

MEMORANDUM

TO	Dawn MacNeil, STPA	FILE NO.	S-1114-03
FROM	Grant Harrigan	SHIFT:	0630 to 2045
TEL	(902) 539-3012	CC:	Shawn Bernon, STPA
FAX	(902) 539-3381		Wilfred Kaiser, STPA
DATE	4 th April, 2008		Terry Smith, ALL-TECH
		STPA NO.	CP-0114

**SUBJECT: 3rd April, 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 3rd of April, 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:

- Clear Skies
- Temperature: approximately 1°C (data unavailable from Environment Canada)
- Wind Direction: 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 5 exceedances: the first exceedance occurred at 1515 with an average of 238 µg/m³, the second exceedance occurred at 1650 with an average of 213 µg/m³, the third exceedance occurred at 1740 with an average of 157 µg/m³, the fourth exceedance occurred at 1815 with an average of 169 µg/m³, and the fifth exceedance occurred at 1920 with an average of 156 µg/m³. ALL-TECH contacted EarthTech to let them know after each exceedance.

ALL-TECH performs continuous monitoring after each exceedance.

ALL-TECH took a conservative approach by contacting EarthTech to let them know that they had exceeded the budget. The dust budget calculation below clearly shows that the budget was not exceeded for the day.

Budget (at 2000)

$990 \mu\text{g}/\text{m}^3 > (\text{Budget to that point}) + (\text{Highest reading that day} \times 1\text{hr}) + (33 \mu\text{g}/\text{m}^3 \times \text{remaining work hours})$

$990 \mu\text{g}/\text{m}^3 > (659 \mu\text{g}/\text{m}^3) + (238 \mu\text{g}/\text{m}^3) + (33 \mu\text{g}/\text{m}^3)$

$990 \mu\text{g}/\text{m}^3 > 930 \mu\text{g}/\text{m}^3$

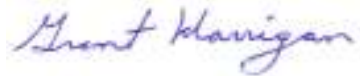
All upwind measurements of PM₁₀ were below the established Site Action Level for this parameter of 155 µg/m³.

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
3rd April, 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 20m Southeast of Ferry Street, Walker Street intersection	0710	155	12	Northwest	Upwind	Background	No observations seen to effect sampling integrity
2 20m Southeast of Inglis Street, Cape Breton Street intersection	0710	155	19	Northwest	Downwind	No activity observed on-Site	No observations seen to effect sampling integrity
3 20m Southeast of Inglis Street, Cape Breton Street intersection	0735	155	17	Northwest	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
4 20m Southeast of Ferry Street, Walker Street intersection	0800	155	14	Northwest	Upwind	Background	No observations seen to effect sampling integrity
5 20m Southeast of Inglis Street, Cape Breton Street intersection	0800	155	15	Northwest	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
6 20m Southeast of Inglis Street, Cape Breton Street intersection	0845	155	15	Northwest	Downwind	Excavators moving materials	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
7 20m Southeast of Ferry Street, Walker Street intersection	0900	155	18	Northwest	Upwind	Background	No observations seen to effect sampling integrity
8 20m Southeast of Inglis Street, Cape Breton Street intersection	0900	155	14	Northwest	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
9 20m Southeast of Inglis Street, Cape Breton Street intersection	0935	155	20	Northwest	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
10 40m East of Ferry Street bridge	1000	155	19	Northwest	Upwind	Background	No observations seen to effect sampling integrity
11 20m Southeast of Inglis Street, Cape Breton Street intersection	1000	155	16	Northwest	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
12 5m Northeast of Inglis Street, Cape Breton Street intersection	1045	155	28	Northwest	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
13 40m East of Ferry Street bridge	1100	155	18	Northwest	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
14 5m Northeast of Inglis Street, Cape Breton Street intersection	1100	155	23	Northwest	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
15 5m Northeast of Inglis Street, Cape Breton Street intersection	1125	155	25	Northwest	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
16 20m Southeast of Ferry Street, Walker Street intersection	1200	155	19	Northwest	Upwind	Background	No observations seen to effect sampling integrity
17 5m Northeast of Inglis Street, Cape Breton Street intersection	1200	155	22	Northwest	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
18 5m Northeast of Inglis Street, Cape Breton Street intersection	1245	155	35	Northwest	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
19 20m Southeast of Ferry Street, Walker Street intersection	1300	155	19	Northwest	Upwind	Background	No observations seen to effect sampling integrity
20 5m Northeast of Inglis Street, Cape Breton Street intersection	1300	155	22	Northwest	Downwind	Excavators moving materials	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
21 50m Southwest of STPA building	1330	155	34	Northwest	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
22 20m Southeast of Ferry Street, Walker Street intersection	1400	155	16	Northwest	Upwind	Background	No observations seen to effect sampling integrity
23 50m Southwest of STPA building	1400	155	42	Northwest	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
24 50m Southwest of STPA building	1420	155	47	Northwest	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
25 20m Southeast of Ferry Street, Walker Street intersection	1500	155	13	Northwest	Upwind	Background	No observations seen to effect sampling integrity
26 50m Southwest of STPA building	1500	155	35	Northwest	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
27 50m Southwest of STPA building	1515	155	238	Northwest	Downwind	Excavators moving materials	Visible dust coming from activity site
28 50m Southwest of STPA building	1530	155	31	Northwest	Downwind	No activity observed on-Site	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
29 20m Southeast of Ferry Street, Walker Street intersection	1535	155	13	Northwest	Upwind	Background	No observations seen to effect sampling integrity
30 50m Southwest of STPA building	1545	155	26	Northwest	Downwind	No activity observed on-Site	No observations seen to effect sampling integrity
31 20m Southeast of Ferry Street, Walker Street intersection	1550	155	13	Northwest	Upwind	Background	No observations seen to effect sampling integrity
32 50m Southwest of STPA building	1600	155	76	Northwest	Downwind	Excavators moving materials	Visible dust coming from activity site
33 20m Southeast of Ferry Street, Walker Street intersection	1605	155	12	Northwest	Upwind	Background	No observations seen to effect sampling integrity
34 50m Southwest of STPA building	1620	155	128	Northwest	Downwind	Excavators moving materials	Visible dust coming from activity site
35 50m Southwest of STPA building	1635	155	91	Northwest	Downwind	Excavators moving materials	Visible dust coming from activity site
36 50m Southwest of STPA building	1650	155	213	Northwest	Downwind	Excavators moving materials	Visible dust coming from activity site

