

## MEMORANDUM

**TO** Dawn MacNeil, STPA  
**FROM** Dianne Theriault  
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**DATE** 19<sup>th</sup> June, 2009

**FILE NO.** S-1329-13  
**SHIFT:** 0730 to 1730  
**CC:** Shawn Bernon, STPA  
Wilfred Kaiser, STPA  
Terry Smith, ALL-TECH  
**STPA NO.** TP2-0181

**SUBJECT: 18<sup>th</sup> June, 2009 Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – Material Processing Facility  
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 18<sup>th</sup> of June, 2009. Chris MacNeil and Alison Giovannetti 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 25°C  
- Wind Direction: Southwest to West

**Comments:** *ALL-TECH was on-Site at 0730 hours and sampling began as soon as there was site activity. Air monitoring was performed during AECOM's construction activities..*

Two exceedances of the 15-minute Site Action Level of 180 µg/m<sup>3</sup> were measured at the downwind location; the first at 1338 hours was measured at 194 µg/m<sup>3</sup> and the second at 1350 hours was measured at 188 µg/m<sup>3</sup>. They were both attributed to heavy dust from road adjacent to site. AECOM was immediately informed of these exceedances.

Using the Concentration Approach for the 8 hour averaging period, it was determined that the downwind dust concentration levels exceeded 70 µg/m<sup>3</sup>, with a concentration measured at 78 µg/m<sup>3</sup>. Construction activities were then halted for the remainder of the day.

All downwind and upwind measurements of Total Volatile Organic Compounds (TVOC) were below the established Site Action Level for this parameter of 8 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 Alison Giovannetti 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 – Material Processing Facility**  
**18<sup>th</sup> June, 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 50m Southeast of Walker St. and Ferry St. intersection (N 46° 08.679' W 060° 11.478')	0800	180	7	Southwest	Upwind	Background	No observations seen to affect sampling integrity
2 80m Northeast of TP2 main gate (N 46° 09.000' W 060° 11.334')	0800	180	24	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
3 80m Northeast of TP2 main gate (N 46° 09.000' W 060° 11.334')	0845	180	30	Southwest	Downwind	Zoom boom in operation	No observations seen to affect sampling integrity
4 50m Southeast of Walker St. and Ferry St. intersection (N 46° 08.679' W 060° 11.478')	0900	180	8	Southwest	Upwind	Background	No observations seen to affect sampling integrity
5 80m Northeast of TP2 main gate (N 46° 09.000' W 060° 11.334')	0900	180	54	Southwest	Downwind	Zoom boom in operation	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
6 60m Northeast of TP2 main gate (N 46° 08.992' W 060° 11.327')	0915	180	78	Southwest	Downwind	Zoom boom and excavator operating	Dust from site road
7 50m Southeast of Walker St. and Ferry St. intersection (N 46° 08.679' W 060° 11.478')	1000	180	11	Southwest	Upwind	Background	No observations seen to affect sampling integrity
8 60m Northeast of TP2 main gate (N 46° 08.992' W 060° 11.327')	1000	180	25	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
9 60m Northeast of TP2 main gate (N 46° 08.992' W 060° 11.327')	1030	180	53	Southwest	Downwind	Excavator in operation	No observations seen to affect sampling integrity
10 50m Southeast of Walker St. and Ferry St. intersection (N 46° 08.679' W 060° 11.478')	1100	180	14	Southwest	Upwind	Background	No observations seen to affect sampling integrity
11 60m Northeast of TP2 main gate (N 46° 08.992' W 060° 11.327')	1100	180	67	Southwest	Downwind	Crane and excavator in operation	Dust from site road

