

MEMORANDUM

TO Dawn MacNeil, STPA
FROM Dianne Theriault
TEL (902) 539-3012
FAX (902) 539-3381
DATE 13th May, 2009

FILE NO. S-1313-16
SHIFT: 0630 to 1830
CC: Shawn Bernon, STPA
Wilfred Kaiser, STPA
Terry Smith, ALL-TECH
STPA NO. TP6D-SP-0054

**SUBJECT: 12th May, 2009 Real-time Air Monitoring Results
Sydney Tar Ponds Agency – Access Roads, South Pond
FINAL REPORT**

Attached is a summary of Real-time particulate (as PM₁₀) results for air monitoring performed on the 12th of May, 2009. Jennifer Andrews and Nigel MacLean of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH) performed all air monitoring activities.

Weather conditions on the day of sampling:

- Mainly sunny
- Temperature: approximately 8°C
- Wind Direction: Northwest to Southwest to Northeast to North to Northeast

Comments: *ALL-TECH was on-Site at 0630 hours and sampling began as soon as there was site activity. Air monitoring was performed during AECOM's construction activities.*

All downwind and upwind measurements of PM₁₀ were below the established Site Action Level for this parameter of 155 µg/m³.

All downwind and upwind measurements of Total Volatile Organic Compounds (TVOC) were below the established Site Action Level for this parameter of 0.66 ppm. Each measurement is the average of a 15 minute sample. A minimum of 2 samples were taken downwind and 1 sample upwind every hour. All measurements were found to be below the detection limit of the instrument. Levels above detection limit will be noted in the table below.

Due to operational criteria, during periods of precipitation (snow and rain) and high humidity, TVOC sampling is halted and resumes after the precipitation has ended.

This report has been prepared by Jennifer Andrews and reviewed by Dianne Theriault. If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,



Dianne Theriault, B.Tech
Environmental Technologist
ALL-TECH Environmental Services Cape Breton Ltd.

Copied via e-mail:

Shawn Bernon shawn@tarpondscleanup.ca, Wilfred Kaiser wilfred@tarpondscleanup.ca, Nancy LeDrew nancy@tarpondscleanup.ca, Trish Magliaro trish@tarpondscleanup.ca, Terry Smith tsmith@toalltech.com, Phyllis Low pilow@toalltech.com, Dianne Theriault dtheriault@toalltech.com, Darren Gardiner dgardiner@croworld.com, Darren Lawless dlawless@toalltech.com, Kevin Mac Pherson kevinmacp@cbcl.ca, Kathy Harquail kharquail@toalltech.com

Real-time Airborne PM₁₀ Concentration Results
Sydney Tar Ponds Agency – Access Roads, South Pond
12th May, 2009

Sample No. & Air Monitoring Location	Time of Day	PM ₁₀ Action Level (µg/m ³)	Average Result (µg/m ³)	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
1 5m Northwest of fixed station on Intercolonial St.	0700	155	12	Northwest	Upwind	Background	No observations seen to affect sampling integrity
2 50m North of Plaza Ford	0700	155	15	Northwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
3 50m North of Plaza Ford	0725	155	19	Northwest	Downwind	Excavators, dump trucks moving material	No observations seen to affect sampling integrity
4 5m Northwest of fixed station on Intercolonial St.	0800	155	12	Northwest	Upwind	Background	No observations seen to affect sampling integrity
5 50m North of Plaza Ford	0800	155	14	Northwest	Downwind	Excavators, dump trucks moving material	No observations seen to affect sampling integrity
6 60m South of Cape Breton St. and Inglis St. intersection	0840	155	12	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity

Sample No. & Air Monitoring Location	Time of Day	PM ₁₀ Action Level (µg/m ³)	Average Result (µg/m ³)	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
7 60m North of Pitt St. and Dodd St. intersection	0900	155	12	Southwest	Upwind	Background	No observations seen to affect sampling integrity
8 60m South of Cape Breton St. and Inglis St. intersection	0900	155	20	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
9 30m East of Pitt St. and Dodd St. intersection	0940	155	22	Northeast	Downwind	Excavator moving material	No observations seen to affect sampling integrity
10 20m East of Ferry St. and Inglis St. intersection	1000	155	14	Northeast	Upwind	Background	No observations seen to affect sampling integrity
11 30m East of Pitt St. and Dodd St. intersection	1000	155	13	Northeast	Downwind	Excavator moving material	No observations seen to affect sampling integrity
12 30m East of Pitt St. and Dodd St. intersection	1020	155	15	Northeast	Downwind	Excavator moving material	No observations seen to affect sampling integrity
13 20m East of Ferry St. and Inglis St. intersection	1100	155	13	Northeast	Upwind	Background	No observations seen to affect sampling integrity