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
37 50m Southwest of STPA building	1705	155	43	Northwest	Downwind	No activity observed on-Site	No observations seen to effect sampling integrity
38 20m Southeast of Ferry Street, Walker Street intersection	1710	155	14	Northwest	Upwind	Background	No observations seen to effect sampling integrity
39 50m Southwest of STPA building	1725	155	48	Northwest	Downwind	No activity observed	No observations seen to effect sampling integrity
40 50m Southwest of STPA building	1740	155	157	Northwest	Downwind	Excavators moving material	Visible dust coming from activity site
41 20m Southeast of Ferry Street, Walker Street intersection	1800	155	9	Northwest	Upwind	Background	No observations seen to effect sampling integrity
42 50m Southwest of STPA building	1800	155	19	Northwest	Downwind	No activity observed on-Site	No observations seen to effect sampling integrity
43 50m Southwest of STPA building	1815	155	169	Northwest	Downwind	Excavators moving material	Visible dust coming from activity site
44 20m Southeast of Ferry Street, Walker Street intersection	1830	155	9	Northwest	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
45 50m Southwest of STPA building	1830	155	21	Northwest	Downwind	No activity observed on-Site	No observations seen to effect sampling integrity
46 20m Southeast of Ferry Street, Walker Street intersection	1850	155	8	Northwest	Upwind	Background	No observations seen to effect sampling integrity
47 50m Southwest of STPA building	1850	155	71	Northwest	Downwind	Excavators moving material	Visible dust coming from activity site
48 20m Southeast of Ferry Street, Walker Street intersection	1905	155	8	Northwest	Upwind	Background	No observations seen to effect sampling integrity
49 50m Southwest of STPA building	1905	155	36	Northwest	Downwind	No activity observed on-Site	No observations seen to effect sampling integrity
50 50m Southwest of STPA building	1920	155	156	Northwest	Downwind	Excavators moving material	Visible dust coming from activity site
51 50m Southwest of STPA building	1935	155	105	Northwest	Downwind	Excavators moving material	Visible dust coming from activity site
52 20m Southeast of Ferry Street, Walker Street intersection	2000	155	10	Northwest	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
53 50m Southwest of STPA building	2000	155	30	Northwest	Downwind	No activity observed on-Site	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)
20m Southeast of Inglis Street, Cape Breton Street intersection	0700 to 0759	18	990
20m Southeast of Inglis Street, Cape Breton Street intersection	0800 to 0859	33	990
20m Southeast of Inglis Street, Cape Breton Street intersection	0900 to 0959	50	990
20m Southeast of Inglis Street, Cape Breton Street intersection	1000 to 1059	72	990
5m Northeast of Inglis Street, Cape Breton Street intersection	1100 to 1159	96	990
5m Northeast of Inglis Street, Cape Breton Street intersection	1200 to 1259	125	990

Location	Duration	Dust Budget Value ($\mu\text{g}/\text{m}^3$)	Dust Budget Exceedance Value ($\mu\text{g}/\text{m}^3$)
5m Northeast of Inglis Street, Cape Breton Street intersection	1300 to 1359	153	990
50m Southwest of STPA building	1400 to 1459	198	990
50m Southwest of STPA building	1500 to 1559	281	990
50m Southwest of STPA building	1600 to 1659	408	990
50m Southwest of STPA building	1700 to 1759	490	990
50m Southwest of STPA building	1800 to 1859	560	990
50m Southwest of STPA building	1900 to 1959	659	990
50m Southwest of STPA building	2000 to 2059	689	990

VOC Monitoring

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