

## MEMORANDUM

<b>TO</b>	Dawn MacNeil, STPA	<b>FILE NO.</b>	S-1193-09
<b>FROM</b>	Dianne Theriault	<b>SHIFT:</b>	0930 to 1445
<b>TEL</b>	(902) 539-3012	<b>CC:</b>	Shawn Bernon, STPA Wilfred Kaiser, STPA Terry Smith, ALL-TECH
<b>FAX</b>	(902) 539-3381		
<b>DATE</b>	11 <sup>th</sup> September, 2008	<b>STPA NO.</b>	<b>PS-0053</b>

**SUBJECT: 10<sup>th</sup> September, 2008, Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – North Pond Pilot Study  
FINAL REPORT**

Attached is a summary of Real-time particulate (as PM<sub>10</sub>) results for air monitoring performed on the 10<sup>th</sup> of September, 2008. Reg Peters and Kelly Morrison of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH), performed all air monitoring activities.

Weather conditions on the day of sampling:  
- Mainly cloudy  
- Temperature: approximately 20°C  
- Wind Direction: Northwest

**Comments:** *ALL-TECH was on-Site at 0930 and sampling began as soon as weather conditions were within instrument specifications. Air monitoring was performed during EarthTech's construction activities.*

*Two exceedances of the Site Action Level of 155 µg/m<sup>3</sup> were measured at the Downwind location; the first at 1045 was measured at 1000 µg/m<sup>3</sup> and the second at 1100 was measured at 515 µg/m<sup>3</sup>. They were both attributed to heavy dust from site activity. Earth Tech was immediately informed of the exceedances.*

*Using the dust budget calculation (see below) based on a 10 hour work day, it was determined that the dust budget would exceed 990 µg/m<sup>3</sup>, and so construction activities were terminated for the day. As directed by the STPA, ALL-TECH continued to monitor for an additional 2 hours following the termination of activities as a precaution.*

*Dust Budget (based on 10 hour work day):*

*(Budget to that point (1 hour)) + (Highest hourly average (1 hour)) + (remaining hours x 33) = 990 µg/m<sup>3</sup>*

*383.5 + 383.5 + (8 x 33) = 1031 µg/m<sup>3</sup> > 990 µg/m<sup>3</sup>*

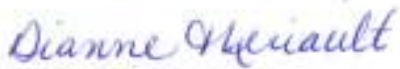
All upwind measurements of PM<sub>10</sub> were below the established Site Action Level for this parameter of 155 µg/m<sup>3</sup>.

All downwind and upwind measurements of Total Volatile Organic Compounds (TVOC) were 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) and high humidity, TVOC sampling is halted and resumes after the precipitation has ended.

This report has been prepared by Kelly Morrison 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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Dianne Theriault, 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 – North Pond Pilot Study**  
**10<sup>th</sup> September, 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 30m Northeast of the Ferry St. bridge	1030	155	7	Northwest	Downwind	Site preparation	No observations seen to effect sampling integrity
2 30m Northeast of the Ferry St. bridge	1045	155	<b>1000</b>	Northwest	Downwind	Machine moving material	Heavy dust from activity
3 50m North of Ferry St. and Railway Rd. intersection	1050	155	7	Northwest	Upwind	Background	No observations seen to affect sampling integrity
4 30m Northeast of the Ferry St. bridge	1100	155	<b>515</b>	Northwest	Downwind	Machine moving material	Heavy dust from activity
5 50m North of Ferry St. and Railway Rd. intersection	1110	155	6	Northwest	Upwind	Background	No observations seen to affect sampling integrity
6 30m Northeast of the Ferry St. bridge	1120	155	12	Northwest	Downwind	No activity observed on site	No observations seen to effect sampling integrity
7 50m North of Ferry St. and Railway Rd. intersection	1130	155	6	Northwest	Upwind	Background	No observations seen to affect 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 Northeast of the Ferry St. bridge	1140	155	6	Northwest	Downwind	No activity observed on site	No observations seen to effect sampling integrity
9 50m North of Ferry St. and Railway Rd. intersection	1145	155	5	Northwest	Upwind	Background	No observations seen to affect sampling integrity
10 30m Northeast of the Ferry St. bridge	1200	155	5	Northwest	Downwind	No activity observed on site	No observations seen to effect sampling integrity
11 50m North of Ferry St. and Railway Rd. intersection	1200	155	5	Northwest	Upwind	Background	No observations seen to affect sampling integrity
12 30m Northeast of the Ferry St. bridge	1215	155	5	Northwest	Downwind	No activity observed on site	No observations seen to effect sampling integrity
13 50m North of Ferry St. and Railway Rd. intersection	1215	155	5	Northwest	Upwind	Background	No observations seen to affect sampling integrity
14 50m North of Ferry St. and Railway Rd. intersection	1230	155	5	Northwest	Upwind	Background	No observations seen to affect sampling integrity
15 30m Northeast of the Ferry St. bridge	1245	155	6	Northwest	Downwind	No activity observed on site	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 50m North of Ferry St. and Railway Rd. Intersection	1245	155	5	Northwest	Upwind	Background	No observations seen to affect sampling integrity
17 30m Northeast of the Ferry St. bridge	1300	155	10	Northwest	Downwind	No activity observed on site	No observations seen to effect sampling integrity
18 50m North of Ferry St. and Railway Rd. intersection	1300	155	4	Northwest	Upwind	Background	No observations seen to affect sampling integrity
19 30m Northeast of the Ferry St. bridge	1345	155	7	Northwest	Downwind	No activity observed on site	No observations seen to effect sampling integrity
20 30m Northeast of the Ferry St. bridge	1400	155	8	Northwest	Downwind	No activity observed on site	No observations seen to effect sampling integrity
21 50m North of Ferry St. and Railway Rd. Intersection	1400	155	5	Northwest	Upwind	Background	No observations seen to affect 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 Northeast of the Ferry St. bridge	1030 to 1129	384	990
30m Northeast of the Ferry St. bridge	1130 to 1229	389	990
30m Northeast of the Ferry St. bridge	1230 to 1329	397	990
30m Northeast of the Ferry St. bridge	1330 to 1429	405	990

### VOC Monitoring

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