

## MEMORANDUM

**TO** Dawn MacNeil, STPA  
**FROM** Dianne Theriault  
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**DATE** 28<sup>th</sup> April, 2009

**FILE NO.** S-1292-19  
**SHIFT:** 0830 to 1800  
**CC:** Shawn Bernon, STPA  
Wilfred Kaiser, STPA  
Terry Smith, ALL-TECH  
**STPA NO.** TP6D-SP-0029

**SUBJECT: 27<sup>th</sup> April, 2009, Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – Access Roads, South 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 27<sup>th</sup> of April, 2009. Kelly Morrison, Nigel MacLean and Dwayne Timmons, of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH), performed all air monitoring activities.

Weather conditions on the day of sampling:

- Mainly sunny
- Temperature: approximately 10°C
- Wind Direction: North

**Comments:** *ALL-TECH was on-Site at 0830 hours and sampling began as soon as there was site activity. Air monitoring was performed during AECOM'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 Dwayne Timmons 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 – Access Roads, South Pond**  
**27<sup>th</sup> April, 2009**

<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 150m Northeast of railway building	0900	155	15	North	Upwind	Background	No observations seen to affect sampling integrity
2 100m North of Prince St. and Terminal Rd. intersection	0940	155	32	North	Downwind	Excavator, dump trucks operating	No observations seen to affect sampling integrity
3 100m North of Prince St. and Terminal Rd. intersection	0955	155	16	North	Downwind	No activity observed on site	No observations seen to affect sampling integrity
4 150m Northeast of railway building	1000	155	10	North	Upwind	Background	No observations seen to affect sampling integrity
5 5m East of Prince St. and Terminal Rd. intersection	1050	155	17	North	Downwind	Bulldozer operating	No observations seen to affect sampling integrity
6 150m Northeast of railway building	1100	155	11	North	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
7 5m East of Prince St. and Terminal Rd. intersection	1105	155	15	North	Downwind	Dump trucks, bulldozer operating	No observations seen to affect sampling integrity
8 150m Northeast of railway building	1200	155	7	North	Upwind	Background	No observations seen to affect sampling integrity
9 5m East of Prince St. and Terminal Rd. intersection	1202	155	15	North	Downwind	No activity observed on site	No observations seen to affect sampling integrity
10 10m North of Prince St. and Terminal Rd. intersection	1225	155	5	North	Downwind	No activity observed on site	No observations seen to affect sampling integrity
11 150m Northeast of railway building	1300	155	9	North	Upwind	Background	No observations seen to affect sampling integrity
12 10m North of Prince St. and Terminal Rd. intersection	1300	155	5	North	Downwind	Excavator operating	No observations seen to affect sampling integrity
13 10m North of Prince St. and Terminal Rd. intersection	1335	155	8	North	Downwind	Excavator, bulldozer 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
14 150m Northeast of railway building	1400	155	13	North	Upwind	Background	No observations seen to affect sampling integrity
15 10m North of Prince St. and Terminal Rd. intersection	1400	155	8	North	Downwind	Excavator, bulldozer operating	No observations seen to affect sampling integrity
16 10m North of Prince St. and Terminal Rd. intersection	1430	155	8	North	Downwind	Excavator operating	No observations seen to affect sampling integrity
17 150m Northeast of railway building	1500	155	13	North	Upwind	Background	No observations seen to affect sampling integrity
18 10m North of Prince St. and Terminal Rd. intersection	1500	155	8	North	Downwind	No activity observed on site	No observations seen to affect sampling integrity
19 10m North of Prince St. and Terminal Rd. intersection	1515	155	8	North	Downwind	Excavator, bulldozer operating	No observations seen to affect sampling integrity
20 150m Northeast of railway building	1600	155	19	North	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
21 10m North of Prince St. and Terminal Rd. intersection	1600	155	8	North	Downwind	Bulldozer, dump truck operating	No observations seen to affect sampling integrity
22 10m North of Prince St. and Terminal Rd. intersection	1645	155	10	North	Downwind	Bulldozer, dump truck operating	No observations seen to affect sampling integrity
23 150m Northeast of railway building	1700	155	13	North	Upwind	Background	No observations seen to affect sampling integrity
24 10m North of Prince St. and Terminal Rd. intersection	1700	155	13	North	Downwind	Bulldozer, dump truck operating	No observations seen to affect sampling integrity
25 10m North of Prince St. and Terminal Rd. intersection	1720	155	8	North	Downwind	No activity observed on site	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 ( $\mu\text{g}/\text{m}^3$ )
100m North of Prince St. and Terminal Rd. intersection	0900 to 0959	24	990
5m East of Prince St. and Terminal Rd. intersection	1000 to 1059	41	990
5m East of Prince St. and Terminal Rd. intersection	1100 to 1159	58	990
5m East of Prince St. and Terminal Rd. intersection	1200 to 1259	68	990
10m North of Prince St. and Terminal Rd. intersection	1300 to 1359	75	990
10m North of Prince St. and Terminal Rd. intersection	1400 to 1459	83	990
10m North of Prince St. and Terminal Rd. intersection	1500 to 1559	91	990
10m North of Prince St. and Terminal Rd. intersection	1600 to 1659	100	990
10m North of Prince St. and Terminal Rd. intersection	1700 to 1759	111	990

### VOC Monitoring

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