

## MEMORANDUM

**TO** Dawn MacNeil, STPA  
**FROM** Grant Harrigan  
**TEL** (902) 539-3012  
**FAX** (902) 539-3381  
**DATE** 12<sup>th</sup> March, 2008

**FILE NO.** S-1100-10  
**SHIFT:** 0630 to 1815  
**CC:** Shawn Bernon, STPA  
Wilfred Kaiser, STPA  
Terry Smith, ALL-TECH  
**STPA NO.** CP-0095

**SUBJECT: 11<sup>th</sup> March 2008, (Revised) 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 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 -1°C (data unavailable from Environment Canada)
- Wind Direction: Northwest

**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 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:

Shawn Bernon [shawn@tarpondscleanup.ca](mailto:shawn@tarpondscleanup.ca), Wilfred Kaiser [wilfred@tarpondscleanup.ca](mailto:wilfred@tarpondscleanup.ca), Nancy LeDrew [nancy@tarpondscleanup.ca](mailto:nancy@tarpondscleanup.ca), Trish Magliaro [trish@tarpondscleanup.ca](mailto:trish@tarpondscleanup.ca), Terry Smith [tsmith@toalltech.com](mailto:tsmith@toalltech.com), Phyllis Low [pjlow@toalltech.com](mailto:pjlow@toalltech.com), Dianne Theriault [dtheriault@toalltech.com](mailto:dtheriault@toalltech.com), Darren Gardiner [dgardiner@croworld.com](mailto:dgardiner@croworld.com), Darren Lawless [dlawless@toalltech.com](mailto:dlawless@toalltech.com), Kevin Mac Pherson [kevinmacp@cbcl.ca](mailto:kevinmacp@cbcl.ca), Kathy Harquail [kharquail@toalltech.com](mailto:kharquail@toalltech.com)

**Real-time Airborne PM<sub>10</sub> Concentration Results**  
**Sydney Tar Ponds Agency – Cooling Pond**  
**11<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 South of Walker Street, Intercolonial Street intersection	0700	155	21	Northwest	Upwind	Background	No observations seen to effect sampling integrity
2 30m Southwest of STPA building	0700	155	7	Northwest	Downwind	No activity observed	No observations seen to effect sampling integrity
3 30m Southwest of STPA building	0740	155	12	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
4 20m South of Walker Street, Intercolonial Street intersection	0800	155	16	Northwest	Upwind	Background	No observations seen to effect sampling integrity
5 30m Southwest of STPA building	0800	155	13	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
6 30m Southwest of STPA building	0820	155	21	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
7 20m South of Walker Street, Intercolonial Street intersection	0900	155	12	Northwest	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	9	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
9 30m Southwest of STPA building	0945	155	20	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
10 20m South of Walker Street, Intercolonial Street intersection	1000	155	9	Northwest	Upwind	Background	No observations seen to effect sampling integrity
11 40m Southwest of STPA building	1005	155	14	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
12 100m Northeast of Inglis Street, Terminal Road intersection	1045	155	11	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
13 20m South of Walker Street, Intercolonial Street intersection	1100	155	9	Northwest	Upwind	Background	No observations seen to effect sampling integrity
14 100m Northeast of Inglis Street, Terminal Road intersection	1100	155	15	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
15 100m Northeast of Inglis Street, Terminal Road intersection	1145	155	7	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
16 20m South of Walker Street, Intercolonial Street intersection	1200	155	9	Northwest	Upwind	Background	No observations seen to effect sampling integrity
17 100m Northeast of Inglis Street, Terminal Road intersection	1200	155	5	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
18 100m Northeast of Inglis Street, Terminal Road intersection	1230	155	7	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
19 20m South of Walker Street, Intercolonial Street intersection	1300	155	9	Northwest	Upwind	Background	No observations seen to effect sampling integrity
20 100m Northeast of Inglis Street, Terminal Road intersection	1300	155	6	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
21 100m Northeast of Inglis Street, Terminal Road intersection	1335	155	6	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
22 20m South of Walker Street, Intercolonial Street intersection	1400	155	10	Northwest	Upwind	Background	No observations seen to effect sampling integrity
23 100m Northeast of Inglis Street, Terminal Road intersection	1400	155	5	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
24 100m Southwest of STPA building	1430	155	79	Northwest	Downwind	Excavators moving material	Visible dust coming from activity site
25 20m South of Walker Street, Intercolonial Street intersection	1500	155	12	Northwest	Upwind	Background	No observations seen to effect sampling integrity
26 100m Southwest of STPA building	1500	155	35	Northwest	Downwind	Excavators moving material	Visible dust coming from activity site
27 100m Southwest of STPA building	1520	155	15	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
28 20m South of Walker Street, Intercolonial Street intersection	1600	155	9	Northwest	Upwind	Background	No observations seen to effect sampling integrity
29 20m West of STPA building	1600	155	9	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
30 20m West of STPA building	1625	155	9	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
31 20m South of Walker Street, Intercolonial Street intersection	1700	155	11	Northwest	Upwind	Background	No observations seen to effect sampling integrity
32 20m West of STPA building	1700	155	8	Northwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
33 20m West of STPA building	1725	155	6	Northwest	Downwind	No activity observed	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 (µg/m <sup>3</sup> )	Dust Budget Exceedance Value (µg/m <sup>3</sup> )
30m Southwest of STPA building	0700 to 0759	10	990
30m Southwest of STPA building	0800 to 0859	27	990
30m Southwest of STPA building	0900 to 0959	42	990

Location	Duration	Dust Budget Value ( $\mu\text{g}/\text{m}^3$ )	Dust Budget Exceedance Value ( $\mu\text{g}/\text{m}^3$ )
40m Southwest of STPA building	1000 to 1059	55	990
100m Northeast of Inglis Street, Terminal Road intersection	1100 to 1159	66	990
100m Northeast of Inglis Street, Terminal Road intersection	1200 to 1259	72	990
100m Northeast of Inglis Street, Terminal Road intersection	1300 to 1359	78	990
100m Northeast of Inglis Street, Terminal Road intersection	1400 to 1459	120	990
100m Southwest of STPA building	1500 to 1559	145	990
20m West of STPA building	1600 to 1659	154	990
20m West of STPA building	1700 to 1759	161	990

### VOC Monitoring

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