

MEMORANDUM

TO Dawn MacNeil, STPA
FROM Grant Harrigan
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DATE 4th February, 2008

FILE NO. S-1074-01
SHIFT: 0630 to 1845
CC: Shawn Bernon, STPA
Wilfred Kaiser, STPA
Terry Smith, ALL-TECH
STPA NO. CP-0058

**SUBJECT: 1st 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 1st of February, 2008. Tyler Rowe and Peter Ibrahim of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH), performed all air monitoring activities.

Weather conditions on the day of sampling:

- Clear with some cloudy periods
- Temperature: -4.5°C
- Wind Direction: Northwest to North to Northeast to East

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.

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 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
1st 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 15m South of Ferry Street, 5m West of railroad tracks	0700	155	12	Northwest	Upwind	Background	No observations seen to effect sampling integrity
2 50m South of STPA office	0700	155	11	Northwest	Downwind	No activity observed on-Site	No observations seen to effect sampling integrity
3 50m South of STPA office	0716	155	14	Northwest	Downwind	Excavators operating	No observations seen to effect sampling integrity
4 15m South of Ferry Street, 5m West of railroad tracks	0800	155	9	Northwest	Upwind	Background	No observations seen to effect sampling integrity
5 50m South of STPA office	0800	155	20	Northwest	Downwind	Excavators operating	No observations seen to effect sampling integrity
6 50m South of STPA office	0817	155	19	Northwest	Downwind	Excavators operating	No observations seen to effect sampling integrity
7 15m South of Ferry Street, 5m West of railroad tracks	0900	155	11	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
8 50m South of STPA office	0932	155	27	Northwest	Downwind	Excavators operating	No observations seen to effect sampling integrity
9 50m South of STPA office	0948	155	29	Northwest	Downwind	Excavators and dump truck moving material	No observations seen to effect sampling integrity
10 15m South of Ferry Street, 5m West of railroad tracks	1000	155	9	Northwest	Upwind	Background	No observations seen to effect sampling integrity
11 50m South of STPA office	1005	155	24	Northwest	Downwind	Excavators and dump truck moving material	No observations seen to effect sampling integrity
12 50m South of STPA office	1021	155	29	Northwest	Downwind	Excavators and dump truck moving material	No observations seen to effect sampling integrity
13 150m Southwest of STPA office, 5m South of Cooling Pond fence	1100	155	11	Northwest	Downwind	Excavators and dump truck moving material	No observations seen to effect sampling integrity
14 40m West of Spar Road and Inglis Street intersection, 5m North of Cooling Pond fence	1105	155	14	North	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
15 150m Southwest of STPA office, 5m South of Cooling Pond fence	1116	155	12	North	Downwind	Excavators and dump truck moving material	No observations seen to effect sampling integrity
16 150m Southwest of STPA office, 5m South of Cooling Pond fence	1200	155	13	North	Downwind	Excavators and dump truck moving material	No observations seen to effect sampling integrity
17 40m West of Spar Road and Inglis Street intersection, 5m North of Cooling Pond fence	1200	155	15	North	Upwind	Background	No observations seen to effect sampling integrity
18 150m Southwest of STPA office, 5m South of Cooling Pond fence	1217	155	10	North	Downwind	Excavators and dump truck moving material	No observations seen to effect sampling integrity
19 40m West of Spar Road and Inglis Street intersection, 5m North of Cooling Pond fence	1300	155	16	North	Upwind	Background	No observations seen to effect sampling integrity
20 150m Southwest of STPA office, 5m South of Cooling Pond fence	1300	155	12	North	Downwind	Excavators and dump truck 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
21 150m Southwest of STPA office, 5m South of Cooling Pond fence	1317	155	12	North	Downwind	Excavators and dump truck moving material	No observations seen to effect sampling integrity
22 40m West of Spar Road and Inglis Street intersection, 5m North of Cooling Pond fence	1400	155	14	North	Upwind	Background	No observations seen to effect sampling integrity
23 150m Southwest of STPA office, 5m South of Cooling Pond fence	1405	155	11	North	Downwind	Excavators and dump truck moving material	No observations seen to effect sampling integrity
24 150m Southwest of STPA office, 5m South of Cooling Pond fence	1422	155	12	North	Downwind	Excavators and dump truck moving material	No observations seen to effect sampling integrity
25 40m West of Spar Road and Inglis Street intersection, 5m North of Cooling Pond fence	1500	155	13	North	Upwind	Background	No observations seen to effect sampling integrity
26 150m Southwest of STPA office, 5m South of Cooling Pond fence	1505	155	12	North	Downwind	Excavators and dump truck 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
27 20m North of Acadian Lines	1530	155	8	Northeast	Downwind	Excavators moving material	No observations seen to effect sampling integrity
28 30m North of STPA office, 70m East of Cooling Pond fence	1600	155	5	East	Upwind	Background	No observations seen to effect sampling integrity
29 10m South of Intercolonial Street fixed sampling station	1600	155	8	East	Downwind	Excavators, bulldozer moving material	No observations seen to effect sampling integrity
30 10m South of Intercolonial Street fixed sampling station	1617	155	9	East	Downwind	Excavators, bulldozer moving material	No observations seen to effect sampling integrity
31 30m North of STPA office, 70m East of Cooling Pond fence	1700	155	6	East	Upwind	Background	No observations seen to effect sampling integrity
32 10m South of Intercolonial Street fixed sampling station	1700	155	11	East	Downwind	Excavators, bulldozer moving material	No observations seen to effect sampling integrity
33 10m South of Intercolonial Street fixed sampling station	1715	155	12	East	Downwind	Excavators, bulldozer 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
34 30m North of STPA office, 70m East of Cooling Pond fence	1800	155	8	East	Upwind	Background	No observations seen to effect sampling integrity
35 10m South of Intercolonial Street fixed sampling station	1800	155	11	East	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 ($\mu\text{g}/\text{m}^3$)	Dust Budget Exceedance Value ($\mu\text{g}/\text{m}^3$)
50m South of STPA office	0700 to 0731	13	990
50m South of STPA office	0800 to 0832	33	990
50m South of STPA office	0932 to 1003	61	990
50m South of STPA office	1005 to 1036	88	990
150m Southwest of STPA office, 5m South of Cooling Pond fence	1100 to 1131	100	990
150m Southwest of STPA office, 5m South of Cooling Pond fence	1200 to 1232	112	990
150m Southwest of STPA office, 5m South of Cooling Pond fence	1300 to 1332	124	990
150m Southwest of STPA office, 5m South of Cooling Pond fence	1405 to 1437	136	990
150m Southwest of STPA office, 5m South of Cooling Pond fence / 20m North of Acadian Lines	1505 to 1545	146	990
10m South of Intercolonial Street fixed sampling station	1600 to 1632	155	990

Location	Duration	Dust Budget Value ($\mu\text{g}/\text{m}^3$)	Dust Budget Exceedance Value ($\mu\text{g}/\text{m}^3$)
10m South of Intercolonial Street fixed sampling station	1700 to 1731	167	990
10m South of Intercolonial Street fixed sampling station	1800 to 1815	178	990

VOC Monitoring

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