2008	Jun 26, 2008	Jun 23, 2008
Sample Location			
Sample Description	S-DS-1	AY-DS-1	F-Blank-1
Matrix	Waste - industrial	Waste - industrial	Waste - industrial

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Mercury	Strong Acid Extractable	mg/kg		26	<0.01	0.01
Aluminum	Strong Acid Extractable	mg/kg	9020	7920	<20	20
Antimony	Strong Acid Extractable	mg/kg	7.2	4.0	<0.2	0.2
Arsenic	Strong Acid Extractable	mg/kg	41.7	84.6	<0.2	0.2
Barium	Strong Acid Extractable	mg/kg	257	146	<1	1
Beryllium	Strong Acid Extractable	mg/kg	0.2	0.2	<0.1	0.1
Bismuth	Strong Acid Extractable	mg/kg	2.3	2.6	<0.5	0.5
Cadmium	Strong Acid Extractable	mg/kg	12.9	30.0	0.03	0.01
Chromium	Strong Acid Extractable	mg/kg	41.9	46.6	<0.5	0.5
Calcium	Strong Acid Extractable	mg/kg	22800	20200	<200	200
Cobalt	Strong Acid Extractable	mg/kg	8.7	16.6	<0.1	0.1
Copper	Strong Acid Extractable	mg/kg	1000	3520	5	1
Iron	Strong Acid Extractable	mg/kg	14000	24100	<100	100
Lead	Strong Acid Extractable	mg/kg	1060	341	0.8	0.1
Magnesium	Strong Acid Extractable	mg/kg	7600	8600	<100	100
Manganese	Strong Acid Extractable	mg/kg	180	237	<10	10
Molybdenum	Strong Acid Extractable	mg/kg	4	7	<1	1
Nickel	Strong Acid Extractable	mg/kg	49.4	34.7	9.0	0.5
Phosphorus	Strong Acid Extractable	mg/kg	1960	980	<30	30
Selenium	Strong Acid Extractable	mg/kg	2.6	13.3	<0.3	0.3
Silicon	Strong Acid Extractable	mg/kg	1600	1140	<50	50
Silver	Strong Acid Extractable	mg/kg	2.9	3.5	<0.1	0.1
Strontium	Strong Acid Extractable	mg/kg	72	47	<1	1
Thallium	Strong Acid Extractable	mg/kg	0.1	0.34	<0.05	0.05
Tin	Strong Acid Extractable	mg/kg	374	24	4	1
Titanium	Strong Acid Extractable	mg/kg	404	449	0.7	0.5
Vanadium	Strong Acid Extractable	mg/kg	18.9	27.4	<0.1	0.1
Zinc	Strong Acid Extractable	mg/kg	1330	5060	9	1

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Analytical Report

Bill To:	Jacques Whitford AXYS Ltd.	Project:		Lot ID:	**629236**
Report To:	Jacques Whitford AXYS Ltd.	ID:	1032002.02	Control Number:	
	103-611 Corydon	Name:	HBM&S Dust Sampling	Date Received:	Jul 8, 2008
	Winnipeg, MB, Canada	Location:	Flin Flon, MB and Creighton, Sk	Date Reported:	Jul 18, 2008
	R3M 0S1	LSD:		Report Number:	1133033
Attn:	Kimberly Marko	P.O.:	1032002.02 Z9100		
Sampled By:	Kimberly Marko	Acct code:			
Company:	JWAXYS				

Reference Number	629236-40	629236-41	629236-42
Sample Date	Jun 24, 2008	Jun 24, 2008	Jun 25, 2008
Sample Location			
Sample Description	BC-Blank-2	AC-Blank-3	AR-Blak-4
Matrix	Waste - industrial	Waste - industrial	Waste - industrial

