

## MEMORANDUM

**TO** Dawn MacNeil, STPA  
**FROM** Grant Harrigan  
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**DATE** 12<sup>th</sup> February, 2008

**FILE NO.** S-1074-09  
**SHIFT:** 0630 to 1715  
**CC:** Shawn Bernon, STPA  
Wilfred Kaiser, STPA  
Terry Smith, ALL-TECH  
**STPA NO.** CP-0066

**SUBJECT: 11<sup>th</sup> February, 2008, Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – Cooling Pond  
FINAL REPORT**

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Attached is a summary of Real-time particulate (as PM<sub>10</sub>) results for air monitoring performed on the 11<sup>th</sup> of February, 2008. Peter Ibrahim 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:

- Overcast, with periods of snow and blowing snow
- Temperature: approximately -2°C (data unavailable from Environment Canada)
- Wind Direction: Southwest to 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.*

A (Particulate Matter <10µm) PM<sub>10</sub> measurement of 109 µg/m<sup>3</sup> occurred downwind at 1315. STPA as well as Earth Tech were contacted and informed of the exceedance. Appropriate measures were taken by Earth Tech to control the dust. As a result, readings went down to well below the established Site Action Level for this parameter of 155 µg/m<sup>3</sup>.

All upwind measurements of PM<sub>10</sub> were well below the established Site Action Level for this parameter of 155 µg/m<sup>3</sup>.

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 Peter Ibrahim 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,



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Grant Harrigan, B.Tech  
Environmental Technologist  
**ALL-TECH Environmental Services Cape Breton Ltd.**

Copied via e-mail:

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**Real-time Airborne PM<sub>10</sub> Concentration Results**  
**Sydney Tar Ponds Agency – Cooling Pond**  
**11<sup>th</sup> February, 2008**

<b>Sample No. &amp; Air Monitoring Location</b>	<b>Time of Day</b>	<b>PM<sub>10</sub> Action Level (µg/m<sup>3</sup>)</b>	<b>Average Result (µg/m<sup>3</sup>)</b>	<b>Wind Direction</b>	<b>Relative Position</b>	<b>Description of Activity</b>	<b>Observations that may affect sample</b>
1 40m Northwest of Northwest corner of STPA office building	0710	155	25	Southwest	Downwind	Background	Blowing Snow and Strong Wind
2 30m South of Intercolonial fixed station	0715	155	20	Southwest	Upwind	Background	Blowing Snow and Strong Wind
3 40m Northwest of Northwest corner of STPA office building	0730	155	20	Southwest	Downwind	Excavators moving material	Blowing Snow and Strong Wind
4 30m South of Intercolonial fixed station	0800	155	16	Southwest	Upwind	Background	Blowing Snow and Strong Wind
5 40m Northwest of Northwest corner of STPA office building	0800	155	19	Southwest	Downwind	Excavators moving material	Blowing Snow and Strong Wind
6 40m Northwest of Northwest corner of STPA office building	0820	155	17	Southwest	Downwind	Excavators moving material	Blowing Snow and Strong Wind
7 30m South of Intercolonial fixed station	0900	155	13	Southwest	Upwind	Background	Blowing Snow and Strong Wind

Sample No. & Air Monitoring Location	Time of Day	PM <sub>10</sub> Action Level (µg/m <sup>3</sup> )	Average Result (µg/m <sup>3</sup> )	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
8 30m Northwest of Northwest corner of STPA office building	0900	155	12	Southwest	Downwind	Background	Blowing Snow and Strong Wind
9 30m Northwest of Northwest corner of STPA office building	0917	155	11	Southwest	Downwind	Excavators moving material	Blowing Snow and Strong Wind
10 30m South of Intercolonial fixed station	1000	155	8	Southwest	Upwind	Background	Blowing Snow and Strong Wind
11 40m Northwest of Northwest corner of STPA office building	1000	155	10	Southwest	Downwind	Excavators moving material	Blowing Snow and Strong Wind
12 40m Northwest of Northwest corner of STPA office building	1017	155	8	Southwest	Downwind	Excavators moving material	Blowing Snow and Strong Wind
13 30m South of Intercolonial fixed station	1100	155	6	Southwest	Upwind	Background	Blowing Snow and Strong Wind
14 40m Northwest of Northwest corner of STPA office building	1100	155	23	Southwest	Downwind	Excavators moving material	Blowing Snow and Strong Wind
15 40m Northwest of Northwest corner of STPA office building	1118	155	12	Southwest	Downwind	Excavators moving material	Blowing Snow and Strong Wind

