

## MEMORANDUM

**TO** Dawn MacNeil, STPA  
**FROM** Dianne Theriault  
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**DATE** 15<sup>th</sup> August, 2008

**FILE NO.** S-1173-08  
**SHIFT:** 0730 to 1730  
**CC:** Shawn Bernon, STPA  
Wilfred Kaiser, STPA  
Terry Smith, ALL-TECH  
**STPA NO.** PS-0033

**SUBJECT: 14<sup>th</sup> August, 2008, Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – North 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 14<sup>th</sup> of August, 2008. Reg Peters and Donald MacIsaac of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH), performed all air monitoring activities.

Weather conditions on the day of sampling:  
- Overcast  
- Temperature: approximately 18°C  
- Wind Direction: Southwest/South

**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*

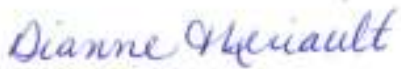
All downwind and upwind measurements of PM<sub>10</sub> were below the established Site Action Level for this parameter of 155 µg/m<sup>3</sup>.

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 Donald 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 – North Pond Pilot Study**  
**14<sup>th</sup> August, 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 30m Southeast of Walker & Ferry Street Intersection	0800	155	26	Southwest	Upwind	Background	No observations seen to effect sampling integrity
2 20m Southeast of North Pond Main Gate	0805	155	25	Southwest	Downwind	No activity observed on-site	No observations seen to effect sampling integrity
3 20m Southeast of North Pond Main Gate	0835	155	22	Southwest	Downwind	Crane operating	No observations seen to effect sampling integrity
4 30m Southeast of Walker & Ferry Street Intersection	0900	155	18	Southwest	Upwind	Background	No observations seen to effect sampling integrity
5 20m Southeast of North Pond Main Gate	0900	155	17	Southwest	Downwind	Crane operating	No observations seen to effect sampling integrity
6 20m Southeast of North Pond Main Gate	0945	155	14	Southwest	Downwind	Crane operating	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
7 30m Southeast of Walker & Ferry Street Intersection	1000	155	37	Southwest	Upwind	Background	No observations seen to effect sampling integrity
8 20m Southeast of North Pond Main Gate	1000	155	14	Southwest	Downwind	No activity observed on-site	No observations seen to effect sampling integrity
9 20m Southeast of North Pond Main Gate 20m Southeast of North Pond Main Gate	1045	155	15	Southwest	Downwind	Crane operating	No observations seen to effect sampling integrity
10 30m Southeast of Walker & Ferry Street Intersection	1100	155	16	Southwest	Upwind	Background	No observations seen to effect sampling integrity
11 20m Southeast of North Pond Main Gate	1100	155	26	Southwest	Downwind	Crane operating	No observations seen to effect sampling integrity
12 20m Southeast of North Pond Main Gate	1145	155	18	Southwest	Downwind	Crane operating	No observations seen to effect sampling integrity
13 30m Southeast of Walker & Ferry Street Intersection	1200	155	16	Southwest	Upwind	Background	No observations seen to effect 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>
14 20m Southeast of North Pond Main Gate	1200	155	18	Southwest	Downwind	No activity observed on-site	No observations seen to effect sampling integrity
15 20m Southeast of North Pond Main Gate	1245	155	19	Southwest	Downwind	Crane operating	No observations seen to effect sampling integrity
16 30m Southeast of Walker & Ferry Street Intersection	1300	155	16	Southwest	Upwind	Background	No observations seen to effect sampling integrity
17 20m Southeast of North Pond Main Gate	1300	155	19	Southwest	Downwind	Crane operating	No observations seen to effect sampling integrity
18 20m Southeast of North Pond Main Gate	1345	155	19	Southwest	Downwind	Crane operating	No observations seen to effect sampling integrity
19 30m Southeast of Walker & Ferry Street Intersection	1400	155	18	Southwest	Upwind	Background	No observations seen to effect sampling integrity
20 20m Southeast of North Pond Main Gate	1400	155	19	Southwest	Downwind	Crane operating	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
21 20m Southeast of North Pond Main Gate	1445	155	18	Southwest	Downwind	Crane operating	No observations seen to effect sampling integrity
22 30m Southeast of Walker & Ferry Street Intersection	1500	155	13	Southwest	Upwind	Background	No observations seen to effect sampling integrity
23 30m North of North Pond Main Gate	1500	155	16	South	Downwind	No activity observed on-site	No observations seen to effect sampling integrity
24 30m North of North Pond Main Gate	1530	155	16	South	Downwind	Crane operating	No observations seen to effect sampling integrity
25 15m North of Intercolonial Fixed Station	1600	155	14	South	Upwind	Background	No observations seen to effect sampling integrity
26 30m North of North Pond Main Gate	1600	155	17	South	Downwind	Crane operating	No observations seen to effect sampling integrity
27 30m North of North Pond Main Gate	1645	155	18	South	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 ( $\mu\text{g}/\text{m}^3$ )
20m Southeast of North Pond Main Gate	0800 to 0859	24	990
20m Southeast of North Pond Main Gate	0900 to 0959	40	990
20m Southeast of North Pond Main Gate	1000 to 1059	55	990
20m Southeast of North Pond Main Gate	1100 to 1159	77	990
20m Southeast of North Pond Main Gate	1200 to 1259	96	990
20m Southeast of North Pond Main Gate	1300 to 1359	115	990
20m Southeast of North Pond Main Gate	1400 to 1459	134	990
30m North of North Pond Main Gate	1500 to 1559	150	990
30m North of North Pond Main Gate	1600 to 1659	168	990

### VOC Monitoring

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