

MEMORANDUM

TO	Dawn MacNeil, STPA	FILE NO.	S-1100-23
FROM	Grant Harrigan	SHIFT:	0630 to 1845
TEL	(902) 539-3012	CC:	Shawn Bernon, STPA
FAX	(902) 539-3381		Wilfred Kaiser, STPA
DATE	28 th March, 2008		Terry Smith, ALL-TECH
		STPA NO.	CP-0108

**SUBJECT: 27th March, 2008, Real-time Air Monitoring Results
Sydney Tar Ponds Agency – Cooling Pond
FINAL REPORT**

Attached is a summary of Real-time particulate (as PM₁₀) results for air monitoring performed on the 27th of March, 2008. Colin MacIsaac and Reggie Peters of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH), performed all air monitoring activities.

Weather conditions on the day of sampling:

- Mainly clear skies with some cloud cover
- Temperature: approximately 0°C (data unavailable from Environment Canada)
- Wind Direction: West to Northwest

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

The downwind location had two exceedances. The first exceedance occurred at 1100 with an average of 273 µg/m³ and the second exceedance occurred at 1135 with an average of 155 µg/m³. ALL-TECH contacted EarthTech to inform them following each exceedance.

ALL-TECH performs continuous sampling for one hour following an exceedance.

All 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 well 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), TVOC sampling is halted and resumes after the precipitation has ended.

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

Sincerely,



Grant Harrigan, B.Tech
Environmental Technologist
ALL-TECH Environmental Services Cape Breton Ltd.

Copied via e-mail:

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Real-time Airborne PM₁₀ Concentration Results
Sydney Tar Ponds Agency – Cooling Pond
27th March, 2008

Sample No. & Air Monitoring Location	Time of Day	PM₁₀ Action Level (µg/m³)	Average Result (µg/m³)	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
1 25m Southeast of Ferry Street, Walker Street intersection	0710	155	10	West	Upwind	Background	No observations seen to effect sampling integrity
2 40m Southwest of STPA building	0710	155	11	West	Downwind	No activity observed	No observations seen to effect sampling integrity
3 40m Southwest of STPA building	0745	155	12	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
4 25m Southeast of Ferry Street, Walker Street intersection	0800	155	9	West	Upwind	Background	No observations seen to effect sampling integrity
5 40m Southwest of STPA building	0800	155	9	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
6 60m Southwest of STPA building	0825	155	24	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
7 25m Southeast of Ferry Street, Walker Street intersection	0900	155	9	West	Upwind	Background	No observations seen to effect 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
8 60m Southwest of STPA building	0900	155	8	West	Downwind	Payloader moving material	No observations seen to effect sampling integrity
9 80m Southwest of STPA building	0945	155	30	Northwest	Downwind	Payloader moving material	No observations seen to effect sampling integrity
10 25m Southeast of Ferry Street, Walker Street intersection	1000	155	8	Northwest	Upwind	Background	No observations seen to effect sampling integrity
11 80m Southwest of STPA building	1000	155	21	Northwest	Downwind	Payloader moving material	No observations seen to effect sampling integrity
12 80m Southwest of STPA building	1030	155	12	Northwest	Downwind	Payloader moving material	No observations seen to effect sampling integrity
13 40m Southeast of Ferry Street, Walker Street intersection	1100	155	9	West	Upwind	Background	No observations seen to effect sampling integrity
14 60m Southwest of STPA building	1100	155	273	Northwest	Downwind	Excavators moving material	Visible dust coming from activity site
15 40m Southeast of Ferry Street, Walker Street intersection	1120	155	8	West	Upwind	Background	No observations seen to effect 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
16 60m Southwest of STPA building	1120	155	7	Northwest	Downwind	No activity observed	No activity observed on-Site
17 40m Southeast of Ferry Street, Walker Street intersection	1135	155	8	West	Upwind	Background	No observations seen to effect sampling integrity
18 60m Southwest of STPA building	1135	155	155	Northwest	Downwind	Excavators moving material	Visible dust coming from activity site
19 40m Southeast of Ferry Street, Walker Street intersection	1150	155	9	West	Upwind	Background	No observations seen to effect sampling integrity
20 60m Southwest of STPA building	1150	155	14	Northwest	Downwind	No activity observed	No activity observed on-Site
21 40m Southeast of Ferry Street, Walker Street intersection	1205	155	10	West	Upwind	Background	No observations seen to effect sampling integrity
22 60m Southwest of STPA building	1205	155	9	Northwest	Downwind	No activity observed	No activity observed on-Site
23 60m Southwest of STPA building	1225	155	14	Northwest	Downwind	No activity observed	No observations seen to effect 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
24 60m Southwest of STPA building	1245	155	67	Northwest	Downwind	Excavators moving material	Visible dust coming from activity site
25 40m Southeast of Ferry Street, Walker Street intersection	1300	155	10	West	Upwind	Background	No observations seen to effect sampling integrity
26 60m Southwest of STPA building	1300	155	38	Northwest	Downwind	Excavators moving material	Visible dust coming from activity site
27 60m Southwest of STPA building	1315	155	31	Northwest	Downwind	Excavators moving material	Visible dust coming from activity site
28 40m Southeast of Ferry Street, Walker Street intersection	1400	155	13	West	Upwind	Background	No observations seen to effect sampling integrity
29 40m Southwest of STPA building	1400	155	15	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
30 40m Southwest of STPA building	1445	155	16	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
31 40m Southeast of Ferry Street, Walker Street intersection	1500	155	13	West	Upwind	Background	No observations seen to effect 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
32 40m Southwest of STPA building	1500	155	14	Northwest	Downwind	Excavator moving material	No observations seen to effect sampling integrity
33 40m Southwest of STPA building	1545	155	9	Northwest	Downwind	Compactor operating	No observations seen to effect sampling integrity
34 40m Southeast of Ferry Street, Walker Street intersection	1600	155	11	West	Upwind	Background	No observations seen to effect sampling integrity
35 40m Southwest of STPA building	1600	155	11	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
36 40m Southwest of STPA building	1620	155	8	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
37 20m Southeast of Ferry Street, Walker Street intersection	1700	155	9	Northwest	Upwind	Background	No observations seen to effect sampling integrity
38 40m Southwest of STPA building	1700	155	7	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
39 40m Southwest of STPA building	1720	155	6	Northwest	Downwind	Vacuum truck pumping	No observations seen to effect 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
40 20m Southeast of Ferry Street, Walker Street intersection	1800	155	9	Northwest	Upwind	Background	No observations seen to effect sampling integrity
41 40m Southwest of STPA building	1800	155	6	Northwest	Downwind	No activity observed	No observations seen to effect 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 (µg/m ³)	Dust Budget Exceedance Value (µg/m ³)
40m Southwest of STPA building	0700 to 0759	12	990
40m Southwest of STPA building	0800 to 0859	29	990
60m Southwest of STPA building	0900 to 0959	48	990
80m Southwest of STPA building	1000 to 1059	65	990
60m Southwest of STPA building	1100 to 1159	178	990

Location	Duration	Dust Budget Value ($\mu\text{g}/\text{m}^3$)	Dust Budget Exceedance Value ($\mu\text{g}/\text{m}^3$)
60m Southwest of STPA building	1200 to 1259	208	990
60m Southwest of STPA building	1300 to 1359	243	990
40m Southwest of STPA building	1400 to 1459	259	990
40m Southwest of STPA building	1500 to 1559	271	990
40m Southwest of STPA building	1600 to 1659	281	990
40m Southwest of STPA building	1700 to 1759	288	990
40m Southwest of STPA building	1800 to 1859	294	990

VOC Monitoring

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