



CONSULTING ENGINEERS
& SCIENTISTS

November 5, 2008

Mr. Remi Godin
Waste Management of Canada Inc.
2301 Carp Rd.
Ottawa, ON K0A 1L0

RWDI AIR Inc.
650 Woodlawn Road West
Guelph, ON
Canada N1K 1B8

*A member of the
RWDI Group of Companies*

Re: BTEX Sampling
RWDI Project W07-5258C

Dear Mr Godin:

Please find attached the Benzene, Toluene, Ethyl Benzene and Xylenes (BTEX) results for the samples collected for Waste Management of Canada Inc. (WM) at the Carp Road Landfill in Ottawa, Ontario. This study was completed to fulfill the MOE request to perform additional monitoring for BTEX, particularly benzene.

BTEX monitoring method based on methods specified by USEPA Method TO-15 and the Technical Assistance Document for the National Ambient Air Toxics Trends and Assessment Program. Upwind and downwind 24-hour samples were taken every six days, in concurrence with the North America-wide monitoring schedule, for a period of 42 days (for a total of seven sample pairs).

In preparation for the monitoring campaign, RWDI staff trained Waste Management Staff on the installation, take-down and record-keeping of the sample collection process. Within one day of the sampling event RWDI provided the recommended upwind and downwind sampling locations based on wind forecasts from RWDI's Weather Watcher website.

Results:

Results are presented in the attached table and also summarised below. Please note that each parameter was below the method detection limit (MDL) for each parameter, except for Toluene which was on average 0.73 ug/m^3 which is $<0.1\%$ of the POI limit. A list of figures showing sample locations as recommended by RWDI, based on forecast data, is attached in Appendix A.

Summary of Results			
Parameter	Max Downwind Concentration	POI Limit	% of POI Limit
	(ug/m³)	(ug/m³)	(%)
Benzene	<0.3	-	-
Toluene	1.13	2000	<1
Ethyl Benzene	<0.4	1000	<1
Xylenes	<1.7	730	<1

I trust that this suits your needs at this time. A detailed report including results for VOC sampling, TRS and TSP will follow soon. Please feel free to contact me should you have any questions.

Yours very truly,

RWDI AIR Inc.

Colin Welburn

Colin Welburn, M.Eng., P.Eng.
Project Manager Specialist

CTW/klm

Results:

TABLES

**Table 1
Ottawa landfill - Preliminary Results**

Sample Date Canister No. Sample Location Sample Duration (hr)		23-Jun				
		2592 Downwind 24		2615 Upwind 24		
CAS #	Parameter	Mass Collected	Concentration	Mass Collected	Concentration	Landfill Contribution
		(ppb)	(ug/m ³)	(ppb)	(ug/m ³)	
71-43-2	Benzene	<0.10	<0.3	<0.10	<0.3	<0.0
108-88-3	Toluene	0.30	1.13	0.20	0.75	0.38
100-41-4	Ethyl Benzene	<0.10	<0.4	<0.10	<0.4	<0.0
1330-20-7	Xylenes	<0.40	<1.7	<0.40	<1.7	<0.0

Sample Date Canister No. Sample Location Sample Duration (hr)		5-Jul				
		T21672 Downwind 24		T21652 Upwind 24		
CAS #	Parameter	Mass Collected	Concentration	Mass Collected	Concentration	Landfill Contribution
		(ppb)	(ug/m ³)	(ppb)	(ug/m ³)	
71-43-2	Benzene	<0.10	<0.3	<0.10	<0.3	<0.0
108-88-3	Toluene	0.20	0.75	0.20	0.75	0.00
100-41-4	Ethyl Benzene	<0.10	<0.4	<0.10	<0.4	<0.0
1330-20-7	Xylenes	<0.40	<1.7	<0.40	<1.7	<0.0

