

## MEMORANDUM

**TO** Dawn MacNeil, STPA  
**FROM** Grant Harrigan  
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**DATE** 9<sup>th</sup> April, 2008

**FILE NO.** S-1114-08  
**SHIFT:** 0630 to 1800  
**CC:** Shawn Bernon, STPA  
Wilfred Kaiser, STPA  
Terry Smith, ALL-TECH

**STPA NO.** CP-0119

**SUBJECT: 8<sup>th</sup> April, 2008, Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – Cooling Pond  
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 8<sup>th</sup> of April, 2008. Reg Peters, Tyler Rowe and Colin MacIsaac of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH), performed all air monitoring activities.

Weather conditions on the day of sampling:

- Overcast
- Temperature: 3°C
- Wind Direction: North

**Comments:** *ALL-TECH was on-Site at 0630 and sampling began as soon as there was Site activity. Air monitoring was performed during EarthTech's construction activities. Tyler Rowe sampled at the upwind location until 1600, at which time Colin MacIsaac took over sampling until 1800.*

Monitoring activities were suspended from 1015 to 1115 and from 1530 to 1730, due to precipitation. ALL-TECH remained on stand-by until 1730, at which time construction activities concluded for the day.

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), TVOC sampling is halted and resumes after the precipitation has ended.

This report has been prepared by Tyler Rowe and reviewed by Grant Harrigan and Dianne Theriault. If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,



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Grant Harrigan, 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 – Cooling Pond**  
**8<sup>th</sup> April, 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 50m Northeast of Cooling Pond gate	0710	155	20	North	Upwind	Background	No observations seen to effect sampling integrity
2 30m Northwest of intersection of Inglis Street and Terminal Road	0710	155	9	North	Downwind	No activity observed on-Site	No observations seen to effect sampling integrity
3 30m Northwest of intersection of Inglis Street and Terminal Road	0745	155	20	North	Downwind	Excavators moving material	No observations seen to effect sampling integrity
4 50m Northeast of Cooling Pond gate	0800	155	18	North	Upwind	Background	No observations seen to effect sampling integrity
5 30m Northwest of intersection of Inglis Street and Terminal Road	0800	155	11	North	Downwind	Excavators moving material	No observations seen to effect sampling integrity
6 30m Northwest of intersection of Inglis Street and Terminal Road	0840	155	20	North	Downwind	Excavators moving material	No observations seen to effect 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 50m Northeast of Cooling Pond gate	0900	155	9	North	Upwind	Background	No observations seen to effect sampling integrity
8 30m Northwest of intersection of Inglis Street and Terminal Road	0900	155	6	North	Downwind	Excavators moving material	No observations seen to effect sampling integrity
9 30m Northwest of intersection of Inglis Street and Terminal Road	0920	155	6	North	Downwind	Excavators moving material	No observations seen to effect sampling integrity
10 50m Northeast of Cooling Pond gate	1000	155	6	North	Upwind	Background	No observations seen to effect sampling integrity
11 30m Northwest of intersection of Inglis Street and Terminal Road	1000	155	4	North	Downwind	Excavators moving material	No observations seen to effect sampling integrity
12 50m Northeast of Cooling Pond gate	1115	155	11	North	Upwind	Background	No observations seen to effect sampling integrity
13 20m Northwest of intersection of Inglis Street and Terminal Road	1115	155	10	North	Downwind	Excavators moving material	No observations seen to effect 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 20m Northwest of intersection of Inglis Street and Terminal Road	1140	155	9	North	Downwind	Excavators moving material	No observations seen to effect sampling integrity
15 50m Northeast of Cooling Pond gate	1200	155	9	North	Upwind	Background	No observations seen to effect sampling integrity
16 20m Northwest of intersection of Inglis Street and Terminal Road	1200	155	6	North	Downwind	Dump Truck dumping material	No observations seen to effect sampling integrity
17 20m Northwest of intersection of Inglis Street and Terminal Road	1225	155	7	North	Downwind	Excavators moving material	No observations seen to effect sampling integrity
18 60m East of cooling pond gate	1300	155	10	Northeast	Upwind	Background	No observations seen to effect sampling integrity
19 90m Northeast of Acadian Lines terminal	1300	155	8	Northeast	Downwind	Excavators moving material	No observations seen to effect sampling integrity
20 90m Northeast of Acadian Lines terminal	1320	155	8	Northeast	Downwind	Excavators moving material	No observations seen to effect 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 60m East of cooling pond gate	1400	155	9	Northeast	Upwind	Background	No observations seen to effect sampling integrity
22 90m Northeast of Acadian Lines terminal	1400	155	5	Northeast	Downwind	Excavators moving material	No observations seen to effect sampling integrity
23 90m Northeast of Acadian Lines terminal	1435	155	16	Northeast	Downwind	Excavators moving material	No observations seen to effect sampling integrity
24 60m East of cooling pond gate	1500	155	7	Northeast	Upwind	Background	No observations seen to effect sampling integrity
25 90m Northeast of Acadian Lines terminal	1500	155	7	Northeast	Downwind	Excavators moving material	No observations seen to effect sampling integrity
26 90m Northeast of Acadian Lines terminal	1500	155	3	Northeast	Downwind	Excavators moving material	No observations seen to effect 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 ( $\mu\text{g}/\text{m}^3$ )
30m Northwest of intersection of Inglis Street and Terminal Road	0700 to 0759	15	990
30m Northwest of intersection of Inglis Street and Terminal Road	0800 to 0859	31	990
30m Northwest of intersection of Inglis Street and Terminal Road	0900 to 0959	37	990
30m Northwest of intersection of Inglis Street and Terminal Road	1000 to 1059	41	990
20m Northwest of intersection of Inglis Street and Terminal Road	1100 to 1159	51	990
20m Northwest of intersection of Inglis Street and Terminal Road	1200 to 1259	58	990
90m Northeast of Acadian Lines terminal	1300 to 1359	66	990
90m Northeast of Acadian Lines terminal	1400 to 1459	77	990
90m Northeast of Acadian Lines terminal	1500 to 1559	80	990

### VOC Monitoring

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