

MEMORANDUM

TO	Dawn MacNeil, STPA	FILE NO.	S-1074-18
FROM	Grant Harrigan	SHIFT:	0630 to 1945
TEL	(902) 539-3012	CC:	Shawn Bernon, STPA Wilfred Kaiser, STPA Terry Smith, ALL-TECH
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DATE	23 rd February, 2008	STPA NO.	CP-0075

**SUBJECT: 22nd February 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 22nd of February, 2008. Tyler Rowe and Trevor Rowe, of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH), performed all air monitoring activities.

Weather conditions on the day of sampling:

- Sunny, cloudy periods
- Temperature: -8°C
- 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.

A (Particulate Matter <10µm) PM10 measurement of 134 µg/m³ occurred downwind of Cooling Pond construction activities at 1715 to 1730 (average for fifteen (15) minute). Earth Tech as well as STPA were contacted and informed of the action level exceedance. Measures were taken by Earth Tech to control the dust. As a result, measurements following were below the established Site Action Level for this parameter of 155 µg/m³.

Levels above detection limit will be noted in the table below. All downwind and upwind measurements of Total Volatile Organic Compounds (TVOCs) 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.

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 Tyler Rowe and reviewed by Grant Harrigan. 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
22nd February, 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 100m North of Intercolonial Street fixed station	0700	155	4	West	Upwind	Background	No observations seen to effect sampling integrity
2 50m Southwest of STPA office	0700	155	5	West	Downwind	No activity	No observations seen to effect sampling integrity
3 50m Southwest of STPA office	0715	155	9	West	Downwind	No activity	No observations seen to effect sampling integrity
4 100m North of Intercolonial Street fixed station	0800	155	3	West	Upwind	Background	No observations seen to effect sampling integrity
5 50m Southwest of STPA office	0800	155	12	West	Downwind	Excavators, payloaders, trucks operating	No observations seen to effect sampling integrity
6 50m Southwest of STPA office	0815	155	11	West	Downwind	Excavators, payloaders, trucks operating	No observations seen to effect sampling integrity
7 100m North of Intercolonial Street fixed station	0900	155	3	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 50m West of STPA office	0900	155	34	West	Downwind	Excavators, payloaders, trucks operating	No observations seen to effect sampling integrity
9 50m West of STPA office	0915	155	20	West	Downwind	Excavators, payloaders, trucks operating	No observations seen to effect sampling integrity
10 100m North of Intercolonial Street fixed station	1000	155	2	West	Upwind	Background	No observations seen to effect sampling integrity
11 50m West of STPA office	1000	155	19	West	Downwind	Excavators, payloaders, trucks operating	No observations seen to effect sampling integrity
12 50m West of STPA office	1015	155	25	West	Downwind	Excavators, payloaders, trucks operating	No observations seen to effect sampling integrity
13 100m North of Intercolonial Street fixed station	1100	155	5	West	Upwind	Background	No observations seen to effect sampling integrity
14 50m West of STPA office	1100	155	27	West	Downwind	Excavators, payloaders, trucks operating	No observations seen to effect sampling integrity
15 50m West of STPA office	1115	155	18	West	Downwind	Excavators, payloaders, trucks operating	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 200m North of Intercolonial Street fixed station	1200	155	2	Northwest	Upwind	Background	No observations seen to effect sampling integrity
17 70m Southwest of STPA office	1200	155	4	Northwest	Downwind	Excavators, payloaders, trucks operating	No observations seen to effect sampling integrity
18 70m Southwest of STPA office	1215	155	6	Northwest	Downwind	No activity	No observations seen to effect sampling integrity
19 100m North of Intercolonial Street fixed station	1300	155	2	West	Upwind	Background	No observations seen to effect sampling integrity
20 70m Southwest of STPA office	1300	155	31	West	Downwind	Excavators, payloaders, trucks operating	No observations seen to effect sampling integrity
