

MEMORANDUM

TO Dawn MacNeil, STPA
FROM Grant Harrigan
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DATE 25th January 2008

FILE NO. S-1053-19
SHIFT: 0630 to 1945
CC: Shawn Bernon, STPA
Wilfred Kaiser, STPA
Terry Smith, ALL-TECH

STPA NO. CP-0051

**SUBJECT: 24th 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 24th of January, 2008. Peter Ibrahim and Reggie Peters of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH), performed all air monitoring activities on the Cooling Pond.

Weather conditions on the day of sampling:

- Clear skies with periodic flurries
- Temperature: -5°C (data unavailable from Environment Canada)
- Wind Direction: West to Southwest 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.*

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
24th 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 300m South of Intercolonial Street Fixed Station	0700	155	2	Southwest	Upwind	Background	No observations seen to effect sampling integrity
2 100m North of STPA office	0700	155	19	Southwest	Downwind	No visible activity on-Site	No observations seen to effect sampling integrity
3 100m North of STPA office	0718	155	17	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
4 110m North of STPA office	0800	155	26	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
5 300m South of Intercolonial Street Fixed Station	0804	155	20	Southwest	Upwind	Background	No observations seen to effect sampling integrity
6 110m North of STPA office	0817	155	24	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
7 300m South of Intercolonial Street Fixed Station	0900	155	22	Southwest	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 110m North of STPA office	0900	155	27	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
9 110m North of STPA office	0918	155	22	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
10 300m South of Intercolonial Street Fixed Station	1000	155	17	Southwest	Upwind	Background	No observations seen to effect sampling integrity
11 60m Northwest of STPA office	1000	155	10	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
12 60m Northwest of STPA office	1017	155	11	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
13 300m South of Intercolonial Street Fixed Station	1100	155	14	Southwest	Upwind	Background	No observations seen to effect sampling integrity
14 30m Northwest of STPA office	1100	155	14	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
15 30m Northwest of STPA office	1116	155	19	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 15m Northwest of STPA office	1200	155	48	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
17 150m South of Intercolonial Street Fixed Station	1205	155	11	West	Upwind	Background	No observations seen to effect sampling integrity
18 15m Northwest of STPA office	1216	155	18	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
19 150m South of Intercolonial Street Fixed Station	1300	155	8	West	Upwind	Background	No observations seen to effect sampling integrity
20 15m Northwest of STPA office	1300	155	8	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
21 15m West of STPA office	1319	155	11	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
22 150m South of Intercolonial Street Fixed Station	1400	155	9	West	Upwind	Background	No observations seen to effect sampling integrity
23 100m Southwest of STPA office	1402	155	9	Northwest	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
24 100m Southwest of STPA office	1418	155	10	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
25 200m South of Intercolonial Street Fixed Station	1502	155	8	Northwest	Upwind	Background	No observations seen to effect sampling integrity
26 130m Southwest of STPA office	1500	155	12	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
27 130m Southwest of STPA office	1515	155	15	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
28 130m Southwest of STPA office	1600	155	8	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
29 200m South of Intercolonial Street Fixed Station	1603	155	7	Northwest	Upwind	Background	No observations seen to effect sampling integrity
30 130m Southwest of STPA office	1615	155	5	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
31 200m South of Intercolonial Street Fixed Station	1700	155	8	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
32 130m Southwest of STPA office	1700	155	10	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
33 130m Southwest of STPA office	1716	155	6	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
34 25m Northwest of STPA office	1751	155	10	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
35 200m South of Intercolonial Street Fixed Station	1800	155	8	Northwest	Upwind	Background	No observations seen to effect sampling integrity
36 30m Southwest of STPA office	1807	155	6	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
37 30m Southwest of STPA office	1822	155	7	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
38 200m South of Intercolonial Street Fixed Station	1400	155	7	Northwest	Upwind	Background	No observations seen to effect sampling integrity
39 30m Southwest of STPA office	1900	155	5	Northwest	Downwind	No visible activity 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 ($\mu\text{g}/\text{m}^3$)	Dust Budget Exceedance Value ($\mu\text{g}/\text{m}^3$)
100m North of STPA office	0700 to 0733	18	990
110m North of STPA office	0800 to 0832	43	990
110m North of STPA office	0900 to 0933	68	990
60m Northwest of STPA office	1000 to 1032	79	990
30m Northwest of STPA office	1100 to 1131	96	990
15m Northwest of STPA office	1200 to 1231	129	990
15m Northwest / 15m West of STPA office	1300 to 1334	139	990
100m Southwest of STPA office	1402 to 1433	149	990
130m Southwest of STPA office	1500 to 1530	163	990
130m Southwest of STPA office	1600 to 1630	170	990

Location	Duration	Dust Budget Value ($\mu\text{g}/\text{m}^3$)	Dust Budget Exceedance Value ($\mu\text{g}/\text{m}^3$)
130m Southwest of STPA office	1700 to 1731	178	990
25m Northwest / 30m Southwest of STPA office	1751 to 1822	186	990
30m Southwest of STPA office	1822 to 1915	192	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.