

## MEMORANDUM

<b>TO</b>	Dawn MacNeil, STPA	<b>FILE NO.</b>	S-1100-20
<b>FROM</b>	Grant Harrigan	<b>SHIFT:</b>	0630 to 1945
<b>TEL</b>	(902) 539-3012	<b>CC:</b>	Shawn Bernon, STPA
<b>FAX</b>	(902) 539-3381		Wilfred Kaiser, STPA
<b>DATE</b>	25 <sup>th</sup> March, 2008		Terry Smith, ALL-TECH
		<b>STPA NO.</b>	<b>CP-0105</b>

**SUBJECT: 24<sup>th</sup> March 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 24<sup>th</sup> of March, 2008. Colin MacIsaac 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:

- Clear Skies
- Temperature: approximately -5°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.*

The downwind location had an exceedance at 1600 of 250 µg/m<sup>3</sup> and again at 1632 of 264 µg/m<sup>3</sup>. ALL-TECH contacted EarthTech at 1607 and 1639 to let them know about the exceedances. ALL-TECH performs continuous sampling for one hour following an exceedance.

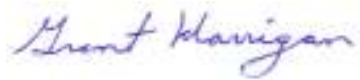
All upwind measurements of PM<sub>10</sub> were well below the established Site Action Level for this parameter of 155 µg/m<sup>3</sup>.

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 Colin MacIsaac 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  
 24<sup>th</sup> March, 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 20m North of Intercolonial Street fixed station	0710	155	7	West	Upwind	Background	No observations seen to effect sampling integrity
2 30m Southwest of STPA building	0710	155	10	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
3 30m Southwest of STPA building	0745	155	40	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
4 20m North of Intercolonial Street fixed station	0800	155	3	West	Upwind	Background	No observations seen to effect sampling integrity
5 30m Southwest of STPA building	0800	155	19	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
6 30m Southwest of STPA building	0845	155	22	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
7 20m North of Intercolonial Street fixed station	0900	155	1	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 Southwest of STPA building	0900	155	25	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
9 30m Southwest of STPA building	0915	155	30	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
10 20m North of Intercolonial Street fixed station	1000	155	1	West	Upwind	Background	No observations seen to effect sampling integrity
11 30m Southwest of STPA building	1000	155	25	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
12 30m Southwest of STPA building	1045	155	33	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
13 20m North of Intercolonial Street fixed station	1100	155	0	West	Upwind	Background	No observations seen to effect sampling integrity
14 30m Southwest of STPA building	1100	155	27	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
15 30m Southwest of STPA building	1130	155	16	West	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 20m North of Intercolonial Street fixed station	1200	155	1	West	Upwind	Background	No observations seen to effect sampling integrity
17 30m Southwest of STPA building	1200	155	13	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
18 30m Southwest of STPA building	1240	155	9	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
19 20m North of Intercolonial Street fixed station	1300	155	1	West	Upwind	Background	Recalibrated DustTrak
20 30m Southwest of STPA building	1300	155	9	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
21 30m Southwest of STPA building	1330	155	91	West	Downwind	Excavators moving material	Dust coming from activity Site
22 20m North of Intercolonial Street fixed station	1400	155	0	West	Upwind	Background	Recalibrated DustTrak
23 30m Southwest of STPA building	1400	155	10	West	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 30m Southwest of STPA building	1440	155	36	West	Downwind	Excavators moving material	Dust coming from Site
25 20m North of Intercolonial Street fixed station	1500	155	1	West	Upwind	Background	No observations seen to effect sampling integrity
26 30m Southwest of STPA building	1500	155	12	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
27 30m Southwest of STPA building	1515	155	38	West	Downwind	Excavators moving material	Dust coming from Site
28 20m North of Intercolonial Street fixed station	1600	155	1	West	Upwind	Background	No observations seen to effect sampling integrity
29 60m Southwest of STPA building	1600	155	250	West	Downwind	Excavators moving material	Dust coming from Site
30 60m Southwest of STPA building	1616	155	10	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
31 20m North of Intercolonial Street fixed station	1620	155	14	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
32 60m Southwest of STPA building	1632	155	264	West	Downwind	Excavators moving material	Dust coming from Site
33 20m North of Intercolonial Street fixed station	1637	155	1	West	Upwind	Background	No observations seen to effect sampling integrity
34 60m Southwest of STPA building	1647	155	6	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
35 20m North of Intercolonial Street fixed station	1700	155	1	West	Upwind	Background	No observations seen to effect sampling integrity
36 60m Southwest of STPA building	1710	155	116	West	Downwind	Excavators moving material	Dust coming from Site
37 60m Southwest of STPA building	1725	155	153	West	Downwind	Excavators moving material	Dust coming from Site
38 60m Southwest of STPA building	1740	155	127	West	Downwind	Excavators moving material	Dust coming from Site
39 20m North of Intercolonial Street fixed station	1745	155	4	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
40 20m North of Intercolonial Street fixed station	1800	155	4	West	Upwind	Background	No observations seen to effect sampling integrity
41 60m Southwest of STPA building	1800	155	29	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
42 60m Southwest of STPA building	1815	155	23	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
43 20m North of Intercolonial Street fixed station	1845	155	4	West	Upwind	Background	No observations seen to effect sampling integrity
44 60m Southwest of STPA building	1900	155	6	West	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 ( $\mu\text{g}/\text{m}^3$ )
30m Southwest of STPA building	0700 to 0759	25	990
30m Southwest of STPA building	0800 to 0859	46	990
30m Southwest of STPA building	0900 to 0959	74	990
30m Southwest of STPA building	1000 to 1059	103	990
30m Southwest of STPA building	1100 to 1159	125	990
30m Southwest of STPA building	1200 to 1259	136	990
30m Southwest of STPA building	1300 to 1359	186	990
30m Southwest of STPA building	1400 to 1459	209	990
30m Southwest of STPA building	1500 to 1559	234	990
60m Southwest of STPA building	1600 to 1659	367	990

Location	Duration	Dust Budget Value ( $\mu\text{g}/\text{m}^3$ )	Dust Budget Exceedance Value ( $\mu\text{g}/\text{m}^3$ )
60m Southwest of STPA building	1700 to 1759	499	990
60m Southwest of STPA building	1800 to 1859	525	990
60m Southwest of STPA building	1900 to 1959	531	990

### VOC Monitoring

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