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Mercury	Strong Acid Extractable	mg/kg	<0.01	<0.01	<0.01	0.01
Aluminum	Strong Acid Extractable	mg/kg	<20	<20	<20	20
Antimony	Strong Acid Extractable	mg/kg	<0.2	<0.2	<0.2	0.2
Arsenic	Strong Acid Extractable	mg/kg	<0.2	<0.2	<0.2	0.2
Barium	Strong Acid Extractable	mg/kg	<1	<1	<1	1
Beryllium	Strong Acid Extractable	mg/kg	<0.1	<0.1	<0.1	0.1
Bismuth	Strong Acid Extractable	mg/kg	<0.5	<0.5	<0.5	0.5
Cadmium	Strong Acid Extractable	mg/kg	0.01	0.01	<0.01	0.01
Chromium	Strong Acid Extractable	mg/kg	<0.5	<0.5	<0.5	0.5
Calcium	Strong Acid Extractable	mg/kg	<200	<200	<200	200
Cobalt	Strong Acid Extractable	mg/kg	<0.1	<0.1	<0.1	0.1
Copper	Strong Acid Extractable	mg/kg	4	4	2	1
Iron	Strong Acid Extractable	mg/kg	<100	<100	<100	100
Lead	Strong Acid Extractable	mg/kg	0.5	0.6	0.6	0.1
Magnesium	Strong Acid Extractable	mg/kg	<100	<100	<100	100
Manganese	Strong Acid Extractable	mg/kg	<10	<10	<10	10
Molybdenum	Strong Acid Extractable	mg/kg	<1	<1	<1	1
Nickel	Strong Acid Extractable	mg/kg	9.2	9.3	9.2	0.5
Phosphorus	Strong Acid Extractable	mg/kg	<30	<30	<30	30
Selenium	Strong Acid Extractable	mg/kg	<0.3	<0.3	<0.3	0.3
Silicon	Strong Acid Extractable	mg/kg	<50	<50	<50	50
Silver	Strong Acid Extractable	mg/kg	<0.1	<0.1	<0.1	0.1
Strontium	Strong Acid Extractable	mg/kg	<1	<1	<1	1
Thallium	Strong Acid Extractable	mg/kg	<0.05	<0.05	<0.05	0.05
Tin	Strong Acid Extractable	mg/kg	4	4	4	1
Titanium	Strong Acid Extractable	mg/kg	<0.5	<0.5	<0.5	0.5
Vanadium	Strong Acid Extractable	mg/kg	<0.1	<0.1	<0.1	0.1
Zinc	Strong Acid Extractable	mg/kg	6	6	6	1

Bodycote TESTING GROUP

Analytical Report

Bill To:	Jacques Whitford AXYS Ltd.	Project:		Lot ID:	**629236**
Report To:	Jacques Whitford AXYS Ltd.	ID:	1032002.02	Control Number:	
	103-611 Corydon	Name:	HBM&S Dust Sampling	Date Received:	Jul 8, 2008
	Winnipeg, MB, Canada	Location:	Flin Flon, MB and Creighton, Sk	Date Reported:	Jul 18, 2008
	R3M 0S1	LSD:		Report Number:	1133033
Attn:	Kimberly Marko	P.O.:	1032002.02 Z9100		
Sampled By:	Kimberly Marko	Acct code:			
Company:	JWAXYS				

Reference Number	629236-43	629236-44	629236-45
Sample Date	Jun 25, 2008	Jun 26, 2008	Jun 23, 2008
Sample Location			
Sample Description	AO-Blank-5	AY-Blank-6	QZ-DS-1
Matrix	Waste - industrial	Waste - industrial	Waste - industrial