Sample Date Canister No. Sample Location Sample Duration (hr)		11-Jul				
		T2440 Downwind 24		T2468 Upwind 24		
CAS #	Parameter	Mass Collected	Concentration	Mass Collected	Concentration	Landfill Contribution
		(ppb)	(ug/m ³)	(ppb)	(ug/m ³)	
71-43-2	Benzene	<0.10	<0.3	<0.10	<0.3	<0.0
108-88-3	Toluene	0.20	0.75	0.30	1.13	0.38
100-41-4	Ethyl Benzene	<0.10	<0.4	<0.10	<0.4	<0.0
1330-20-7	Xylenes	<0.40	<1.7	<0.40	<1.7	<0.0

Sample Date Canister No. Sample Location Sample Duration (hr)		17-Jul				
		7812 Downwind 24		7850 Upwind 24		
CAS #	Parameter	Mass Collected	Concentration	Mass Collected	Concentration	Landfill Contribution
		(ug)	(ug/m ³)	(ug)	(ug/m ³)	
71-43-2	Benzene	<0.10	<0.3	<0.10	<0.3	<0.0
108-88-3	Toluene	<0.10	0.38	<0.10	0.38	0.00
100-41-4	Ethyl Benzene	<0.10	<0.4	<0.10	<0.4	<0.0
1330-20-7	Xylenes	<0.40	<1.7	<0.40	<1.7	<0.0

Sample Date Canister No. Sample Location Sample Duration (hr)		23-Jul				
		2826 Downwind 24		1238 Upwind 24		
CAS #	Parameter	Mass Collected	Concentration	Mass Collected	Concentration	Landfill Contribution
		(ug)	(ug/m ³)	(ug)	(ug/m ³)	
71-43-2	Benzene	<0.10	<0.3	<0.10	<0.3	0.31922
108-88-3	Toluene	0.20	0.75	0.20	0.75	1.13
100-41-4	Ethyl Benzene	<0.10	<0.4	<0.10	<0.4	0.43387
1330-20-7	Xylenes	<0.40	<1.7	<0.40	<1.7	1.73535

Sample Date Canister No. Sample Location Sample Duration (hr)		29-Jul				
		7804 Downwind 24		7864 Upwind 24		
CAS #	Parameter	Mass Collected	Concentration	Mass Collected	Concentration	Landfill Contribution
		(ppb)	(ug/m ³)	(ppb)	(ug/m ³)	
71-43-2	Benzene	<0.10	<0.3	<0.10	<0.3	<0.0
108-88-3	Toluene	0.30	1.13	0.20	0.75	-0.38
100-41-4	Ethyl Benzene	<0.10	<0.4	<0.10	<0.4	<0.0
1330-20-7	Xylenes	<0.40	<1.7	<0.40	<1.7	<0.0

Sample Date Canister No. Sample Location Sample Duration (hr)		05-Aug				
		2759 Downwind 24		2384 Upwind 24		
CAS #	Parameter	Mass Collected	Concentration	Mass Collected	Concentration	Landfill Contribution
		(ug)	(ug/m ³)	(ug)	(ug/m ³)	
71-43-2	Benzene	<0.10	<0.3	<0.10	<0.3	<0.0
108-88-3	Toluene	0.30	1.13	<0.10	0.38	-0.75
100-41-4	Ethyl Benzene	<0.10	<0.4	<0.10	<0.4	<0.0
1330-20-7	Xylenes	<0.40	<1.7	<0.40	<1.7	<0.0

Sample Date Canister No. Sample Location Sample Duration (hr)		10-Aug				
		2601 Downwind 24		2548 Upwind 24		
CAS #	Parameter	Mass Collected	Concentration	Mass Collected	Concentration	Landfill Contribution
		(ug)	(ug/m ³)	(ug)	(ug/m ³)	
71-43-2	Benzene	<0.10	<0.3	<0.10	<0.3	<0.0
108-88-3	Toluene	<0.10	0.38	<0.10	0.38	0.00
100-41-4	Ethyl Benzene	<0.10	<0.4	<0.10	<0.4	<0.0
1330-20-7	Xylenes	<0.40	<1.7	<0.40	<1.7	<0.0

