

## MEMORANDUM

**TO** Dawn MacNeil, STPA  
**FROM** Dianne Theriault  
**TEL** (902) 539-3012  
**FAX** (902) 539-3381  
**DATE** 30<sup>th</sup> March, 2009

**FILE NO.** S-1288-09  
**SHIFT:** 0630 to 1830  
**CC:** Shawn Bernon, STPA  
Wilfred Kaiser, STPA  
Terry Smith, ALL-TECH

**STPA NO.** TP6D-0009

**SUBJECT: 27<sup>th</sup> March, 2009, Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – Access Roads  
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 March, 2009. Nigel MacLean and Tyler Rowe, 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 4°C
- Wind Direction: North

**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 Nigel MacLean 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:

Shawn Bernon [shawn@tarpondscleanup.ca](mailto:shawn@tarpondscleanup.ca), Wilfred Kaiser [wilfred@tarpondscleanup.ca](mailto:wilfred@tarpondscleanup.ca), Nancy LeDrew [nancy@tarpondscleanup.ca](mailto:nancy@tarpondscleanup.ca), Trish Magliaro [trish@tarpondscleanup.ca](mailto:trish@tarpondscleanup.ca), Terry Smith [tsmith@toalltech.com](mailto:tsmith@toalltech.com), Phyllis Low [pilow@toalltech.com](mailto:pilow@toalltech.com), Dianne Theriault [dtheriault@toalltech.com](mailto:dtheriault@toalltech.com), Darren Gardiner [dgardiner@croworld.com](mailto:dgardiner@croworld.com), Darren Lawless [dlawless@toalltech.com](mailto:dlawless@toalltech.com), Kevin Mac Pherson [kevinmacp@cbcl.ca](mailto:kevinmacp@cbcl.ca), Kathy Harquail [kharquail@toalltech.com](mailto:kharquail@toalltech.com)

**Real-time Airborne PM<sub>10</sub> Concentration Results  
 Sydney Tar Ponds Agency – Access Roads  
 27<sup>th</sup> March, 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 100m North of TP2 site and 20m West of Inglis St.	0700	155	16	North	Upwind	Background	No observations seen to affect sampling integrity
2 25m West of Acadian Lines Terminal	0700	155	5	North	Downwind	Machines moving material	No observations seen to affect sampling integrity
3 25m West of Acadian Lines Terminal	0735	155	12	North	Downwind	Machines moving material	No observations seen to affect sampling integrity
4 100m North of TP2 site and 20m West of Inglis St.	0800	155	19	North	Upwind	Background	No observations seen to affect sampling integrity
5 25m West of Acadian Lines Terminal	0800	155	8	North	Downwind	Machines moving material	No observations seen to affect sampling integrity
6 25m West of Acadian Lines Terminal	0830	155	2	North	Downwind	Machines moving material	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>
7 100m North of TP2 site and 20m West of Inglis St.	0900	155	6	North	Upwind	Background	No observations seen to affect sampling integrity
8 25m West of Acadian Lines Terminal	0900	155	2	North	Downwind	No activity observed on site	No observations seen to affect sampling integrity
9 25m West of Acadian Lines Terminal	0925	155	1	North	Downwind	Machines moving material	No observations seen to affect sampling integrity
10 100m North of TP2 site and 20m West of Inglis St.	1000	155	3	North	Upwind	Background	No observations seen to affect sampling integrity
11 25m West of Acadian Lines Terminal	1000	155	1	North	Downwind	Machines moving material	No observations seen to affect sampling integrity
12 25m West of Acadian Lines Terminal	1035	155	1	North	Downwind	Machines moving material	No observations seen to affect sampling integrity
13 100m North of TP2 site and 20m West of Inglis St.	1100	155	4	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
14 25m West of Acadian Lines Terminal	1100	155	1	North	Downwind	No activity observed on site	No observations seen to affect sampling integrity
15 25m West of Acadian Lines Terminal	1115	155	1	North	Downwind	Machines moving materials.	No observations seen to affect sampling integrity
16 100m North of TP2 site and 20m West of Inglis St.	1200	155	3	North	Upwind	Background	No observations seen to affect sampling integrity
17 25m West of Acadian Lines Terminal	1200	155	1	North	Downwind	Machines moving material	No observations seen to affect sampling integrity
18 25m West of Acadian Lines Terminal	1220	155	2	North	Downwind	Machines moving material	No observations seen to affect sampling integrity
19 100m North of TP2 site and 20m West of Inglis St.	1300	155	6	North	Upwind	Background	No observations seen to affect sampling integrity
20 25m West of Acadian Lines Terminal	1300	155	2	North	Downwind	Machines moving material	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>
21 25m West of Acadian Lines Terminal	1330	155	4	North	Downwind	Machines moving material	No observations seen to affect sampling integrity
22 100m North of TP2 site and 20m West of Inglis St.	1400	155	5	North	Upwind	Background	No observations seen to affect sampling integrity
23 25m West of Acadian Lines Terminal	1400	155	3	North	Downwind	No activity observed on site	No observations seen to affect sampling integrity
24 25m West of Acadian Lines Terminal	1440	155	3	North	Downwind	Machines moving material	No observations seen to affect sampling integrity
25 100m North of TP2 site and 20m West of Inglis St.	1500	155	7	North	Upwind	Background	No observations seen to affect sampling integrity
26 25m West of Acadian Lines Terminal	1500	155	3	North	Downwind	Machines moving material	No observations seen to affect sampling integrity
27 25m West of Acadian Lines Terminal	1520	155	7	North	Downwind	Machines moving material	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 100m North of TP2 site and 20m West of Inglis St.	1600	155	6	North	Upwind	Background	No observations seen to affect sampling integrity
29 25m West of Acadian Lines Terminal	1600	155	1	North	Downwind	Machines moving material	No observations seen to affect sampling integrity
30 25m West of Acadian Lines Terminal	1615	155	2	North	Downwind	Machines moving material	No observations seen to affect sampling integrity
31 100m North of TP2 site and 20m West of Inglis St.	1700	155	5	North	Upwind	Background	No observations seen to affect sampling integrity
32 25m West of Acadian Lines Terminal	1700	155	3	North	Downwind	Machines moving material	No observations seen to affect sampling integrity
33 25m West of Acadian Lines Terminal	1745	155	1	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 ( $\mu\text{g}/\text{m}^3$ )
25m West of Acadian Lines Terminal	0700 to 0759	9	990
25m West of Acadian Lines Terminal	0800 to 0859	14	990
25m West of Acadian Lines Terminal	0900 to 0959	16	990
25m West of Acadian Lines Terminal	1000 to 1059	17	990
25m West of Acadian Lines Terminal	1100 to 1159	19	990
25m West of Acadian Lines Terminal	1200 to 1259	21	990
25m West of Acadian Lines Terminal	1300 to 1359	24	990
25m West of Acadian Lines Terminal	1400 to 1459	27	990
25m West of Acadian Lines Terminal	1500 to 1559	32	990
25m West of Acadian Lines Terminal	1600 to 1659	34	990
25m West of Acadian Lines Terminal	1700 to 1759	36	990



### VOC Monitoring

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