

## MEMORANDUM

**TO** Dawn MacNeil, STPA  
**FROM** Dianne Theriault  
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**DATE** 5<sup>th</sup> November, 2008

**FILE NO.** S-1226-02  
**SHIFT:** 0730 to 1730  
**CC:** Shawn Bernon, STPA  
Wilfred Kaiser, STPA  
Terry Smith, ALL-TECH  
**STPA NO.** PS-0092

**SUBJECT: 4<sup>th</sup> November, 2008, Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – South Pond Pilot Study  
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 November, 2008. Colin MacIsaac and Reg Peters of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH), performed all air monitoring activities.

Weather conditions on the day of sampling:  
- Sunny with cloudy periods  
- Temperature: approximately 9°C  
- Wind Direction: West

**Comments:** *ALL-TECH was on-Site at 0730 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 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 Colin MacIsaac 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 – South Pond Pilot Study**  
**4<sup>th</sup> November, 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 70m Southeast of Ferry Street, Walker Street intersection	0800	155	17	West	Upwind	Background	No observations seen to affect sampling integrity
2 50m Southeast of Inglis Street and Spar Road intersection	0800	155	16	West	Downwind	No activity observed on site	No observations seen to affect sampling integrity
3 50m Southeast of Inglis Street and Spar Road intersection	0845	155	16	West	Downwind	Crane operating	No observations seen to affect sampling integrity
4 70m Southeast of Ferry Street, Walker Street intersection	0900	155	16	West	Upwind	Background	No observations seen to affect sampling integrity
5 50m Southeast of Inglis Street and Spar Road intersection	0900	155	14	West	Downwind	Crane operating	No observations seen to affect sampling integrity
6 50m Southeast of Inglis Street and Spar Road intersection	0945	155	13	West	Downwind	Crane operating	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
7 70m Southeast of Ferry Street, Walker Street intersection	1000	155	16	West	Upwind	Background	No observations seen to affect sampling integrity
8 50m Southeast of Inglis Street and Spar Road intersection	1000	155	13	West	Downwind	No activity observed on site	No observations seen to affect sampling integrity
9 50m Southeast of Inglis Street and Spar Road intersection	1040	155	13	West	Downwind	Crane operating	No observations seen to affect sampling integrity
10 70m Southeast of Ferry Street, Walker Street intersection	1100	155	15	West	Upwind	Background	No observations seen to affect sampling integrity
11 50m Southeast of Inglis Street and Spar Road intersection	1100	155	14	West	Downwind	Crane operating	No observations seen to affect sampling integrity
12 70m Southeast of Inglis Street and Spar Road intersection	1120	155	15	West	Downwind	Crane operating	No observations seen to affect sampling integrity

<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>
13 50m Southeast of Ferry Street, Walker Street intersection	1200	155	14	West	Upwind	Background	No observations seen to affect sampling integrity
14 70m Southeast of Inglis Street and Spar Road intersection	1200	155	15	West	Downwind	No activity observed on site	No observations seen to affect sampling integrity
15 70m Southeast of Inglis Street and Spar Road intersection	1245	155	17	West	Downwind	Crane operating	No observations seen to affect sampling integrity
16 50m Southeast of Ferry Street, Walker Street intersection	1300	155	15	West	Upwind	Background	No observations seen to affect sampling integrity
17 70m Southeast of Inglis Street and Spar Road intersection	1300	155	15	West	Downwind	Crane operating	No observations seen to affect sampling integrity
18 70m Southeast of Inglis Street and Spar Road intersection	1330	155	18	West	Downwind	Crane operating	No observations seen to affect sampling integrity

Sample No. & Air Monitoring Location	Time of Day	PM10 Action Level (µg/m3)	Average Result (µg/m3)	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
19 50m Southeast of Ferry Street, Walker Street intersection	1400	155	14	West	Upwind	Background	No observations seen to affect sampling integrity
20 70m Southeast of Inglis Street and Spar Road intersection	1400	155	14	West	Downwind	Crane operating	No observations seen to affect sampling integrity
21 70m Southeast of Inglis Street and Spar Road intersection	1430	155	15	West	Downwind	Crane operating	No observations seen to affect sampling integrity
22 50m Southeast of Ferry Street, Walker Street intersection	1500	155	18	West	Upwind	Background	No observations seen to affect sampling integrity
23 70m Southeast of Inglis Street and Spar Road intersection	1500	155	11	West	Downwind	No activity observed on site	No observations seen to affect sampling integrity
24 70m Southeast of Inglis Street and Spar Road intersection	1530	155	14	West	Downwind	Crane operating	No observations seen to affect sampling integrity

Sample No. & Air Monitoring Location	Time of Day	PM10 Action Level (µg/m3)	Average Result (µg/m3)	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
25 50m Southeast of Ferry Street, Walker Street intersection	1600	155	15	West	Upwind	Background	No observations seen to affect sampling integrity
26 70m Southeast of Inglis Street and Spar Road intersection	1600	155	17	West	Downwind	Crane operating	No observations seen to affect sampling integrity
27 70m Southeast of Inglis Street and Spar Road intersection	1645	155	13	West	Downwind	Crane operating	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 ( $\mu\text{g}/\text{m}^3$ )
50m Southeast of Inglis Street and Spar Road intersection	0800 to 0859	16	990
50m Southeast of Inglis Street and Spar Road intersection	0900 to 0959	30	990
50m Southeast of Inglis Street and Spar Road intersection	1000 to 1059	43	990
50m Southeast of Inglis Street and Spar Road intersection	1100 to 1159	58	990
70m Southeast of Inglis Street and Spar Road intersection	1200 to 1259	74	990
70m Southeast of Inglis Street and Spar Road intersection	1300 to 1359	91	990
70m Southeast of Inglis Street and Spar Road intersection	1400 to 1459	106	990
70m Southeast of Inglis Street and Spar Road intersection	1500 to 1559	119	990
70m Southeast of Inglis Street and Spar Road intersection	1600 to 1659	134	990



### VOC Monitoring

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