

MEMORANDUM

TO Dawn MacNeil, STPA
FROM Grant Harrigan
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DATE 24th January, 2008

FILE NO. S-1053-18
SHIFT: 0630 to 1745
CC: Shawn Bernon, STPA
Wilfred Kaiser, STPA
Terry Smith, ALL-TECH
STPA NO. CP-0051

**SUBJECT: 23rd January, 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 23rd of January, 2008. Grant Harrigan and Reggie Peters of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH), performed all air monitoring activities on the Cooling Pond Site.

Weather conditions on the day of sampling:

- Overcast changing to clear skies in the afternoon
- Temperature: approximately -1°C (data unavailable from Environment Canada)
- Wind Direction: West

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.*

All downwind and upwind measurements of PM₁₀ were well 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.

This report has been prepared by Grant Harrigan and reviewed by 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
23rd January, 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 200m South of Intercolonial Street fixed monitoring station	0715	155	10	West	Upwind	Background	No observations seen to effect sampling integrity
2 30m South of STPA office	0715	155	11	West	Downwind	No visible activity	No observations seen to effect sampling integrity
3 30m South of STPA office	0732	155	12	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
4 25m South of STPA office	0815	155	14	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
5 200m South of Intercolonial Street fixed monitoring station	0816	155	11	West	Upwind	Background	No observations seen to effect sampling integrity
6 25m South of STPA office	0833	155	16	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
7 200m South of Intercolonial Street fixed monitoring station	0915	155	14	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 25m South of STPA office	0915	155	16	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
9 25m South of STPA office	0933	155	15	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
10 30m South of STPA office	1015	155	14	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
11 200m South of Intercolonial Street fixed monitoring station	1016	155	13	West	Upwind	Background	No observations seen to effect sampling integrity
12 30m South of STPA office	1032	155	15	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
13 200m South of Intercolonial Street fixed monitoring station	1110	155	12	West	Upwind	Background	No observations seen to effect sampling integrity
14 40m Southwest of STPA office	1115	155	29	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
15 40m Southwest of STPA office	1131	155	15	West	Downwind	Excavators moving material	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 40m Southwest of STPA office	1215	155	12	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
17 200m South of Intercolonial Street fixed monitoring station	1216	155	12	West	Upwind	Background	No observations seen to effect sampling integrity
18 40m Southwest of STPA office	1232	155	17	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
19 200m South of Intercolonial Street fixed monitoring station	1315	155	11	West	Upwind	Background	No observations seen to effect sampling integrity
20 30m Southwest of STPA office	1315	155	17	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
21 30m Southwest of STPA office	1332	155	21	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
22 30m Southwest of STPA office	1415	155	11	West	Downwind	Excavators moving material	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
23 200m South of Intercolonial Street fixed monitoring station	1416	155	11	West	Upwind	Background	No observations seen to effect sampling integrity
24 30m Southwest of STPA office	1431	155	13	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
25 200m South of Intercolonial Street fixed monitoring station	1515	155	12	West	Upwind	Background	No observations seen to effect sampling integrity
26 25m Southwest of STPA office	1515	155	15	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
27 25m Southwest of STPA office	1531	155	13	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
28 20m West of STPA office	1615	155	16	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
29 200m South of Intercolonial Street fixed monitoring station	1616	155	17	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
30 40m Northwest of STPA office	1635	155	19	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
31 40m Northwest of STPA office	1700	155	26	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
32 200m South of Intercolonial Street fixed monitoring station	1700	155	26	West	Upwind	Background	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 ($\mu\text{g}/\text{m}^3$)	Dust Budget Exceedance Value ($\mu\text{g}/\text{m}^3$)
30m South of STPA office	0715 to 0747	12	990
25m South of STPA office	0815 to 0848	27	990
25m South of STPA office	0915 to 0948	43	990
30m South of STPA office	1015 to 1047	58	990
40m Southwest of STPA office	1115 to 1146	80	990
40m Southwest of STPA office	1215 to 1247	95	990
30m Southwest of STPA office	1315 to 1347	115	990
30m Southwest of STPA office	1415 to 1446	127	990
25m Southwest of STPA office	1515 to 1546	141	990
20m Southwest of STPA office / 40m Northwest of STPA office	1615 to 1650	159	990

Location	Duration	Dust Budget Value ($\mu\text{g}/\text{m}^3$)	Dust Budget Exceedance Value ($\mu\text{g}/\text{m}^3$)
40m Northwest of STPA office	1700 to 1715	185	990

VOC Monitoring

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

*P.I.D. was used for all samples and was below detection level.