Sample No. & Air Monitoring Location	Time of Day	PM <sub>10</sub> Action Level (µg/m <sup>3</sup> )	Average Result (µg/m <sup>3</sup> )	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
16 30m South of Intercolonial fixed station	1200	155	5	Southwest	Upwind	Background	Blowing Snow and Strong Wind
17 40m Northwest of Northwest corner of STPA office building	1200	155	18	Southwest	Downwind	Excavators moving material	Blowing Snow and Strong Wind
18 40m Northwest of Northwest corner of STPA office building	1217	155	21	Southwest	Downwind	Excavators moving material	Blowing Snow and Strong Wind
19 10m South of Intercolonial fixed station	1300	155	10	West	Upwind	Background	Blowing Snow and Strong Wind
20 50m Southwest of Southwest corner of STPA office building	1300	155	10	West	Downwind	Excavators moving material	Blowing Snow and Strong Wind
21 50m Southwest of Southwest corner of STPA office building	1315	155	109	West	Downwind	Excavators moving material	Blowing Snow and Strong Wind
22 50m Southwest of Southwest corner of STPA office building	1335	155	66	West	Downwind	Excavators moving material	Blowing Snow and Strong Wind
23 50m Southwest of Southwest corner of STPA office building	1354	155	46	West	Downwind	Excavators moving material	Blowing Snow and Strong Wind

Sample No. & Air Monitoring Location	Time of Day	PM <sub>10</sub> Action Level (µg/m <sup>3</sup> )	Average Result (µg/m <sup>3</sup> )	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
24 10m South of Intercolonial fixed station	1345	155	10	West	Upwind	Background	Blowing Snow and Strong Wind
25 50m Southwest of Southwest corner of STPA office building	1410	155	15	West	Downwind	Excavators moving material	Blowing Snow and Strong Wind
26 50m Southwest of Southwest corner of STPA office building	1430	155	19	West	Downwind	Excavators moving material	Blowing Snow and Strong Wind
27 10m South of Intercolonial fixed station	1430	155	9	West	Upwind	Background	Blowing Snow and Strong Wind
28 50m Southwest of Southwest corner of STPA office building	1448	155	55	West	Downwind	Excavators moving material	Blowing Snow and Strong Wind
29 50m Southwest of Southwest corner of STPA office building	1505	155	67	West	Downwind	Excavators moving material	Blowing Snow and Strong Wind
30 10m South of Intercolonial fixed station	1515	155	9	West	Upwind	Background	Blowing Snow and Strong Wind
31 50m Southwest of Southwest corner of STPA office building	1522	155	35	West	Downwind	Excavators moving material	Blowing Snow and Strong Wind

Sample No. & Air Monitoring Location	Time of Day	PM <sub>10</sub> Action Level (µg/m <sup>3</sup> )	Average Result (µg/m <sup>3</sup> )	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
32 50m Southwest of Southwest corner of STPA office building	1545	155	14	West	Downwind	Excavators moving material	Blowing Snow and Strong Wind
33 10m South of Intercolonial fixed station	1600	155	9	West	Upwind	Background	Blowing Snow and Strong Wind
34 50m Southwest of Southwest corner of STPA office building	1600	155	13	West	Downwind	Excavators moving material	Blowing Snow and Strong Wind
35 50m Southwest of Southwest corner of STPA office building	1616	155	12	West	Downwind	Excavators moving material	Blowing Snow and Strong Wind
36 50m Southwest of Southwest corner of STPA office building	1645	155	9	West	Downwind	Background	Blowing Snow and Strong Wind
37 10m South of Intercolonial fixed station	1645	155	9	West	Upwind	Background	Blowing Snow and Strong Wind

**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 ( $\mu\text{g}/\text{m}^3$ )
40m Northwest of Northwest corner of STPA office building	0710 to 0745	23	990
40m Northwest of Northwest corner of STPA office building	0800 to 0835	41	990
30m Northwest of Northwest corner of STPA office building	0900 to 0932	53	990
30m Northwest of Northwest corner of STPA office building	1000 to 1032	62	990
30m Northwest of Northwest corner of STPA office building	1100 to 1133	80	990
30m Northwest of Northwest corner of STPA office building	1200 to 1232	100	990
50m Southwest of Southwest corner of STPA office building	1300 to 1330	159	990
50m Southwest of Southwest corner of STPA office building	1335 to 1409	216	990
50m Southwest of Southwest corner of STPA office building	1410 to 1445	233	990



Location	Duration	Dust Budget Value ( $\mu\text{g}/\text{m}^3$ )	Dust Budget Exceedance Value ( $\mu\text{g}/\text{m}^3$ )
50m Southwest of Southwest corner of STPA office building	1448 to 1520	294	990
50m Southwest of Southwest corner of STPA office building	1522 to 1600	318	990
50m Southwest of Southwest corner of STPA office building	1600 to 1631	331	990
50m Southwest of Southwest corner of STPA office building	1645 to 1700	340	990

### VOC Monitoring

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