

## MEMORANDUM

**TO** Dawn MacNeil, STPA  
**FROM** Grant Harrigan  
**TEL** (902) 539-3012  
**FAX** (902) 539-3381  
**DATE** 7<sup>th</sup> March, 2008

**FILE NO.** S-1100-02  
**SHIFT:** 0630 to 1745  
**CC:** Shawn Bernon, STPA  
Wilfred Kaiser, STPA  
Terry Smith, ALL-TECH

**STPA NO.** CP-0087

**SUBJECT: 4<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 4<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 for the Cooling Pond.

Weather conditions on the day of sampling:

- Overcast
- Temperature: approximately 7°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 sustained odour was detected downwind from the site activity. At 1300, Gastec detector tubes were used to test for the presence of benzene at the downwind sampling location. No benzene was detected.

The downwind location had high particulate readings during the 1120 and 1525 samples (see Table below). Dust was visible coming from the site activity. Both samples did not exceed the Site Action Level. Earth Tech was contacted and notified of the high readings and continuous air monitoring continued for another hour.

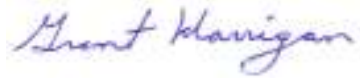
All downwind and upwind measurements of PM<sub>10</sub> were below the established Site Action Level for this parameter of 155 µg/m<sup>3</sup>.

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:

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**  
**4<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 50m East of Acadian Lines terminal	0700	155	15	Southwest	Upwind	Background	No observations seen to effect sampling integrity
2 60m Northwest of STPA building	0700	155	15	Southwest	Downwind	No activity observed on-Site	No observations seen to effect sampling integrity
3 60m Northwest of STPA building	0730	155	27	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
4 50m East of Acadian Lines terminal	0800	155	20	Southwest	Upwind	Background	No observations seen to effect sampling integrity
5 60m Northwest of STPA building	0800	155	21	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
6 60m Northwest of STPA building	0835	155	25	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
7 50m East of Acadian Lines terminal	0900	155	23	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
8 60m Northwest of STPA building	0900	155	27	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
9 50m Northwest of STPA building	0940	155	30	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
10 50m East of Acadian Lines terminal	1000	155	23	Southwest	Upwind	Background	No observations seen to effect sampling integrity
11 50m Northwest of STPA building	1000	155	27	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
12 50m Northwest of STPA building	1045	155	23	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
13 50m East of Acadian Lines terminal	1100	155	21	Southwest	Upwind	Background	No observations seen to effect sampling integrity
14 50m Northwest of STPA building	1100	155	32	Southwest	Downwind	Excavators moving material	Visible dust coming from activity site
15 30m Northwest of STPA building	1120	155	150	Southwest	Downwind	Excavators moving material	Visible dust coming from activity site

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 Northwest of STPA building	1135	155	71	Southwest	Downwind	Excavators moving material	Visible dust coming from activity site
17 50m East of Acadian Lines terminal	1142	155	22	Southwest	Upwind	Background	No observations seen to effect sampling integrity
18 30m Northwest of STPA building	1150	155	47	Southwest	Downwind	Excavators moving material	Visible dust coming from activity site
19 50m East of Acadian Lines terminal	1157	155	22	Southwest	Upwind	Background	No observations seen to effect sampling integrity
20 30m Northwest of STPA building	1205	155	28	Southwest	Downwind	Excavation of material	No observations seen to effect sampling integrity
21 50m East of Acadian Lines terminal	1213	155	23	Southwest	Upwind	Background	No observations seen to effect sampling integrity
22 30m Northwest of STPA building	1220	155	26	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
23 50m East of Acadian Lines terminal	1230	155	24	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
24 30m Northwest of STPA building	1235	155	25	Southwest	Downwind	Payloaders moving material	No observations seen to effect sampling integrity
25 50m East of Acadian Lines terminal	1245	155	25	Southwest	Upwind	Background	No observations seen to effect sampling integrity
26 50m East of Acadian Lines terminal	1300	155	25	Southwest	Upwind	Background	No observations seen to effect sampling integrity
27 30m Northwest of STPA building	1300	155	27	Southwest	Downwind	Payloaders moving material	No observations seen to effect sampling integrity
28 20m West of STPA building	1345	155	67	West	Downwind	Excavators moving material	No observations seen to effect sampling integrity
29 50m East of Acadian Lines terminal	1400	155	28	West	Upwind	Background	No observations seen to effect sampling integrity
30 20m West of STPA building	1400	155	42	West	Downwind	Excavators moving materials	Visible dust coming from activity site
31 20m West of STPA building	1430	155	33	West	Downwind	Excavators moving materials	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 30m Southwest of Terminal Road fixed station	1500	155	33	West	Upwind	Background	No observations seen to effect sampling integrity
33 20m West of STPA building	1500	155	36	West	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
34 20m West of STPA building	1525	155	110	West	Downwind	Excavators moving materials	Visible dust coming from activity site
35 20m West of STPA building	1540	155	46	West	Downwind	Excavators moving materials	Visible dust coming from activity site
36 30m Southwest of Terminal Road fixed station	1544	155	36	West	Upwind	Background	No observations seen to effect sampling integrity
37 30m Southwest of Terminal Road fixed station	1600	155	38	West	Upwind	Background	No observations seen to effect sampling integrity
38 20m Southwest of STPA building	1600	155	66	West	Downwind	Excavators moving materials	Visible dust coming from activity site
39 30m Southwest of Terminal Road fixed station	1615	155	36	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 Southwest of STPA building	1620	155	41	West	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
41 30m Southwest of Terminal Road fixed station	1630	155	31	West	Upwind	Background	No observations seen to effect sampling integrity
42 20m Southwest of STPA building	1700	155	28	West	Downwind	No activity observed on-Site	No observations seen to effect sampling integrity
43 30m Southwest of Terminal Road fixed station	1700	155	26	West	Upwind	Background	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> )
60m Northwest of STPA building	0700 to 0759	21	990
60m Northwest of STPA building	0800 to 0859	44	990
60m Northwest of STPA building	0900 to 0959	73	990



Location	Duration	Dust Budget Value ( $\mu\text{g}/\text{m}^3$ )	Dust Budget Exceedance Value ( $\mu\text{g}/\text{m}^3$ )
50m Northwest of STPA building	1000 to 1059	98	990
50m Northwest of STPA building	1100 to 1159	173	990
30m Northwest of STPA building	1200 to 1259	199	990
30m Northwest of STPA building	1300 to 1359	246	990
20m West of STPA building	1400 to 1459	284	990
20m West of STPA building	1500 to 1559	348	990
20m Southwest of STPA building	1600 to 1659	402	990
20m Southwest of STPA building	1700 to 1759	430	990

### VOC Monitoring

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