

## MEMORANDUM

**TO** Dawn MacNeil, STPA  
**FROM** Dianne Theriault  
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**DATE** 22<sup>nd</sup> December, 2008

**FILE NO.** S-1243-14  
**SHIFT:** 0730 to 1730  
**CC:** Shawn Bernon, STPA  
Wilfred Kaiser, STPA  
Terry Smith, ALL-TECH

**STPA NO.** TP2-0076

**SUBJECT: 19<sup>nd</sup> December, 2008, 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 19<sup>th</sup> of December, 2008. 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:

- Cloudy with snow flurries
- Temperature: approximately -11°C
- Wind Direction: Northwest

**Comments:** ALL-TECH was on-Site at 0730 hours and sampling began as soon as there was site activity, but was later put on standby from 1030 to 1200 hours, 1230 to 1300 hours and 1430 to 1530 hours due to periods of precipitation. Air monitoring resumed at 1530 hours when weather conditions were within instrument specifications. 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**  
**19<sup>th</sup> December, 2008**

<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 120m Northeast of Midway building on railway property	0800	155	26	Northwest	Upwind	Background	No observations seen to affect sampling integrity
2 10m North of Spar Road, Inglis Street intersection	0800	155	9	Northwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
3 10m North of Spar Road, Inglis Street intersection	0830	155	10	Northwest	Downwind	Machine moving material	No observations seen to affect sampling integrity
4 120m Northeast of Midway building on railway property	0900	155	15	Northwest	Upwind	Background	No observations seen to affect sampling integrity
5 10m North of Spar Road, Inglis Street intersection	0900	155	9	Northwest	Downwind	Machine moving material	No observations seen to affect sampling integrity
6 10m North of Spar Road, Inglis Street intersection	0945	155	8	Northwest	Downwind	Machine 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 120m Northeast of Midway building on railway property	1000	155	16	Northwest	Upwind	Background	No observations seen to affect sampling integrity
8 10m North of Spar Road, Inglis Street intersection	1000	155	12	Northwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
9 120m Northeast of Midway building on railway property	1200	155	6	Northwest	Upwind	Background	No observations seen to affect sampling integrity
10 10m North of Spar Road, Inglis Street intersection	1200	155	10	Northwest	Downwind	No activity observed onsite	No observations seen to affect sampling integrity
11 120m Northeast of Midway building on railway property	1300	155	6	Northwest	Upwind	Background	No observations seen to affect sampling integrity
12 10m North of Spar Road, Inglis Street intersection	1300	155	17	Northwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
13 10m North of Spar Road, Inglis Street intersection	1340	155	6	Northwest	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
14 10m North of Spar Road, Inglis Street intersection	1400	155	15	Northwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
15 120m Northeast of Midway building on railway property	1530	155	6	Northwest	Upwind	Background	No observations seen to affect sampling integrity
16 10m North of Spar Road, Inglis Street intersection	1530	155	10	Northwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
17 10m North of Spar Road, Inglis Street intersection	1545	155	7	Northwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
18 120m Northeast of Midway building on railway property	1600	155	6	Northwest	Upwind	Background	No observations seen to affect sampling integrity
19 10m North of Spar Road, Inglis Street intersection	1600	155	7	Northwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
20 10m North of Spar Road, Inglis Street intersection	1645	155	7	Northwest	Downwind	No activity observed onsite	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 ( $\mu\text{g}/\text{m}^3$ )
10m North of Spar Road, Inglis Street intersection	0800 to 0859	10	990
10m North of Spar Road, Inglis Street intersection	0900 to 0959	19	990
10m North of Spar Road, Inglis Street intersection	1000 to 1059	31	990
10m North of Spar Road, Inglis Street intersection	1200 to 1259	41	990
10m North of Spar Road, Inglis Street intersection	1300 to 1359	53	990
10m North of Spar Road, Inglis Street intersection	1400 to 1459	68	990
10m North of Spar Road, Inglis Street intersection	1500 to 1559	77	990
10m North of Spar Road, Inglis Street intersection	1600 to 1659	84	990

### VOC Monitoring

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