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Mercury	Strong Acid Extractable	mg/kg	<0.01	<0.01		0.01
Aluminum	Strong Acid Extractable	mg/kg	<20	<20	7670	20
Antimony	Strong Acid Extractable	mg/kg	<0.2	<0.2	4.4	0.2
Arsenic	Strong Acid Extractable	mg/kg	<0.2	<0.2	36.3	0.2
Barium	Strong Acid Extractable	mg/kg	<1	<1	204	1
Beryllium	Strong Acid Extractable	mg/kg	<0.1	<0.1	0.2	0.1
Bismuth	Strong Acid Extractable	mg/kg	<0.5	<0.5	1.5	0.5
Cadmium	Strong Acid Extractable	mg/kg	<0.01	0.02	14.6	0.01
Chromium	Strong Acid Extractable	mg/kg	<0.5	<0.5	60.4	0.5
Calcium	Strong Acid Extractable	mg/kg	<200	<200	24100	200
Cobalt	Strong Acid Extractable	mg/kg	<0.1	<0.1	13.0	0.1
Copper	Strong Acid Extractable	mg/kg	2	2	1510	1
Iron	Strong Acid Extractable	mg/kg	<100	<100	16900	100
Lead	Strong Acid Extractable	mg/kg	0.4	0.3	505	0.1
Magnesium	Strong Acid Extractable	mg/kg	<100	<100	9900	100
Manganese	Strong Acid Extractable	mg/kg	<10	<10	205	10
Molybdenum	Strong Acid Extractable	mg/kg	<1	<1	31	1
Nickel	Strong Acid Extractable	mg/kg	9.2	9.1	53.8	0.5
Phosphorus	Strong Acid Extractable	mg/kg	<30	<30	1540	30
Selenium	Strong Acid Extractable	mg/kg	<0.3	<0.3	3.8	0.3
Silicon	Strong Acid Extractable	mg/kg	<50	<50	1160	50
Silver	Strong Acid Extractable	mg/kg	<0.1	<0.1	3.8	0.1
Strontium	Strong Acid Extractable	mg/kg	<1	<1	50	1
Thallium	Strong Acid Extractable	mg/kg	<0.05	<0.05	0.16	0.05
Tin	Strong Acid Extractable	mg/kg	4	4	170	1
Titanium	Strong Acid Extractable	mg/kg	<0.5	<0.5	420	0.5
Vanadium	Strong Acid Extractable	mg/kg	<0.1	<0.1	19.7	0.1
Zinc	Strong Acid Extractable	mg/kg	4	6	3600	1

Bodycote TESTING GROUP

Analytical Report

Bill To:	Jacques Whitford AXYS Ltd.	Project:		Lot ID:	**629236**
Report To:	Jacques Whitford AXYS Ltd.	ID:	1032002.02	Control Number:	
	103-611 Corydon	Name:	HBM&S Dust Sampling	Date Received:	Jul 8, 2008
	Winnipeg, MB, Canada	Location:	Flin Flon, MB and Creighton, Sk	Date Reported:	Jul 18, 2008
	R3M 0S1	LSD:		Report Number:	1133033
Attn:	Kimberly Marko	P.O.:	1032002.02 Z9100		
Sampled By:	Kimberly Marko	Acct code:			
Company:	JWAXYS				

Reference Number	629236-46	629236-47	629236-48
Sample Date	Jun 24, 2008	Jun 26, 2008	Jul 03, 2008
Sample Location			
Sample Description	YZ-DS-1	AJZ-DS-1	YZ-Blank-7
Matrix	Waste - industrial	Waste - industrial	Waste - industrial

