

## MEMORANDUM

<b>TO</b>	Dawn MacNeil, STPA	<b>FILE NO.</b>	S-1053-16
<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>	22 <sup>nd</sup> January, 2008		Terry Smith, ALL-TECH
		<b>STPA NO.</b>	<b>CP-0049</b>

**SUBJECT: 21<sup>st</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 21<sup>st</sup> of January, 2008. Reggie Peters and Nigel MacLean 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
- Temperature: approximately -12°C (data unavailable from Environment Canada)
- Wind Direction: 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.*

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**  
**21<sup>st</sup> January, 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 100m North of Intercolonial Street fixed sampling station	0715	155	-10	West	Upwind	No visible activity	DustTrak was re-zeroed
2 60m South of STPA office	0715	155	5	West	Downwind	No visible activity	No observations seen to effect sampling integrity
3 60m South of STPA office	0735	155	7	West	Downwind	Excavator in operation	No observations seen to effect sampling integrity
4 150m North of Intercolonial Street fixed sampling station	0815	155	3	West	Upwind	Excavator in operation	No observations seen to effect sampling integrity
5 60m South of STPA office	0815	155	6	West	Downwind	Excavator in operation	No observations seen to effect sampling integrity
6 60m South of STPA office	0835	155	10	West	Downwind	Excavator in operation	No observations seen to effect sampling integrity
7 150m North of Intercolonial Street fixed sampling station	0915	155	-6	West	Upwind	Excavator in operation	High wind gusts

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 60m South of STPA office	0915	155	8	West	Downwind	Excavator in operation	No observations seen to effect sampling integrity
9 60m South of STPA office	0933	155	10	West	Downwind	Excavator in operation	No observations seen to effect sampling integrity
10 200m North of Intercolonial Street fixed sampling station	1015	155	∅	Northwest	Upwind	Excavator in operation	No observations seen to effect sampling integrity
11 50m South of STPA office	1015	155	17	Northwest	Downwind	Excavator in operation	No observations seen to effect sampling integrity
12 60m South of STPA office	1034	155	8	Northwest	Downwind	Excavator in operation	No observations seen to effect sampling integrity
13 200m North of Intercolonial Street fixed sampling station	1115	155	∅	Northwest	Upwind	Excavator in operation	No observations seen to effect sampling integrity
14 60m South of STPA office	1115	155	11	Northwest	Downwind	Excavator in operation	No observations seen to effect sampling integrity
15 60m South of STPA office	1133	155	37	Northwest	Downwind	Excavator in operation	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 225m North of Intercolonial Street fixed sampling station	1215	155	9	Northwest	Upwind	Excavator in operation	No observations seen to effect sampling integrity
17 30m Southwest of STPA office	1215	155	65	Northwest	Downwind	Excavator in operation	No observations seen to effect sampling integrity
18 30m Southwest of STPA office	1233	155	22	Northwest	Downwind	Excavator in operation	No observations seen to effect sampling integrity
19 225m North of Intercolonial Street fixed sampling station	1315	155	12	Northwest	Upwind	Excavator in operation	No observations seen to effect sampling integrity
20 30m Southwest of STPA office	1315	155	15	Northwest	Downwind	Excavator in operation	No observations seen to effect sampling integrity
21 30m Southwest of STPA office	1333	155	11	Northwest	Downwind	Excavator in operation	No observations seen to effect sampling integrity
22 225m North of Intercolonial Street fixed sampling station	1415	155	13	Northwest	Upwind	Excavator in operation	No observations seen to effect sampling integrity
23 30m Southwest of STPA office	1415	155	15	Northwest	Downwind	Excavator in operation	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 30m Southwest of STPA office	1434	155	12	Northwest	Downwind	Excavator in operation	No observations seen to effect sampling integrity
25 225m North of Intercolonial Street fixed sampling station	1515	155	10	Northwest	Upwind	Excavator in operation	No observations seen to effect sampling integrity
26 60m Southwest of STPA office	1517	155	10	Northwest	Downwind	Excavator in operation	No observations seen to effect sampling integrity
27 60m Southwest of STPA office	1535	155	9	Northwest	Downwind	Excavator in operation	No observations seen to effect sampling integrity
28 225m North of Intercolonial Street fixed sampling station	1615	155	11	Northwest	Upwind	Excavator in operation	No observations seen to effect sampling integrity
29 60m Southwest of STPA office	1615	155	11	Northwest	Downwind	Excavator in operation	No observations seen to effect sampling integrity
30 60m Southwest of STPA office	1633	155	9	Northwest	Downwind	Excavator in operation	No observations seen to effect sampling integrity
31 225m North of Intercolonial Street fixed sampling station	1715	155	9	Northwest	Upwind	Excavator in operation	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 100m Southwest of STPA office	1715	155	7	Northwest	Downwind	Excavator in operation	No observations seen to effect sampling integrity
33 100m Southwest of STPA office	1731	155	8	Northwest	Downwind	Excavator in operation	No observations seen to effect sampling integrity
34 225m North of Intercolonial Street fixed sampling station	1800	155	8	Northwest	Upwind	No visible activity	No observations seen to effect sampling integrity
35 100m Southwest of STPA office	1800	155	7	Northwest	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/ 60m South of STPA office	0715 to 0750	7	990
60m South of STPA office	0815 to 0850	13	990
60m South of STPA office	0915 to 0948	21	990
50m South of STPA office	1015 to 1049	34	990
50m South of STPA office	1115 to 1148	58	990
30m Southwest of STPA office	1215 to 1248	102	990
30m Southwest of STPA office	1315 to 1348	115	990
30m Southwest of STPA office	1415 to 1449	129	990
60m Southwest of STPA office	1517 to 1550	139	990
60m Southwest of STPA office	1617 to 1550	149	990



Location	Duration	Dust Budget Value ( $\mu\text{g}/\text{m}^3$ )	Dust Budget Exceedance Value ( $\mu\text{g}/\text{m}^3$ )
100m Southwest of STPA office	1715 to 1746	157	990
60m Southwest of STPA office	1800 to 1815	164	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.