Summary of Results			
Parameter	Max Downwind Concentration (ug/m ³)	POI Limit (ug/m ³)	% of POI Limit (%)
Benzene	<0.3	-	-
Toluene	1.13	2000	<1
Ethyl Benzene	<0.4	1000	<1
Xylenes	<1.7	730	<1

Note: Concentrations corrected to 101.325 Kpa and 10 °C

APPENDIX A



BTEX Sampling - Recommended Locations for June 23, 2008
 Windrose from On-Site Meteorological Station Showing Winds Blowing From and Mean Wind Speeds

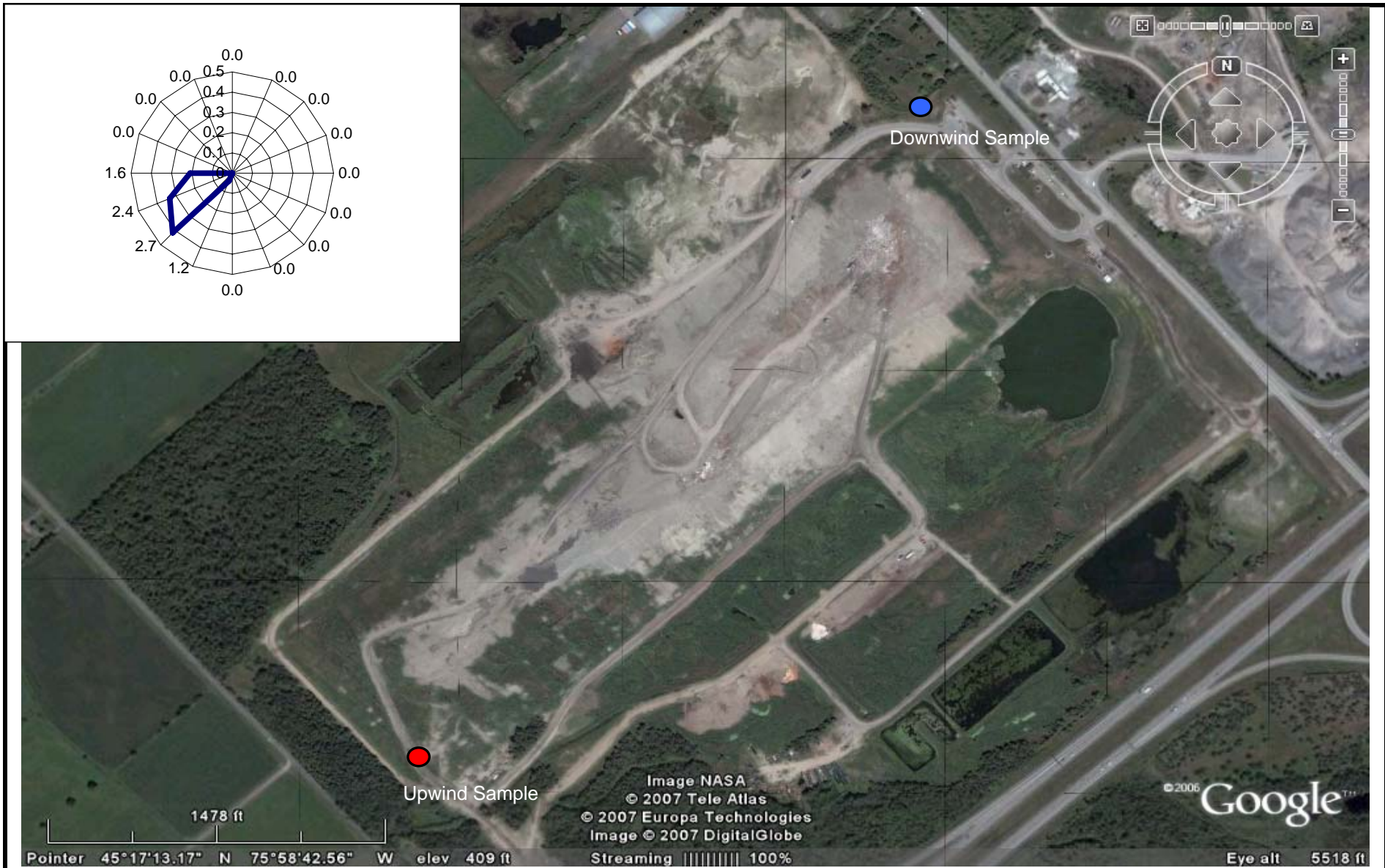
Ottawa Landfill--Ottawa, Ontario

Project #W07-5258C

Figure No.: 1a

Date: June 23, 2008





BTEX Sampling - Recommended Locations for July 5, 2008
 Windrose from On-Site Meteorological Station Showing Winds Blowing From and Mean Wind Speeds

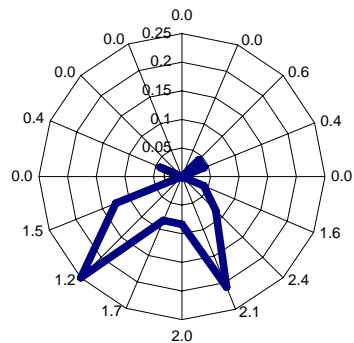
Ottawa Landfill--Ottawa, Ontario

Project #W07-5258C

Figure No.: 1b

Date: July 5, 2008

RWDI



BTEX Sampling - Recommended Locations for July 11, 2008
 Windrose from On-Site Meteorological Station Showing Winds Blowing From and Mean Wind Speeds