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Mercury	Strong Acid Extractable	mg/kg	11.9		<0.01	0.01
Aluminum	Strong Acid Extractable	mg/kg	7610	9690	<20	20
Antimony	Strong Acid Extractable	mg/kg	2.9	4.7	<0.2	0.2
Arsenic	Strong Acid Extractable	mg/kg	83.9	64.0	<0.2	0.2
Barium	Strong Acid Extractable	mg/kg	305	331	<1	1
Beryllium	Strong Acid Extractable	mg/kg	0.2	0.3	<0.1	0.1
Bismuth	Strong Acid Extractable	mg/kg	3.2	4.6	<0.5	0.5
Cadmium	Strong Acid Extractable	mg/kg	21.1	19.8	<0.01	0.01
Chromium	Strong Acid Extractable	mg/kg	43.7	60.6	<0.5	0.5
Calcium	Strong Acid Extractable	mg/kg	38600	30800	<200	200
Cobalt	Strong Acid Extractable	mg/kg	21.1	17.4	<0.1	0.1
Copper	Strong Acid Extractable	mg/kg	5710	4080	2	1
Iron	Strong Acid Extractable	mg/kg	25100	22300	<100	100
Lead	Strong Acid Extractable	mg/kg	227	856	0.4	0.1
Magnesium	Strong Acid Extractable	mg/kg	15000	11500	<100	100
Manganese	Strong Acid Extractable	mg/kg	299	238	<10	10
Molybdenum	Strong Acid Extractable	mg/kg	7	6	<1	1
Nickel	Strong Acid Extractable	mg/kg	29.1	56.3	9.3	0.5
Phosphorus	Strong Acid Extractable	mg/kg	1620	1310	<30	30
Selenium	Strong Acid Extractable	mg/kg	11.1	9.1	<0.3	0.3
Silicon	Strong Acid Extractable	mg/kg	1500	1000	<50	50
Silver	Strong Acid Extractable	mg/kg	4.0	5.3	<0.1	0.1
Strontium	Strong Acid Extractable	mg/kg	90	51	<1	1
Thallium	Strong Acid Extractable	mg/kg	0.24	0.22	<0.05	0.05
Tin	Strong Acid Extractable	mg/kg	32	400	5	1
Titanium	Strong Acid Extractable	mg/kg	466	590	<0.5	0.5
Vanadium	Strong Acid Extractable	mg/kg	25.1	30.8	<0.1	0.1
Zinc	Strong Acid Extractable	mg/kg	4230	4980	4	1

Approved by:

Anthony Neumann, MSc
Laboratory Operations Manager

Bodycote TESTING GROUP

Quality Control

Bill To:	Jacques Whitford AXYS Ltd.	Project:	
Report To:	Jacques Whitford AXYS Ltd.	ID:	1032002.02
	103-611 Corydon	Name:	HBM&S Dust Sampling
	Winnipeg, MB, Canada	Location:	Flin Flon, MB and Creighton, Sk
	R3M 0S1	LSD:	
Attn:	Kimberly Marko	P.O.:	1032002.02 Z9100
Sampled By:	Kimberly Marko	Acct code:	
Company:	JWAXYS		

Lot ID:	**629236**
Control Number:	
Date Received:	Jul 8, 2008
Date Reported:	Jul 18, 2008
Report Number:	1133033

Metals Strong Acid Digestion

Blanks	Units	Measured	Mean	Lower Limit	Upper Limit	Passed QC
Mercury	mg/kg	<0.01	0.01	-0.07	0.09	yes
Aluminum	mg/kg	<20	0	-4	5	yes
Antimony	mg/kg	<0.2	0.0	-0.2	0.2	yes
Arsenic	mg/kg	<0.2	0.0	-0.1	0.2	yes
Barium	mg/kg	<1	0	-0	1	yes
Beryllium	mg/kg	<0.1	0.0	-0.1	0.1	yes
Bismuth	mg/kg	<0.5	0.0	-0.4	0.5	yes
Cadmium	mg/kg	<0.01	0.00	-0.01	0.01	yes
Chromium	mg/kg	<0.5	0.0	-0.4	0.5	yes
Calcium	mg/kg	<200	0	-0	0	yes
Cobalt	mg/kg	<0.1	0.0	-0.1	0.1	yes
Copper	mg/kg	<1	0	-1	1	yes
Iron	mg/kg	<100	0	-15	15	yes
Lead	mg/kg	<0.1	0.0	-0.1	0.1	yes
Magnesium	mg/kg	<100	0	-0	0	yes
Manganese	mg/kg	<10	0	-0	0	yes
Molybdenum	mg/kg	<1	0	-1	1	yes
Nickel	mg/kg	<0.5	0.0	-0.5	0.5	yes
Phosphorus	mg/kg	<30	0	-0	0	yes
Selenium	mg/kg	<0.3	0.0	-0.2	0.2	yes
Silicon	mg/kg	<50	0	-0	0	yes
Silver	mg/kg	<0.1	0.0	-0.1	0.1	yes
Strontium	mg/kg	<1	0	-1	1	yes
Thallium	mg/kg	<0.05	0.00	-0.04	0.05	yes
Tin	mg/kg	5	4	1	6	yes
Titanium	mg/kg	<0.5	0.2	-0.1	0.5	yes
Vanadium	mg/kg	<0.1	0.0	-0.1	0.1	yes
Zinc	mg/kg	<1	0	-1	1	yes

