

## MEMORANDUM

<b>TO</b>	Dawn MacNeil, STPA	<b>FILE NO.</b>	S-1270-02
<b>FROM</b>	Dianne Theriault	<b>SHIFT:</b>	0730 to 1630
<b>TEL</b>	(902) 539-3012	<b>CC:</b>	Shawn Bernon, STPA Wilfred Kaiser, STPA Terry Smith, ALL-TECH
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<b>DATE</b>	11 <sup>th</sup> February, 2009	<b>STPA NO.</b>	CO2-0002

**SUBJECT: 10<sup>th</sup> February, 2009, Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – Tar Cell  
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 10<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:

- Sunny with cloudy periods
- Temperature: approximately -10°C
- Wind Direction: Northwest

**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 – Tar Cell**  
**10<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 15m North of Spar Road, Spar Extension intersection	0800	155	8	Northwest	Upwind	Background	No observations seen to affect sampling integrity
2 150m Southeast of Spar Road, Spar Road extension intersection	0800	155	4	Northwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
3 150m Southeast of Spar Road, Spar Road extension intersection	0835	155	2	Northwest	Downwind	Excavator digging	No observations seen to affect sampling integrity
4 15m North of Spar Road, Spar Extension intersection	0900	155	4	Northwest	Upwind	Background	No observations seen to affect sampling integrity
5 150m Southeast of Spar Road, Spar Road extension intersection	0900	155	4	Northwest	Downwind	Excavator digging	No observations seen to affect sampling integrity
6 150m Southeast of Spar Road, Spar Road extension intersection	0920	155	5	Northwest	Downwind	Excavator digging	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 North of Spar Road, Spar Extension intersection	1000	155	3	Northwest	Upwind	Background	No observations seen to affect sampling integrity
8 150m Southeast of Spar Road, Spar Road extension intersection	1000	155	11	Northwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
9 150m Southeast of Spar Road, Spar Road extension intersection	1030	155	11	Northwest	Downwind	Excavator digging	No observations seen to affect sampling integrity
10 15m North of Spar Road, Spar Extension intersection	1100	155	8	Northwest	Upwind	Background	No observations seen to affect sampling integrity
11 150m Southeast of Spar Road, Spar Road extension intersection	1100	155	11	Northwest	Downwind	Excavator digging	No observations seen to affect sampling integrity
12 150m Southeast of Spar Road, Spar Road extension intersection	1130	155	11	Northwest	Downwind	Excavator digging	No observations seen to affect sampling integrity
13 15m North of Spar Road, Spar Extension intersection	1200	155	13	Northwest	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 150m Southeast of Spar Road, Spar Road extension intersection	1200	155	11	Northwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
15 150m Southeast of Spar Road, Spar Road extension intersection	1245	155	9	Northwest	Downwind	Excavator digging	No observations seen to affect sampling integrity
16 15m North of Spar Road, Spar Extension intersection	1300	155	1	Northwest	Upwind	Background	No observations seen to affect sampling integrity
17 150m Southeast of Spar Road, Spar Road extension intersection	1300	155	7	Northwest	Downwind	Excavator digging	No observations seen to affect sampling integrity
18 150m Southeast of Spar Road, Spar Road extension intersection	1345	155	19	Northwest	Downwind	Excavator digging	No observations seen to affect sampling integrity
19 15m North of Spar Road, Spar Extension intersection	1400	155	5	Northwest	Upwind	Background	No observations seen to affect sampling integrity
20 150m Southeast of Spar Road, Spar Road extension intersection	1400	155	9	Northwest	Downwind	Excavator digging	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>
21 150m Southeast of Spar Road, Spar Road extension intersection	1430	155	9	Northwest	Downwind	Excavator digging	No observations seen to affect sampling integrity
22 15m North of Spar Road, Spar Extension intersection	1500	155	6	Northwest	Upwind	Background	No observations seen to affect sampling integrity
23 150m Southeast of Spar Road, Spar Road extension intersection	1500	155	7	Northwest	Downwind	Excavator digging	No observations seen to affect sampling integrity
24 150m Southeast of Spar Road, Spar Road extension intersection	1545	155	9	Northwest	Downwind	No activity observed	No observations seen to affect sampling integrity

### Comparison of Downwind Daily Results for Dust Budget

Location	Duration	Dust Budget Value ( $\mu\text{g}/\text{m}^3$ )	Dust Budget Exceedance Value ( $\mu\text{g}/\text{m}^3$ )
150m Southeast of Spar Road, Spar Road extension intersection	0800 to 0859	3	990
150m Southeast of Spar Road, Spar Road extension intersection	0900 to 0959	8	990
150m Southeast of Spar Road, Spar Road extension intersection	1000 to 1059	19	990
150m Southeast of Spar Road, Spar Road extension intersection	1100 to 1159	30	990
150m Southeast of Spar Road, Spar Road extension intersection	1200 to 1259	40	990
150m Southeast of Spar Road, Spar Road extension intersection	1300 to 1359	53	990
150m Southeast of Spar Road, Spar Road extension intersection	1400 to 1459	62	990
150m Southeast of Spar Road, Spar Road extension intersection	1500 to 1559	70	990

### VOC Monitoring

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