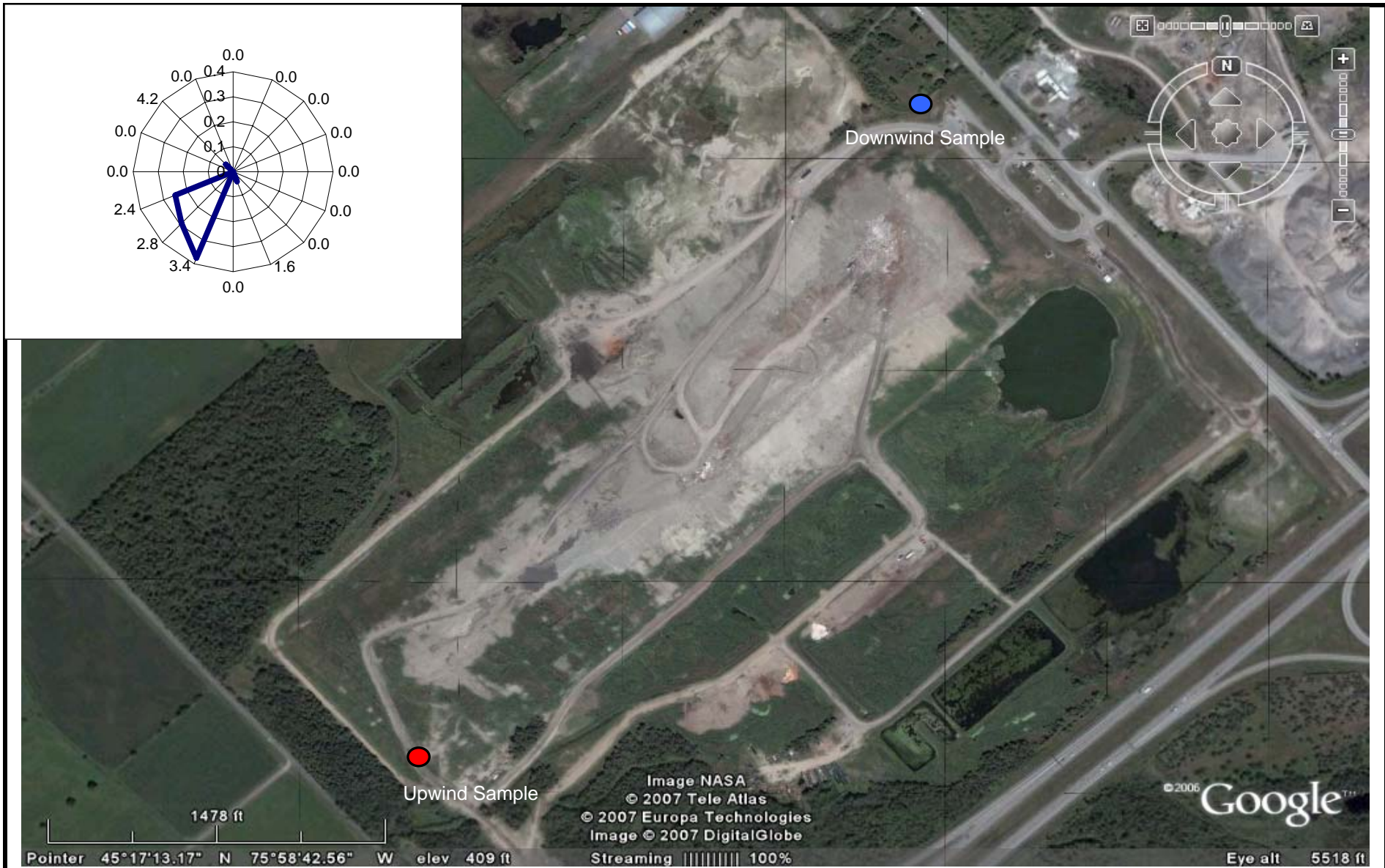
Ottawa Landfill--Ottawa, Ontario

Project #W07-5258C

Figure No.: 1c

Date: July 11, 2008





BTEX Sampling - Recommended Locations for July 17, 2008
 Windrose from On-Site Meteorological Station Showing Winds Blowing From and Mean Wind Speeds

