

## MEMORANDUM

<b>TO</b>	Dawn MacNeil, STPA	<b>FILE NO.</b>	S-1053-17
<b>FROM</b>	Grant Harrigan	<b>SHIFT:</b>	0630 to 1845
<b>TEL</b>	(902) 539-3012	<b>CC:</b>	Shawn Bernon, STPA
<b>FAX</b>	(902) 539-3381		Wilfred Kaiser, STPA
<b>DATE</b>	23 <sup>rd</sup> January, 2008		Terry Smith, ALL-TECH
		<b>STPA NO.</b>	<b>CP-0050</b>

**SUBJECT: 22<sup>nd</sup> January, 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 22<sup>nd</sup> of January, 2008. Nigel M<sup>ac</sup>Lean and Reggie Peters of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH), performed all air monitoring activities for the Cooling Pond.

Weather conditions on the day of sampling:

- Clear Skies
- Temperature: approximately -12°C (data unavailable from Environment Canada)
- Wind Direction: West to Northwest to Southwest

**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 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.

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,



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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**  
**22<sup>nd</sup> January, 2008**

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
1 220m North of Intercolonial Street Fixed Station	0655	155	4	West	Upwind	Background	No observations seen to effect sampling integrity
2 40m North of STPA office	0715	155	8	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
3 30m North of STPA office	0732	155	8	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
4 220m North of Intercolonial Street Fixed Station	0815	155	5	West	Upwind	Background	No observations seen to effect sampling integrity
5 30m North of STPA office	0825	155	11	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
6 30m North of STPA office	0840	155	22	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
7 220m North of Intercolonial Street Fixed Station	0915	155	3	West	Upwind	Background	No observations seen to effect sampling integrity

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 North of STPA office	0915	155	19	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
9 30m North of STPA office	0943	155	11	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
10 210m North of Intercolonial Street Fixed Station	1015	155	7	West	Upwind	Background	No observations seen to effect sampling integrity
11 20m Southwest of STPA office	1015	155	6	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
12 20m Southwest of STPA office	1034	155	7	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
13 230m North of Intercolonial Street Fixed Station	1115	155	∅	Northwest	Upwind	Background	No observations seen to effect sampling integrity
14 40m South of STPA office	1115	155	5	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
15 40m South of STPA office	1133	155	4	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity

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 230m North of Intercolonial Street Fixed Station	1215	155	5	Northwest	Upwind	Background	No observations seen to effect sampling integrity
17 50m South of STPA office	1215	155	4	Northwest	Downwind	No visible activity	No observations seen to effect sampling integrity
18 50m South of STPA office	1231	155	5	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
19 240m North of Intercolonial Street Fixed Station	1315	155	4	Northwest	Upwind	Background	No observations seen to effect sampling integrity
20 50m South of STPA office	1315	155	10	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
21 50m South of STPA office	1332	155	9	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
22 240m North of Intercolonial Street Fixed Station	1415	155	8	Northwest	Upwind	Background	No observations seen to effect sampling integrity
23 40m Southwest of STPA office	1415	155	4	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity

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 75m North of STPA office	1434	155	17	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
25 150m South of Intercolonial Street Fixed Station	1515	155	2	Southwest	Upwind	Background	No observations seen to effect sampling integrity
26 75m North of STPA office	1515	155	9	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
27 75m North of STPA office	1532	155	7	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
28 175m South of Intercolonial Street Fixed Station	1615	155	7	Southwest	Upwind	Background	No observations seen to effect sampling integrity
29 130m North of STPA office	1615	155	16	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
30 130m North of STPA office	1634	155	7	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
31 240m North of Intercolonial Street Fixed Station	1715	155	6	Southwest	Upwind	Background	No observations seen to effect sampling integrity

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 130m North of STPA office	1715	155	5	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
33 130m North of STPA office	1733	155	7	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
34 240m North of Intercolonial Street Fixed Station	1800	155	-3	Southwest	Upwind	Background	No observations seen to effect sampling integrity
35 130m North of STPA office	1800	155	8	Southwest	Downwind	No visible activity	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/40m North of STPA office	0715 to 0747	8	990
30m North of STPA office	0825 to 0855	25	990
30m North of STPA office	0915 to 0958	40	990
20m Southwest of STPA office	1015 to 1049	47	990
40m South of STPA office	1115 to 1148	52	990
50m South of STPA office	1215 to 1246	57	990
50m South of STPA office	1315 to 1347	67	990
40m Southwest of STPA office / 75m North of STPA office	1415 to 1449	78	990
75m North of STPA office	1515 to 1547	86	990
130m North of STPA office	1615 to 1649	98	990



Location	Duration	Dust Budget Value ( $\mu\text{g}/\text{m}^3$ )	Dust Budget Exceedance Value ( $\mu\text{g}/\text{m}^3$ )
130m North of STPA office	1715 to 1748	104	990
130m North of STPA office	1800 to 1815	112	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.