

## MEMORANDUM

**TO** Dawn MacNeil, STPA  
**FROM** Dianne Theriault  
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**DATE** 29<sup>th</sup> April, 2009

**FILE NO.** S-1291-19  
**SHIFT:** 0730 to 1730  
**CC:** Shawn Bernon, STPA  
Wilfred Kaiser, STPA  
Terry Smith, ALL-TECH  
**STPA NO.** TP2-0153

**SUBJECT: 28<sup>th</sup> April, 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 28<sup>th</sup> of April, 2009. Shaun Dove 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 23°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.*

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 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**  
**28<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 25m Southeast of Ferry St. and Railway Rd. intersection	0800	155	14	Southwest	Upwind	Background	No observations seen to affect sampling integrity
2 100m Northwest of Inglis St. and Spar Rd. intersection	0800	155	16	Southwest	Downwind	Worker activity	No observations seen to affect sampling integrity
3 100m Northwest of Inglis St. and Spar Rd. intersection	0820	155	30	Southwest	Downwind	Worker activity	No observations seen to affect sampling integrity
4 25m Southeast of Ferry St. and Railway Rd. intersection	0900	155	18	Southwest	Upwind	Background	No observations seen to affect sampling integrity
5 100m Northwest of Inglis St. and Spar Rd. intersection	0900	155	28	Southwest	Downwind	Worker activity	No observations seen to affect sampling integrity
6 100m Northwest of Inglis St. and Spar Rd. intersection	0915	155	27	Southwest	Downwind	Worker activity	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 25m Southeast of Ferry St. and Railway Rd. intersection	1000	155	19	Southwest	Upwind	Background	No observations seen to affect sampling integrity
8 100m Northwest of Inglis St. and Spar Rd. intersection	1000	155	24	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
9 100m Northwest of Inglis St. and Spar Rd. intersection	1020	155	25	Southwest	Downwind	Worker activity	No observations seen to affect sampling integrity
10 25m Southeast of Ferry St. and Railway Rd. intersection	1100	155	21	Southwest	Upwind	Background	No observations seen to affect sampling integrity
11 100m Northwest of Inglis St. and Spar Rd. intersection	1100	155	31	Southwest	Downwind	Worker activity	No observations seen to affect sampling integrity
12 100m Northwest of Inglis St. and Spar Rd. intersection	1130	155	27	Southwest	Downwind	Worker activity	No observations seen to affect sampling integrity
13 25m Southeast of Ferry St. and Railway Rd. intersection	1200	155	21	Southwest	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 100m Northwest of Inglis St. and Spar Rd. intersection	1200	155	28	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
15 100m Northwest of Inglis St. and Spar Rd. intersection	1230	155	24	Southwest	Downwind	Worker activity	No observations seen to affect sampling integrity
16 25m Southeast of Ferry St. and Railway Rd. intersection	1300	155	21	Southwest	Upwind	Background	No observations seen to affect sampling integrity
17 100m Northwest of Inglis St. and Spar Rd. intersection	1300	155	29	Southwest	Downwind	Excavator moving material	No observations seen to affect sampling integrity
18 100m Northwest of Inglis St. and Spar Rd. intersection	1315	155	33	Southwest	Downwind	Excavator moving material	No observations seen to affect sampling integrity
19 25m Southeast of Ferry St. and Railway Rd. intersection	1400	155	26	Southwest	Upwind	Background	No observations seen to affect sampling integrity
20 100m Northwest of Inglis St. and Spar Rd. intersection	1400	155	56	Southwest	Downwind	Excavator moving material	Visible dust from off-site traffic

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 100m Northwest of Inglis St. and Spar Rd. intersection	1420	155	35	Southwest	Downwind	Excavator moving material	No observations seen to affect sampling integrity
22 25m Southeast of Ferry St. and Railway Rd. intersection	1500	155	34	West	Upwind	Background	No observations seen to affect sampling integrity
23 30m Northwest of Inglis St. and Spar Rd. intersection	1500	155	34	West	Downwind	No activity observed on site	No observations seen to affect sampling integrity
24 30m Northwest of Inglis St. and Spar Rd. intersection	1520	155	67	West	Downwind	Excavator moving material	Visible dust from off-site traffic
25 25m Southeast of Ferry St. and Railway Rd. intersection	1600	155	27	West	Upwind	Background	No observations seen to affect sampling integrity
26 30m Northwest of Inglis St. and Spar Rd. intersection	1600	155	43	West	Downwind	Excavator moving material	No observations seen to affect sampling integrity
27 30m Northwest of Inglis St. and Spar Rd. intersection	1645	155	33	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.

### 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 Northwest of Inglis St. and Spar Rd. intersection	0800 to 0859	23	990
100m Northwest of Inglis St. and Spar Rd. intersection	0900 to 0959	51	990
100m Northwest of Inglis St. and Spar Rd. intersection	1000 to 1059	76	990
100m Northwest of Inglis St. and Spar Rd. intersection	1100 to 1159	105	990
100m Northwest of Inglis St. and Spar Rd. intersection	1200 to 1259	131	990
100m Northwest of Inglis St. and Spar Rd. intersection	1300 to 1359	162	990
100m Northwest of Inglis St. and Spar Rd. intersection	1400 to 1459	208	990
30m Northwest of Inglis St. and Spar Rd. intersection	1500 to 1559	259	990
30m Northwest of Inglis St. and Spar Rd. intersection	1600 to 1659	297	990

### VOC Monitoring

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