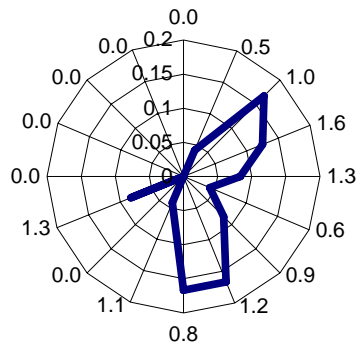
Ottawa Landfill--Ottawa, Ontario

Project #W07-5258C

Figure No.: 1d

Date: July 17, 2008





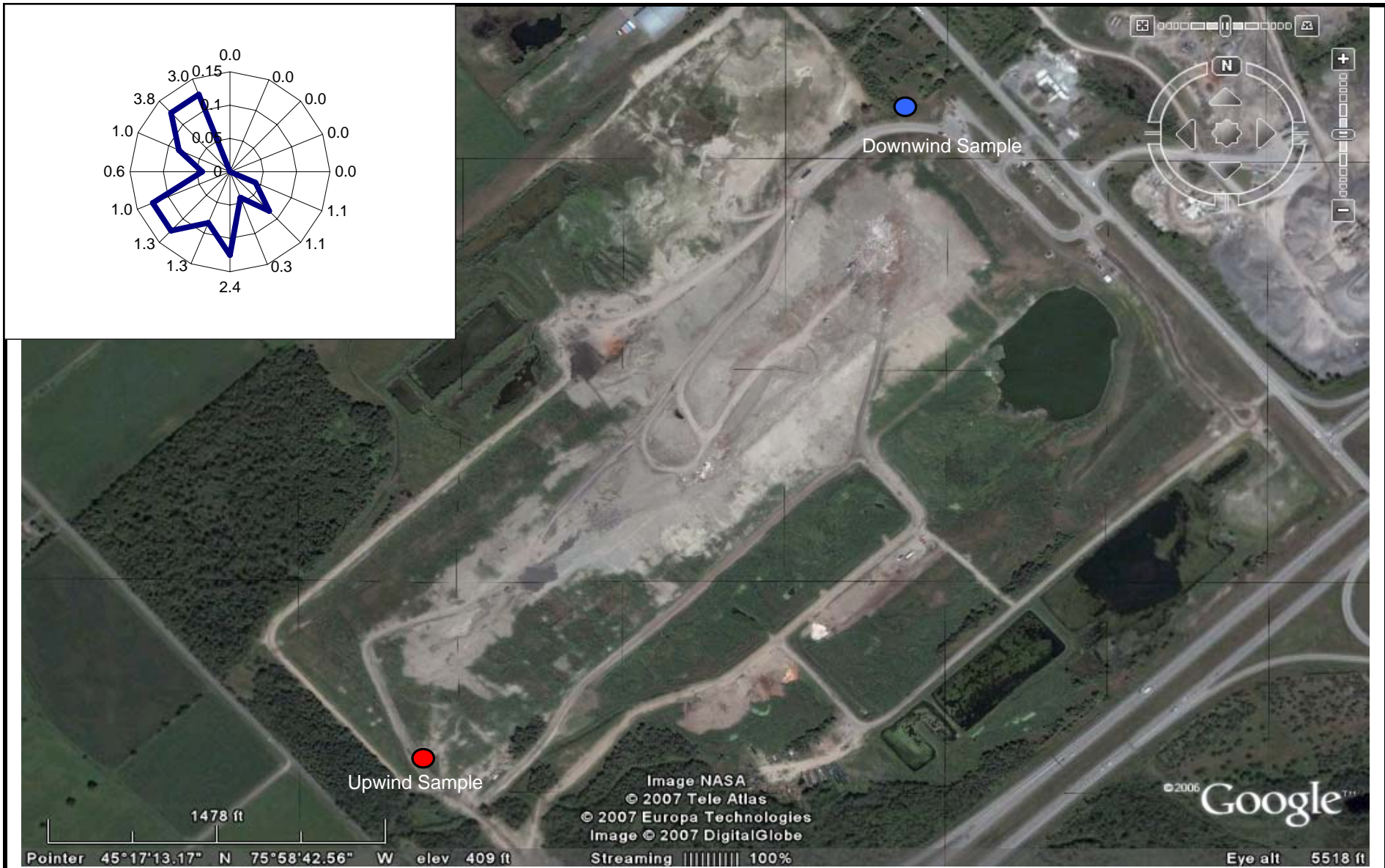
BTEX Sampling - Recommended Locations for July 23, 2008
 Windrose from On-Site Meteorological Station Showing Winds Blowing From and Mean Wind Speeds

Ottawa Landfill--Ottawa, Ontario

Project #W07-5258C

Figure No.:	1e
Date:	July 23, 2008





BTEX Sampling - Recommended Locations for July 29, 2008
 Windrose from On-Site Meteorological Station Showing Winds Blowing From and Mean Wind Speeds

