

## MEMORANDUM

**TO** Dawn MacNeil, STPA  
**FROM** Dianne Theriault  
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**DATE** 30<sup>th</sup> April, 2009

**FILE NO.** S-1292-25  
**SHIFT:** 0630 to 1830  
**CC:** Shawn Bernon, STPA  
Wilfred Kaiser, STPA  
Terry Smith, ALL-TECH  
**STPA NO.** TP6D-SP-0035

**SUBJECT: 29<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 29<sup>th</sup> of April, 2009. David Reeves and Nigel MacLean 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 3°C
- Wind Direction: Northwest

**Comments:** *ALL-TECH was on-Site at 0630 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 David Reeves 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**  
**29<sup>th</sup> April, 2009**

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 20m North of former train station on Dodd St.	0700	155	9	Northwest	Upwind	Background	No observations seen to affect sampling integrity
2 160m North of Prince St. and Terminal Rd. intersection	0700	155	16	Northwest	Downwind	Excavator, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
3 160m North of Prince St. and Terminal Rd. intersection	0715	155	24	Northwest	Downwind	Excavator, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
4 20m North of former train station on Dodd St.	0800	155	13	Northwest	Upwind	Background	No observations seen to affect sampling integrity
5 160m North of Prince St. and Terminal Rd. intersection	0800	155	25	Northwest	Downwind	Excavator, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
6 160m North of Prince St. and Terminal Rd. intersection	0825	155	22	Northwest	Downwind	Excavator, dump trucks, 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
7 20m North of former train station on Dodd St.	0900	155	13	Northwest	Upwind	Background	No observations seen to affect sampling integrity
8 160m North of Prince St. and Terminal Rd. intersection	0900	155	21	Northwest	Downwind	Excavator, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
9 160m North of Prince St. and Terminal Rd. intersection	0935	155	19	Northwest	Downwind	Excavator, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
10 20m North of former train station on Dodd St.	1000	155	12	Northwest	Upwind	Background	No observations seen to affect sampling integrity
11 160m North of Prince St. and Terminal Rd. intersection	1000	155	18	Northwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
12 160m North of Prince St. and Terminal Rd. intersection	1030	155	21	Northwest	Downwind	Excavator, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
13 20m North of former train station on Dodd St.	1100	155	9	Northwest	Upwind	Background	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>
14 160m North of Prince St. and Terminal Rd. intersection	1100	155	17	Northwest	Downwind	Excavator, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
15 120m North of Prince St. and Terminal Rd. intersection	1140	155	16	Northwest	Downwind	Excavator, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
16 20m North of former train station on Dodd St.	1200	155	11	Northwest	Upwind	Background	No observations seen to affect sampling integrity
17 120m North of Prince St. and Terminal Rd. intersection	1200	155	16	Northwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
18 120m North of Prince St. and Terminal Rd. intersection	1240	155	15	Northwest	Downwind	Steamroller, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
19 20m North of former train station on Dodd St.	1300	155	8	Northwest	Upwind	Background	No observations seen to affect sampling integrity
20 120m North of Prince St. and Terminal Rd. intersection	1300	155	14	Northwest	Downwind	Steamroller, dump trucks, 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
21 120m North of Prince St. and Terminal Rd. intersection	1330	155	13	Northwest	Downwind	Steamroller, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
22 20m North of former train station on Dodd St.	1400	155	10	Northwest	Upwind	Background	No observations seen to affect sampling integrity
23 80m North of Prince St. and Terminal Rd. intersection	1400	155	15	Northwest	Downwind	Steamroller, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
24 80m North of Prince St. and Terminal Rd. intersection	1420	155	14	Northwest	Downwind	Steamroller, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
25 20m North of former train station on Dodd St.	1500	155	11	Northwest	Upwind	Background	No observations seen to affect sampling integrity
26 80m North of Prince St. and Terminal Rd. intersection	1500	155	14	Northwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
27 20m North of Prince St. and Terminal Rd. intersection	1540	155	18	Northwest	Downwind	Steamroller, 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
28 20m North of former train station on Dodd St.	1600	155	10	Northwest	Upwind	Background	No observations seen to affect sampling integrity
29 20m North of Prince St. and Terminal Rd. intersection	1600	155	15	Northwest	Downwind	Steamroller operating	No observations seen to affect sampling integrity
30 20m North of Prince St. and Terminal Rd. intersection	1620	155	14	Northwest	Downwind	Steamroller operating	No observations seen to affect sampling integrity
31 20m North of former train station on Dodd St.	1700	155	9	Northwest	Upwind	Background	No observations seen to affect sampling integrity
32 20m North of Prince St. and Terminal Rd. intersection	1700	155	15	Northwest	Downwind	Steamroller operating	No observations seen to affect sampling integrity
33 20m North of Prince St. and Terminal Rd. intersection	1745	155	12	Northwest	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 ( $\mu\text{g}/\text{m}^3$ )
160m North of Prince St. and Terminal Rd. intersection	0700 to 0759	20	990
160m North of Prince St. and Terminal Rd. intersection	0800 to 0859	44	990
160m North of Prince St. and Terminal Rd. intersection	0900 to 0959	64	990
160m North of Prince St. and Terminal Rd. intersection	1000 to 1059	84	990
160m / 120m North of Prince St. and Terminal Rd.	1100 to 1159	101	990
120m North of Prince St. and Terminal Rd. intersection	1200 to 1259	117	990
120m North of Prince St. and Terminal Rd. intersection	1300 to 1359	131	990
80m North of Prince St. and Terminal Rd. intersection	1400 to 1459	146	990
80m / 20m North of Prince St. and Terminal Rd. intersection	1500 to 1559	162	990
20m North of Prince St. and Terminal Rd. intersection	1600 to 1659	177	990
20m North of Prince St. and Terminal Rd. intersection	1700 to 1759	191	990



### VOC Monitoring

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