

## MEMORANDUM

**TO** Dawn MacNeil, STPA  
**FROM** Dianne Theriault  
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**DATE** 14<sup>th</sup> April, 2009

**FILE NO.** S-1292-08  
**SHIFT:** 0630 to 1830  
**CC:** Shawn Bernon, STPA  
Wilfred Kaiser, STPA  
Terry Smith, ALL-TECH  
**STPA NO.** TP6D-0018

**SUBJECT: 13<sup>th</sup> April, 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 13<sup>th</sup> of April, 2009. Jennifer Andrews 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:  
- Cloudy with sunny periods, showers  
- Temperature: approximately 4°C  
- Wind Direction: Southwest

**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 Jennifer Andrews 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**  
**13<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 2M North of Ferry St and Walker St Intersection	0700	155	6	Southwest	Upwind	Background	No observations seen to affect sampling integrity
2 100M North of TP6D Entrance Gate	0715	155	4	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
3 100M North of TP6D Entrance Gate	0730	155	5	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
4 2M North of Ferry St and Walker St Intersection	0800	155	6	Southwest	Upwind	Background	No observations seen to affect sampling integrity
5 100M North of TP6D Entrance Gate	0800	155	5	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
6 100M North of TP6D Entrance Gate	0820	155	6	Southwest	Downwind	Activity not visible from monitoring location	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 2M North of Ferry St and Walker St Intersection	0900	155	9	Southwest	Upwind	Background	No observations seen to affect sampling integrity
8 100M North of TP6D Entrance Gate	0900	155	5	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
9 100M North of TP6D Entrance Gate	0935	155	6	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
10 2M North of Ferry St and Walker St Intersection	1000	155	7	Southwest	Upwind	Background	No observations seen to affect sampling integrity
11 100M North of TP6D Entrance Gate	1000	155	7	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
12 100M North of TP6D Entrance Gate	1040	155	5	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
13 2M North of Ferry St and Walker St Intersection	1100	155	9	Southwest	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 100M North of TP6D Entrance Gate	1100	155	6	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
15 100M North of TP6D Entrance Gate	1135	155	7	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
16 2M North of Ferry St and Walker St Intersection	1200	155	9	Southwest	Upwind	Background	No observations seen to affect sampling integrity
17 100M North of TP6D Entrance Gate	1200	155	7	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
18 100M North of TP6D Entrance Gate	1230	155	7	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
19 2M North of Ferry St and Walker St Intersection	1300	155	8	Southwest	Upwind	Background	No observations seen to affect sampling integrity
20 100M North of TP6D Entrance Gate	1300	155	6	Southwest	Downwind	Activity not visible from monitoring location	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 100M North of TP6D Entrance Gate	1345	155	6	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
22 2M North of Ferry St and Walker St Intersection	1400	155	8	Southwest	Upwind	Background	No observations seen to affect sampling integrity
23 100M North of TP6D Entrance Gate	1400	155	7	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
24 100M North of TP6D Entrance Gate	1420	155	8	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
25 2M North of Ferry St and Walker St Intersection	1500	155	11	Southwest	Upwind	Background	No observations seen to affect sampling integrity
26 100M North of TP6D Entrance Gate	1500	155	8	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
27 100M North of TP6D Entrance Gate	1545	155	7	Southwest	Downwind	Activity not visible from monitoring location	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 2M North of Ferry St and Walker St Intersection	1600	155	8	Southwest	Upwind	Background	No observations seen to affect sampling integrity
29 100M North of TP6D Entrance Gate	1600	155	7	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
30 100M North of TP6D Entrance Gate	1620	155	7	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
31 2M North of Ferry St and Walker St Intersection	1700	155	7	Southwest	Upwind	Background	No observations seen to affect sampling integrity
32 100M North of TP6D Entrance Gate	1700	155	6	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
33 100M North of TP6D Entrance Gate	1745	155	7	Southwest	Downwind	Activity not visible from monitoring location	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 TP6D Entrance Gate	0700 to 0759	5	990
100M North of TP6D Entrance Gate	0800 to 0859	10	990
100M North of TP6D Entrance Gate	0900 to 0959	16	990
100M North of TP6D Entrance Gate	1000 to 1059	22	990
100M North of TP6D Entrance Gate	1100 to 1159	28	990
100M North of TP6D Entrance Gate	1200 to 1259	35	990
100M North of TP6D Entrance Gate	1300 to 1359	41	990
100M North of TP6D Entrance Gate	1400 to 1459	49	990
100M North of TP6D Entrance Gate	1500 to 1559	56	990
100M North of TP6D Entrance Gate	1600 to 1659	63	990
100M North of TP6D Entrance Gate	1700 to 1759	70	990



### VOC Monitoring

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