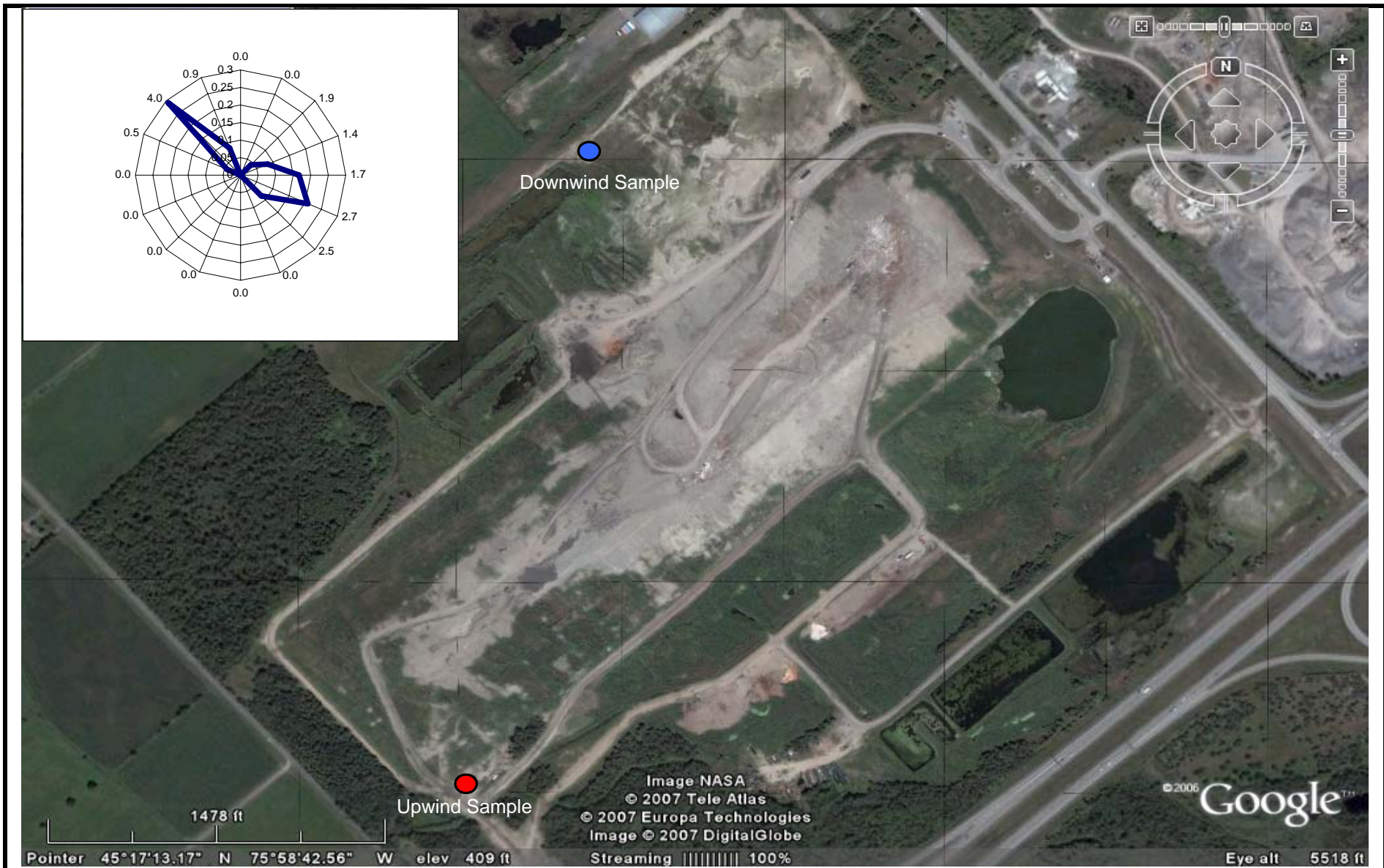
Ottawa Landfill--Ottawa, Ontario

Project #W07-5258C

Figure No.: 1f

Date: July 29, 2008





BTEX Sampling - Recommended Locations for August 5, 2008
 Windrose from On-Site Meteorological Station Showing Winds Blowing From and Mean Wind Speeds

