

## MEMORANDUM

<b>TO</b>	Dawn MacNeil, STPA	<b>FILE NO.</b>	S-1279-13
<b>FROM</b>	Dianne Theriault	<b>SHIFT:</b>	0730 to 1730
<b>TEL</b>	(902) 539-3012	<b>CC:</b>	Shawn Bernon, STPA
<b>FAX</b>	(902) 539-3381		Wilfred Kaiser, STPA
<b>DATE</b>	24 <sup>th</sup> March, 2009		Terry Smith, ALL-TECH
		<b>STPA NO.</b>	<b>TP2-0129</b>

**SUBJECT: 23<sup>rd</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 23<sup>rd</sup> of March, 2009. Alison Giovannetti and Jennifer Andrews, of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH), performed all air monitoring activities.

Weather conditions on the day of sampling:

- Mainly cloudy with flurries
- Temperature: approximately 2°C
- Wind Direction: South to Southeast

**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**  
**23<sup>rd</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 15m West of Inglis St. and Terminal Rd. Intersection	0800	155	12	South	Upwind	Background	No observations seen to affect sampling integrity
2 100m Northwest of Inglis St. and Spar Rd. Intersection	0800	155	10	South	Downwind	Worker activity and machines in operation	No observations seen to affect sampling integrity
3 100m Northwest of Inglis St. and Spar Rd. Intersection	0835	155	11	South	Downwind	Worker activity and machines in operation	No observations seen to affect sampling integrity
4 15m West of Inglis St. and Terminal Rd. Intersection	0900	155	11	South	Upwind	Background	No observations seen to affect sampling integrity
5 100m Northwest of Inglis St. and Spar Rd. Intersection	0900	155	9	South	Downwind	Worker activity and machines in operation	No observations seen to affect sampling integrity
6 100m Northwest of Inglis St. and Spar Rd. Intersection	0930	155	8	South	Downwind	Worker activity and machines in operation	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 15m West of Inglis St. and Terminal Rd. Intersection	1000	155	10	South	Upwind	Background	No observations seen to affect sampling integrity
8 100m Northwest of Inglis St. and Spar Rd. Intersection	1000	155	6	South	Downwind	No activity observed on site	No observations seen to affect sampling integrity
9 100m Northwest of Inglis St. and Spar Rd. Intersection	1015	155	7	South	Downwind	Worker activity and machines in operation	No observations seen to affect sampling integrity
10 30m North of STPA building along Inglis St.	1100	155	6	Southeast	Upwind	Background	No observations seen to affect sampling integrity
11 130m Northwest of Inglis St. and Spar Rd. Intersection	1100	155	7	Southeast	Downwind	Worker activity and machines in operation	No observations seen to affect sampling integrity
12 130m Northwest of Inglis St. and Spar Rd. Intersection	1125	155	5	Southeast	Downwind	Worker activity and machines in operation	No observations seen to affect sampling integrity
13 30m North of STPA building along Inglis St.	1200	155	5	Southeast	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 130m Northwest of Inglis St. and Spar Rd. Intersection	1200	155	6	Southeast	Downwind	No activity observed on site	No observations seen to affect sampling integrity
15 130m Northwest of Inglis St. and Spar Rd. Intersection	1245	155	5	Southeast	Downwind	No activity observed on site	No observations seen to affect sampling integrity
16 30m North of STPA building along Inglis St.	1300	155	6	Southeast	Upwind	Background	No observations seen to affect sampling integrity
17 130m Northwest of Inglis St. and Spar Rd. Intersection	1300	155	5	Southeast	Downwind	Worker activity and machines in operation	No observations seen to affect sampling integrity
18 130m Northwest of Inglis St. and Spar Rd. Intersection	1320	155	5	Southeast	Downwind	Worker activity and machines in operation	No observations seen to affect sampling integrity
19 30m North of STPA building along Inglis St.	1400	155	4	Southeast	Upwind	Background	No observations seen to affect sampling integrity
20 130m Northwest of Inglis St. and Spar Rd. Intersection	1400	155	5	Southeast	Downwind	Worker activity and machines 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
21 130m Northwest of Inglis St. and Spar Rd. Intersection	1430	155	8	Southeast	Downwind	Worker activity and machines in operation	No observations seen to affect sampling integrity
22 30m North of STPA building along Inglis St.	1500	155	5	Southeast	Upwind	Background	No observations seen to affect sampling integrity
23 130m Northwest of Inglis St. and Spar Rd. Intersection	1500	155	7	Southeast	Downwind	Worker activity and machines in operation	No observations seen to affect sampling integrity
24 130m Northwest of Inglis St. and Spar Rd. Intersection	1520	155	7	Southeast	Downwind	Worker activity and machines in operation	No observations seen to affect sampling integrity
25 30m North of STPA building along Inglis St.	1600	155	6	Southeast	Upwind	Background	No observations seen to affect sampling integrity
26 130m Northwest of Inglis St. and Spar Rd. Intersection	1600	155	11	Southeast	Downwind	Worker activity and machines in operation	No observations seen to affect sampling integrity
27 130m Northwest of Inglis St. and Spar Rd. Intersection	1645	155	11	Southeast	Downwind	Worker activity and machines in operation	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	11	990
100m Northwest of Inglis St. and Spar Rd. Intersection	0900 to 0959	20	990
100m Northwest of Inglis St. and Spar Rd. Intersection	1000 to 1059	27	990
130m Northwest of Inglis St. and Spar Rd. Intersection	1100 to 1159	33	990
130m Northwest of Inglis St. and Spar Rd. Intersection	1200 to 1259	39	990
130m Northwest of Inglis St. and Spar Rd. Intersection	1300 to 1359	44	990
130m Northwest of Inglis St. and Spar Rd. Intersection	1400 to 1459	51	990
130m Northwest of Inglis St. and Spar Rd. Intersection	1500 to 1559	58	990
130m Northwest of Inglis St. and Spar Rd. Intersection	1600 to 1659	69	990

### VOC Monitoring

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