

## MEMORANDUM

**TO** Dawn MacNeil, STPA  
**FROM** Dianne Theriault  
**TEL** (902) 539-3012  
**FAX** (902) 539-3381  
**DATE** 10<sup>th</sup> March, 2009

**FILE NO.** S-1279-04  
**SHIFT:** 0730 to 1730  
**CC:** Shawn Bernon, STPA  
Wilfred Kaiser, STPA  
Terry Smith, ALL-TECH  
**STPA NO.** TP2-0120

**SUBJECT: 9<sup>th</sup> March, 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 9<sup>th</sup> of March, 2009. Nigel MacLean and Shaun Dove, 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 -3°C  
- Wind Direction: North

**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 Nigel MacLean 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:

Shawn Bernon [shawn@tarpondscleanup.ca](mailto:shawn@tarpondscleanup.ca), Wilfred Kaiser [wilfred@tarpondscleanup.ca](mailto:wilfred@tarpondscleanup.ca), Nancy LeDrew [nancy@tarpondscleanup.ca](mailto:nancy@tarpondscleanup.ca), Trish Magliaro [trish@tarpondscleanup.ca](mailto:trish@tarpondscleanup.ca), Terry Smith [tsmith@toalltech.com](mailto:tsmith@toalltech.com), Phyllis Low [pilow@toalltech.com](mailto:pilow@toalltech.com), Dianne Theriault [dtheriault@toalltech.com](mailto:dtheriault@toalltech.com), Darren Gardiner [dgardiner@croworld.com](mailto:dgardiner@croworld.com), Darren Lawless [dlawless@toalltech.com](mailto:dlawless@toalltech.com), Kevin Mac Pherson [kevinmacp@cbcl.ca](mailto:kevinmacp@cbcl.ca), Kathy Harquail [kharquail@toalltech.com](mailto:kharquail@toalltech.com)

**Real-time Airborne PM<sub>10</sub> Concentration Results**  
**Sydney Tar Ponds Agency – Material Processing Facility**  
**9<sup>th</sup> March, 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 100m North of workers entrance of TP2 site.	0800	155	8	North	Upwind	Background	No observations seen to affect sampling integrity
2 100m West of Spar Rd, Inglis Street intersection	0800	155	12	North	Downwind	No activity observed on site	No observations seen to affect sampling integrity
3 100m West of Spar Rd, Inglis Street intersection	0830	155	10	North	Downwind	Machine moving material	No observations seen to affect sampling integrity
4 100m North of workers entrance of TP2 site.	0900	155	3	North	Upwind	Background	No observations seen to affect sampling integrity
5 100m West of Spar Rd, Inglis Street intersection	0900	155	9	North	Downwind	Machine moving material	No observations seen to affect sampling integrity
6 100m West of Spar Rd, Inglis Street intersection	0915	155	7	North	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 100m North of workers entrance of TP2 site.	1000	155	1	North	Upwind	Background	No observations seen to affect sampling integrity
8 100m West of Spar Rd, Inglis Street intersection	1000	155	5	North	Downwind	No activity observed on site	No observations seen to affect sampling integrity
9 100m West of Spar Rd, Inglis Street intersection	1025	155	6	North	Downwind	Machine moving material	No observations seen to affect sampling integrity
10 100m North of workers entrance of TP2 site.	1100	155	1	North	Upwind	Background	No observations seen to affect sampling integrity
11 100m West of Spar Rd, Inglis Street intersection	1100	155	12	North	Downwind	Machine moving material	No observations seen to affect sampling integrity
12 100m West of Spar Rd, Inglis Street intersection	1120	155	7	North	Downwind	Machine moving material	No observations seen to affect sampling integrity
13 100m North of workers entrance of TP2 site.	1200	155	1	North	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 West of Spar Rd, Inglis Street intersection	1200	155	5	North	Downwind	No activity observed on site	No observations seen to affect sampling integrity
15 100m West of Spar Rd, Inglis Street intersection	1245	155	12	North	Downwind	Machine moving materials.	No observations seen to affect sampling integrity
16 100m North of workers entrance of TP2 site.	1300	155	1	North	Upwind	Background	No observations seen to affect sampling integrity
17 100m West of Spar Rd, Inglis Street intersection	1300	155	19	North	Downwind	Machines moving material.	No observations seen to affect sampling integrity
18 100m West of Spar Rd, Inglis Street intersection	1345	155	14	North	Downwind	Machines moving material	No observations seen to affect sampling integrity
19 100m North of workers entrance of TP2 site.	1400	155	1	North	Upwind	Background	No observations seen to affect sampling integrity
20 100m West of Spar Rd, Inglis Street intersection	1400	155	6	North	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
21 100m West of Spar Rd, Inglis Street intersection	1430	155	18	North	Downwind	Machines moving material	No observations seen to affect sampling integrity
22 100m North of workers entrance of TP2 site.	1500	155	1	North	Upwind	Background	No observations seen to affect sampling integrity
23 100m West of Spar Rd, Inglis Street intersection	1500	155	13	North	Downwind	Machines moving material	No observations seen to affect sampling integrity
24 100m West of Spar Rd, Inglis Street intersection	1545	155	9	North	Downwind	Machines moving material	No observations seen to affect sampling integrity
25 100m North of workers entrance of TP2 site.	1600	155	1	North	Upwind	Background	No observations seen to affect sampling integrity
26 100m West of Spar Rd, Inglis Street intersection	1600	155	10	North	Downwind	Machines moving material	No observations seen to affect sampling integrity
27 100m West of Spar Rd, Inglis Street intersection	1645	155	5	North	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 West of Spar Rd, Inglis Street intersection	0800 to 0859	11	990
100m West of Spar Rd, Inglis Street intersection	0900 to 0959	19	990
100m West of Spar Rd, Inglis Street intersection	1000 to 1059	25	990
100m West of Spar Rd, Inglis Street intersection	1100 to 1159	35	990
100m West of Spar Rd, Inglis Street intersection	1200 to 1259	44	990
100m West of Spar Rd, Inglis Street intersection	1300 to 1359	61	990
100m West of Spar Rd, Inglis Street intersection	1400 to 1459	73	990
100m West of Spar Rd, Inglis Street intersection	1500 to 1559	84	990
100m West of Spar Rd, Inglis Street intersection	1600 to 1659	92	990

### VOC Monitoring

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