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
12 60m Northeast of TP2 main gate (N 46° 08.992' W 060° 11.327')	1120	180	24	Southwest	Downwind	Excavator in operation	No observations seen to affect sampling integrity
13 50m Southeast of Walker St. and Ferry St. intersection (N 46° 08.679' W 060° 11.478')	1200	180	16	Southwest	Upwind	Background	No observations seen to affect sampling integrity
14 60m Northeast of TP2 main gate (N 46° 08.992' W 060° 11.327')	1200	180	52	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
15 60m Northeast of TP2 main gate (N 46° 08.992' W 060° 11.327')	1245	180	106	Southwest	Downwind	No activity observed on site	Dust from site road
16 50m Southeast of Walker St. and Ferry St. intersection (N 46° 08.679' W 060° 11.478')	1300	180	17	Southwest	Upwind	Background	No observations seen to affect sampling integrity
17 60m Northeast of TP2 main gate (N 46° 08.992' W 060° 11.327')	1300	180	100	Southwest	Downwind	Excavator and jackhammer in operation	Dust from site road

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
18 60m Northeast of TP2 main gate (N 46° 08.992' W 060° 11.327')	1315	180	103	Southwest	Downwind	Excavator and jackhammer in operation	Dust from site road
19 60m Northeast of TP2 main gate (N 46° 08.992' W 060° 11.327')	1338	180	<b>194</b>	Southwest	Downwind	Excavator and jackhammer in operation	Dust from site road
20 50m Southeast of Walker St. and Ferry St. intersection (N 46° 08.679' W 060° 11.478')	1345	180	18	Southwest	Upwind	Background	No observations seen to affect sampling integrity
21 60m Northeast of TP2 main gate (N 46° 08.992' W 060° 11.327')	1350	180	<b>188</b>	Southwest	Downwind	Excavator and jackhammer in operation	Dust from site road, excavator moving dirt near sample (approx. 20m North than 40m West)
22 50m Southeast of Walker St. and Ferry St. intersection (N 46° 08.679' W 060° 11.478')	1400	180	18	Southwest	Upwind	Background	No observations seen to affect sampling integrity
23 60m Northeast of TP2 main gate (N 46° 08.992' W 060° 11.327')	1405	180	133	Southwest	Downwind	Worker activity	Dust from site road, excavator moving dirt near sample (approx. 20m North than 40m West)

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
24 50m Southwest of Walker St. and Ferry St. intersection (N 46° 08.679' W 060° 11.478')	1415	180	19	Southwest	Upwind	Background	No observations seen to affect sampling integrity
25 60m Northeast of TP2 main gate (N 46° 08.992' W 060° 11.327')	1420	180	125	Southwest	Downwind	Worker activity	Dust from site road
26 50m Southeast of Walker St. and Ferry St. intersection (N 46° 08.679' W 060° 11.478')	1430	180	19	Southwest	Upwind	Background	No observations seen to affect sampling integrity
27 60m Northeast of TP2 main gate (N 46° 08.992' W 060° 11.327')	1435	180	42	Southwest	Downwind	Crane in operation	No observations seen to affect sampling integrity
28 50m Southeast of Walker St. and Ferry St. intersection (N 46° 08.679' W 060° 11.478')	1445	180	18	Southwest	Upwind	Background	No observations seen to affect sampling integrity
29 50m Southwest of Walker St. and Ferry St. intersection (N 46° 08.679' W 060° 11.478')	1500	180	20	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
30 60m Northeast of TP2 main gate (N 46° 08.992' W 060° 11.327')	1500	180	44	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
31 60m Northeast of TP2 main gate (N 46° 08.992' W 060° 11.327')	1545	180	47	Southwest	Downwind	Excavator in operation	No observations seen to affect sampling integrity
32 50m East of Railway building on the corner (N 46° 08.974' W 060° 11.681')	1600	180	17	West	Upwind	Background	No observations seen to affect sampling integrity
33 150m South of TP2 main gate (N 46° 08.871' W 060° 11.217')	1600	180	35	West	Downwind	No activity observed on site	No observations seen to affect sampling integrity
34 150m South of TP2 main gate (N 46° 08.871' W 060° 11.217')	1630	180	37	West	Downwind	No activity observed on site	No observations seen to affect sampling integrity

**Notes:** Air sample duration for each monitoring event was 15 minutes.



### Summary of Downwind PM<sub>10</sub> Action Levels

Average PM <sub>10</sub> Concentration (µg/m <sup>3</sup> )	Averaging Period (Hours)	Downwind Action Level (µg/m <sup>3</sup> )
27	1	125
44	4	85
78	8	70

### VOC Monitoring

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