Material Used: Edmonton Method Blank
Date Acquired: July 08, 2008
Acquired By: Alexsandra Robert

Replicates	Units	Replicate1	Replicate2	% RSD Criteria	Absolute Criteria	Passed QC
Mercury	mg/kg	1.62	1.63	9.99	0.03	yes
Antimony	mg/kg	2.2	2.4	20.0	0.4	yes
Arsenic	mg/kg	36.2	36.2	20.0	0.4	yes
Barium	mg/kg	162	158	20	2	yes
Beryllium	mg/kg	0.2	0.2	20.0	0.2	yes
Bismuth	mg/kg	3.1	3.0	20.0	1.1	yes
Cadmium	mg/kg	11.8	11.3	20.01	0.02	yes
Chromium	mg/kg	57.8	55.5	20.0	1.1	yes
Cobalt	mg/kg	12.3	11.8	20.0	0.2	yes
Copper	mg/kg	1400	1370	20	2	yes

Bodycote TESTING GROUP

Quality Control

Bill To:	Jacques Whitford AXYS Ltd.	Project:	
Report To:	Jacques Whitford AXYS Ltd.	ID:	1032002.02
	103-611 Corydon	Name:	HBM&S Dust Sampling
	Winnipeg, MB, Canada	Location:	Flin Flon, MB and Creighton, Sk
	R3M 0S1	LSD:	
Attn:	Kimberly Marko	P.O.:	1032002.02 Z9100
Sampled By:	Kimberly Marko	Acct code:	
Company:	JWAXYS		

Lot ID:	**629236**
Control Number:	
Date Received:	Jul 8, 2008
Date Reported:	Jul 18, 2008
Report Number:	1133033

Metals Strong Acid Digestion - Continued

Replicates	Units	Replicate1	Replicate2	% RSD Criteria	Absolute Criteria	Passed QC
Lead	mg/kg	153	145	20.0	0.2	yes
Molybdenum	mg/kg	3	3	20	2	yes
Nickel	mg/kg	39.3	39.3	20.0	1.1	yes
Selenium	mg/kg	2.8	2.6	20.0	0.7	yes
Silver	mg/kg	2.1	1.9	20.0	0.2	yes
Strontium	mg/kg	425	403	20	2	yes
Thallium	mg/kg	0.16	0.15	20.01	0.11	yes
Tin	mg/kg	9	8	20	2	yes
Titanium	mg/kg	496	477	20.0	1.1	yes
Vanadium	mg/kg	28.6	27.2	20.0	0.2	yes
Zinc	mg/kg	1770	1680	20	2	yes

Material Used: Edmonton Duplicate
Date Acquired: July 08, 2008
Acquired By: Alexsandra Robert