21 70m Southwest of STPA office	1315	155	12	West	Downwind	Excavators, payloaders, trucks operating	No observations seen to effect sampling integrity
22 100m North of Intercolonial Street fixed station	1400	155	2	West	Upwind	Background	No observations seen to effect sampling integrity
23 70m Southwest of STPA office	1400	155	17	West	Downwind	Excavators, payloaders, trucks operating	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 70m Southwest of STPA office	1415	155	12	West	Downwind	Excavators, payloaders, trucks operating	No observations seen to effect sampling integrity
25 100m North of Intercolonial Street fixed station	1500	155	1	West	Upwind	Background	No observations seen to effect sampling integrity
26 70m Southwest of STPA office	1500	155	35	West	Downwind	Excavators, payloaders, trucks operating	No observations seen to effect sampling integrity
27 70m Southwest of STPA office	1515	155	49	West	Downwind	Excavators, payloaders, trucks operating	No observations seen to effect sampling integrity
28 100m North of Intercolonial Street fixed station	1600	155	1	West	Upwind	Background	No observations seen to effect sampling integrity
29 70m Southwest of STPA office	1600	155	16	West	Downwind	Excavators, payloaders, trucks operating	No observations seen to effect sampling integrity
30 70m Southwest of STPA office	1615	155	13	West	Downwind	Excavators, payloaders, trucks operating	No observations seen to effect sampling integrity
31 100m North of Intercolonial Street fixed station	1700	155	1	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 70m Southwest of STPA office	1700	155	4	West	Downwind	Excavators, payloaders, trucks operating	No observations seen to effect sampling integrity
33 70m Southwest of STPA office	1715	155	134	West	Downwind	Excavators, payloaders, trucks operating	Visible dust
34 70m Southwest of STPA office	1736	155	9	West	Downwind	Excavators, payloaders, trucks operating	No observations seen to effect sampling integrity
35 100m North of Intercolonial Street fixed station	1745	155	1	West	Upwind	Background	No observations seen to effect sampling integrity
36 70m Southwest of STPA office	1751	155	54	West	Downwind	Excavators, payloaders, trucks operating	No observations seen to effect sampling integrity
37 100m North of Intercolonial Street fixed station	1800	155	2	West	Upwind	Background	No observations seen to effect sampling integrity
38 70m Southwest of STPA office	1806	155	41	West	Downwind	Excavators, payloaders, trucks operating	Battery problems
39 100m North of Intercolonial Street fixed station	1815	155	5	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
40 70m Southwest of STPA office	1818	155	28	West	Downwind	Excavators, payloaders, trucks operating	Battery problems
41 70m Southwest of STPA office	1824	155	7	West	Downwind	Excavators, payloaders, trucks operating	New battery. No observations seen to effect sampling integrity
42 100m North of Intercolonial Street fixed station	1830	155	4	West	Upwind	Background	No observations seen to effect sampling integrity
43 70m Southwest of STPA office	1839	155	8	West	Downwind	Excavators, payloaders, trucks operating	No observations seen to effect sampling integrity
44 100m North of Intercolonial Street fixed station	1900	155	5	West	Upwind	Background	No observations seen to effect sampling integrity
45 70m Southwest of STPA office	1900	155	6	West	Downwind	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 ($\mu\text{g}/\text{m}^3$)
50m Southwest of STPA office	0700 to 0730	7	990
50m Southwest of STPA office	0800 to 0830	19	990
50m West of STPA office	0900 to 0915	45	990
50m West of STPA office	1000 to 1030	67	990
50m West of STPA office	1100 to 1130	90	990
70m Southwest of STPA office	1200 to 1230	95	990
70m Southwest of STPA office	1300 to 1330	117	990
70m Southwest of STPA office	1400 to 1430	132	990
70m Southwest of STPA office	1500 to 1530	174	990
70m Southwest of STPA office	1600 to 1630	189	990

Location	Duration	Dust Budget Value ($\mu\text{g}/\text{m}^3$)	Dust Budget Exceedance Value ($\mu\text{g}/\text{m}^3$)
70m Southwest of STPA office	1700 to 1800	239	990
70m Southwest of STPA office	1806 to 1900	260	990
70m Southwest of STPA office	1900 to 1915	266	990

VOC Monitoring

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