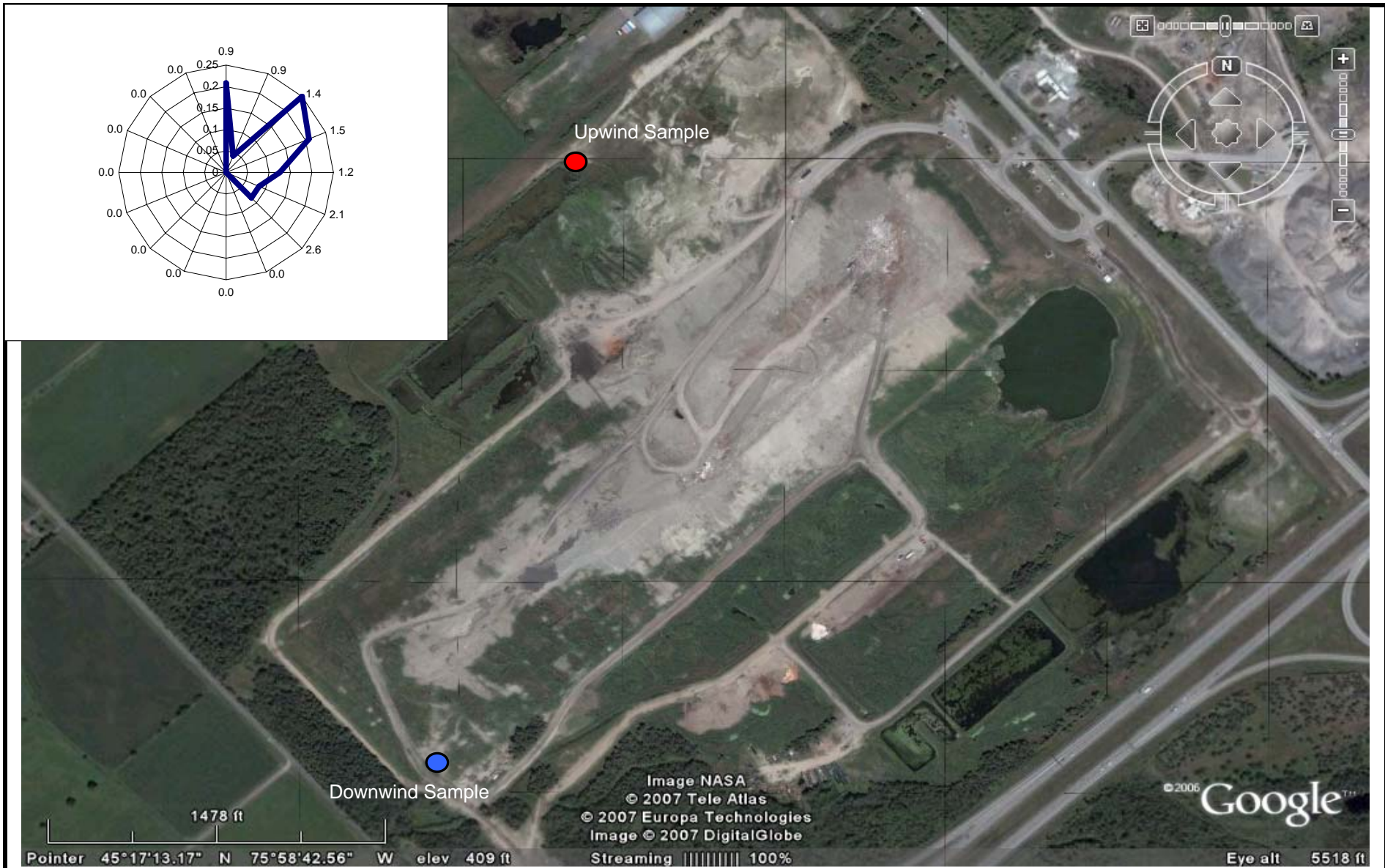
Ottawa Landfill--Ottawa, Ontario

Project #W07-5258C

Figure No.: 1g

Date: August 5, 2008

RWDI



BTEX Sampling - Recommended Locations for August 10, 2008
 Windrose from On-Site Meteorological Station Showing Winds Blowing From and Mean Wind Speeds

Ottawa Landfill--Ottawa, Ontario

Project #W07-5258C

Figure No.: 1h

Date: August 10, 2008