Control Sample	Units	Measured	Mean	Lower Limit	Upper Limit	Passed QC
Mercury	mg/kg	0.31	0.30	0.26	0.34	yes
Aluminum	mg/kg	15700	16154	8849	23459	yes
Antimony	mg/kg	0.9	0.6	0.2	1.1	yes
Arsenic	mg/kg	91.0	91.1	61.4	120.8	yes
Barium	mg/kg	256	262	188	336	yes
Beryllium	mg/kg	1.0	0.9	0.6	1.2	yes
Bismuth	mg/kg	0.6	1.8	0.1	3.5	yes
Cadmium	mg/kg	2.08	2.09	1.28	2.90	yes
Chromium	mg/kg	43.7	45.4	29.8	61.0	yes
Calcium	mg/kg	118000	127212	103212	151212	yes
Cobalt	mg/kg	14.7	14.2	9.8	18.6	yes
Copper	mg/kg	211	205	147	262	yes
Iron	mg/kg	24400	25617	17736	33498	yes
Lead	mg/kg	114	123.3	84.9	161.7	yes
Magnesium	mg/kg	12400	13520	9353	17687	yes
Manganese	mg/kg	519	550	381	719	yes
Molybdenum	mg/kg	4	3	2	4	yes
Nickel	mg/kg	61.7	65.1	42.9	87.3	yes
Phosphorus	mg/kg	780	704	401	1007	yes
Selenium	mg/kg	1.1	0.7	0.3	1.1	yes
Silicon	mg/kg	1320	853	-227	1933	yes
Silver	mg/kg	1.1	1.0	0.6	1.5	yes
Strontium	mg/kg	245	247	170	324	yes
Thallium	mg/kg	0.36	0.38	0.26	0.50	yes
Tin	mg/kg	5	4	1	7	yes
Titanium	mg/kg	1290	1240.0	877.0	1603.0	yes
Vanadium	mg/kg	49.6	48.0	32.6	63.4	yes

Bodycote TESTING GROUP

Quality Control

Bill To:	Jacques Whitford AXYS Ltd.	Project:	
Report To:	Jacques Whitford AXYS Ltd.	ID:	1032002.02
	103-611 Corydon	Name:	HBM&S Dust Sampling
	Winnipeg, MB, Canada	Location:	Flin Flon, MB and Creighton, Sk
	R3M 0S1	LSD:	
Attn:	Kimberly Marko	P.O.:	1032002.02 Z9100
Sampled By:	Kimberly Marko	Acct code:	
Company:	JWAXYS		

Lot ID:	**629236**
Control Number:	
Date Received:	Jul 8, 2008
Date Reported:	Jul 18, 2008
Report Number:	1133033

Metals Strong Acid Digestion - Continued

Control Sample	Units	Measured	Mean	Lower Limit	Upper Limit	Passed QC
Zinc	mg/kg	514	523	331	715	yes

Material Used: Metals Soil SS-2
Date Acquired: July 08, 2008
Acquired By: Alexsandra Robert

Bodycote TESTING GROUP

Methodology and Notes

Bill To:	Jacques Whitford AXYS Ltd.	Project:	
Report To:	Jacques Whitford AXYS Ltd.	ID:	1032002.02
	103-611 Corydon	Name:	HBM&S Dust Sampling
	Winnipeg, MB, Canada	Location:	Flin Flon, MB and Creighton, Sk
	R3M 0S1	LSD:	
Attn:	Kimberly Marko	P.O.:	1032002.02 Z9100
Sampled By:	Kimberly Marko	Acct code:	
Company:	JWAXYS		

Lot ID:	**629236**
Control Number:	
Date Received:	Jul 8, 2008
Date Reported:	Jul 18, 2008
Report Number:	1133033

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
Mercury (Hot Block) in Soil	US EPA	*	Determination of Hg in Sediment by Cold Vapor Atomic Absorption Spec, 245.5	08-Jul-08	BTG Edmonton
Metals ICP-MS (Hot Block) in soil	SW-846	*	Acid Digestion of Sediments, Sludges, and Soils, EPA 3050B	08-Jul-08	BTG Edmonton

** Bodycote method(s) based on reference method*

References

SW-846	Test Methods for Evaluating Solid Waste
US EPA	US Environmental Protection Agency Test Methods

Comments:

Please direct any inquiries regarding this report to our Client Services group.
Results relate only to samples as submitted.