

## MEMORANDUM

**TO** Dawn MacNeil, STPA  
**FROM** Dianne Theriault  
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**DATE** 6<sup>th</sup> February, 2009

**FILE NO.** S-1269-04  
**SHIFT:** 0730 to 1730  
**CC:** Shawn Bernon, STPA  
Wilfred Kaiser, STPA  
Terry Smith, ALL-TECH

**STPA NO.** TP2-0102

**SUBJECT: 6<sup>th</sup> February, 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 6<sup>th</sup> of February, 2009. Colin MacIsaac and Reg Peters, 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 -7°C  
- Wind Direction: 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 Colin MacIsaac 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**  
**6<sup>th</sup> February, 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 20m North of Ferry Street, Walker Street intersection	0800	155	6	West	Upwind	Background	No observations seen to affect sampling integrity
2 60m North of Inglis Street, Spar Road intersection	0800	155	2	West	Downwind	No activity observed on site	No observations seen to affect sampling integrity
3 60m North of Inglis Street, Spar Road intersection	0825	155	1	West	Downwind	Machine moving material	No observations seen to affect sampling integrity
4 40m North of Ferry Street, Walker Street intersection	0900	155	2	West	Upwind	Background	No observations seen to affect sampling integrity
5 60m North of Inglis Street, Spar Road intersection	0900	155	1	West	Downwind	Machine moving material	No observations seen to affect sampling integrity
6 60m North of Inglis Street, Spar Road intersection	0935	155	3	West	Downwind	Machine 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
7 40m North of Ferry Street, Walker Street intersection	1000	155	13	West	Upwind	Background	No observations seen to affect sampling integrity
8 30m North of Inglis Street, Spar Road intersection	1000	155	3	West	Downwind	No activity observed on site	No observations seen to affect sampling integrity
9 30m North of Inglis Street, Spar Road intersection	1045	155	4	West	Downwind	Machine moving material	No observations seen to affect sampling integrity
10 40m North of Ferry Street, Walker Street intersection	1100	155	2	West	Upwind	Background	No observations seen to affect sampling integrity
11 30m North of Inglis Street, Spar Road intersection	1100	155	4	West	Downwind	Machine moving material	No observations seen to affect sampling integrity
12 30m North of Inglis Street, Spar Road intersection	1135	155	4	West	Downwind	Machine moving material	No observations seen to affect sampling integrity
13 40m North of Ferry Street, Walker Street intersection	1200	155	4	West	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 30m North of Inglis Street, Spar Road intersection	1200	155	3	West	Downwind	No activity observed on site	No observations seen to affect sampling integrity
15 30m North of Inglis Street, Spar Road intersection	1245	155	4	West	Downwind	Machine moving material	No observations seen to affect sampling integrity
16 40m North of Ferry Street, Walker Street intersection	1300	155	2	West	Upwind	Background	No observations seen to affect sampling integrity
17 30m North of Inglis Street, Spar Road intersection	1300	155	3	West	Downwind	Machine moving material	No observations seen to affect sampling integrity
18 30m North of Inglis Street, Spar Road intersection	1340	155	5	West	Downwind	Machine moving material	No observations seen to affect sampling integrity
19 40m North of Ferry Street, Walker Street intersection	1400	155	4	West	Upwind	Background	No observations seen to affect sampling integrity
20 30m North of Inglis Street, Spar Road intersection	1400	155	3	West	Downwind	Machine 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
21 30m North of Inglis Street, Spar Road intersection	1425	155	3	West	Downwind	Machine moving material	No observations seen to affect sampling integrity
22 40m North of Ferry Street, Walker Street intersection	1500	155	5	West	Upwind	Background	No observations seen to affect sampling integrity
23 30m North of Inglis Street, Spar Road intersection	1500	155	3	West	Downwind	Machine moving material	No observations seen to affect sampling integrity
24 30m North of Inglis Street, Spar Road intersection	1540	155	7	West	Downwind	Machine moving material	No observations seen to affect sampling integrity
25 40m North of Ferry Street, Walker Street intersection	1600	155	3	West	Upwind	Background	No observations seen to affect sampling integrity
26 30m North of Inglis Street, Spar Road intersection	1600	155	3	West	Downwind	Machine moving material	No observations seen to affect sampling integrity
27 30m North of Inglis Street, Spar Road intersection	1645	155	3	West	Downwind	Machine moving material	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 ( $\mu\text{g}/\text{m}^3$ )
60m North of Inglis Street, Spar Road intersection	0800 to 0859	2	990
60m North of Inglis Street, Spar Road intersection	0900 to 0959	4	990
30m North of Inglis Street, Spar Road intersection	1000 to 1059	8	990
30m North of Inglis Street, Spar Road intersection	1100 to 1159	12	990
30m North of Inglis Street, Spar Road intersection	1200 to 1259	16	990
30m North of Inglis Street, Spar Road intersection	1300 to 1359	20	990
30m North of Inglis Street, Spar Road intersection	1400 to 1459	23	990
30m North of Inglis Street, Spar Road intersection	1500 to 1559	28	990
30m North of Inglis Street, Spar Road intersection	1600 to 1659	31	990

### VOC Monitoring

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