Sample No. & Air Monitoring Location	Time of Day	PM ₁₀ Action Level (µg/m ³)	Average Result (µg/m ³)	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
14 30m East of Pitt St. and Dodd St. intersection	1100	155	18	Northeast	Downwind	Excavator, dump trucks moving material	No observations seen to affect sampling integrity
15 30m East of Pitt St. and Dodd St. intersection	1125	155	17	Northeast	Downwind	Excavator, dump trucks moving material	No observations seen to affect sampling integrity
16 60m North of Ferry St. and Railway Rd. intersection	1200	155	15	North	Upwind	Background	No observations seen to affect sampling integrity
17 25m Northwest of Plaza Ford	1200	155	18	North	Downwind	No activity observed on site	No observations seen to affect sampling integrity
18 25m Northwest of Plaza Ford	1240	155	17	North	Downwind	No activity observed on site	No observations seen to affect sampling integrity
19 20m East of Ferry St. and Inglis St. intersection	1300	155	11	Northeast	Upwind	Background	No observations seen to affect sampling integrity
20 30m East of Pitt St. and Dodd St. intersection	1300	155	18	Northeast	Downwind	Excavator, dump trucks moving material	No observations seen to affect sampling integrity

Sample No. & Air Monitoring Location	Time of Day	PM ₁₀ Action Level (µg/m ³)	Average Result (µg/m ³)	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
21 30m East of Pitt St. and Dodd St. intersection	1335	155	16	Northeast	Downwind	Excavator, dump trucks moving material	No observations seen to affect sampling integrity
22 20m East of Ferry St. and Inglis St. intersection	1400	155	9	Northeast	Upwind	Background	No observations seen to affect sampling integrity
23 30m East of Pitt St. and Dodd St. intersection	1400	155	14	Northeast	Downwind	Excavator, dump trucks moving material	No observations seen to affect sampling integrity
24 30m East of Pitt St. and Dodd St. intersection	1440	155	14	Northeast	Downwind	Excavator, dump trucks moving material	No observations seen to affect sampling integrity
25 20m East of Ferry St. and Inglis St. intersection	1500	155	9	Northeast	Upwind	Background	No observations seen to affect sampling integrity
26 30m East of Pitt St. and Dodd St. intersection	1500	155	12	Northeast	Downwind	Excavator, dump trucks moving material	No observations seen to affect sampling integrity
27 30m East of Pitt St. and Dodd St. intersection	1525	155	12	Northeast	Downwind	Excavator, dump trucks moving material	No observations seen to affect sampling integrity

Sample No. & Air Monitoring Location	Time of Day	PM ₁₀ Action Level (µg/m ³)	Average Result (µg/m ³)	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
28 20m East of Ferry St. and Inglis St. intersection	1600	155	11	Northeast	Upwind	Background	No observations seen to affect sampling integrity
29 30m East of Pitt St. and Dodd St. intersection	1600	155	13	Northeast	Downwind	Excavator, dump trucks moving material	No observations seen to affect sampling integrity
30 30m East of Pitt St. and Dodd St. intersection	1640	155	15	Northeast	Downwind	Excavator, dump trucks moving material	No observations seen to affect sampling integrity
31 20m East of Ferry St. and Inglis St. intersection	1700	155	10	Northeast	Upwind	Background	No observations seen to affect sampling integrity
32 30m East of Pitt St. and Dodd St. intersection	1700	155	13	Northeast	Downwind	Machines being refuelled	No observations seen to affect sampling integrity
33 30m East of Pitt St. and Dodd St. intersection	1745	155	12	Northeast	Downwind	No activity observed on site	No observations seen to affect sampling integrity

Notes: Air sample duration for each monitoring event was 15 minutes.

Comparison of Downwind Daily Results for Dust Budget

Location	Duration	Dust Budget Value ($\mu\text{g}/\text{m}^3$)	Dust Budget Exceedance Value ($\mu\text{g}/\text{m}^3$)
50m North of Plaza Ford	0700 to 0759	17	990
50m North of Plaza Ford / 60m South of Cape Breton St. and Inglis St. intersection	0800 to 0859	30	990
60m South of Cape Breton St. and Inglis St. intersection / 30m East of Pitt St. and Dodd St. intersection	0900 to 0959	51	990
30m East of Pitt St. and Dodd St. intersection	1000 to 1059	65	990
30m East of Pitt St. and Dodd St. intersection	1100 to 1159	83	990
25m Northwest of Plaza Ford	1200 to 1259	101	990
30m East of Pitt St. and Dodd St. Intersection	1300 to 1359	118	990
30m East of Pitt St. and Dodd St. Intersection	1400 to 1459	132	990
30m East of Pitt St. and Dodd St. Intersection	1500 to 1559	144	990
30m East of Pitt St. and Dodd St. Intersection	1600 to 1659	158	990
30m East of Pitt St. and Dodd St. Intersection	1700 to 1759	171	990

VOC Monitoring

Monitoring Method	Yes	No
Sustained Odours Observed		●
P.I.D. Required	●	