

## MEMORANDUM

<b>TO</b>	Dawn MacNeil, STPA	<b>FILE NO.</b>	S-1193-06
<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>	9 <sup>th</sup> September, 2008		Terry Smith, ALL-TECH
		<b>STPA NO.</b>	<b>PS-0050</b>

**SUBJECT: 8<sup>th</sup> September, 2008, Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – South Pond Pilot Study  
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 September, 2008. Darren Lawless and Kelly Morrison 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 20°C
- Wind Direction: Southwest to North

**Comments:** *ALL-TECH was on-Site at 0730 and sampling began as soon as there was site activity. Air monitoring was performed during EarthTech'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 Kelly Morrison 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 – South Pond Pilot Study**  
**8<sup>th</sup> September, 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 10m Northeast of Intercolonial and Dorchester St. intersection	0800	155	2	West	Upwind	Background	No observations seen to affect sampling integrity
2 20 m Northeast of the Cooling Pond security gate	0800	155	20	West	Downwind	No activity observed on site	No observations seen to effect sampling integrity
3 20 m Northeast of the Cooling Pond security gate	0844	155	6	West	Downwind	Crane operating	No observations seen to effect sampling integrity
4 10m Northeast of Intercolonial and Dorchester St. intersection	0900	155	2	West	Upwind	Background	No observations seen to affect sampling integrity
5 20 m Northeast of the Cooling Pond security gate	0900	155	6	West	Downwind	Crane operating	No observations seen to effect sampling integrity
6 20 m Northeast of the Cooling Pond security gate	0945	155	12	West	Downwind	Crane operating	No observations seen to effect sampling integrity
7 15m north of Ferry and Walker St. intersection	1000	155	1	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
8 30 m Southeast of the Cooling Pond security gate	1000	155	13	Northwest	Downwind	Crane operating	No observations seen to effect sampling integrity
9 30 m Southeast of the Cooling Pond security gate	1017	155	13	Northwest	Downwind	Crane operating	No observations seen to effect sampling integrity
10 15m north of Ferry and Walker St. intersection	1100	155	1	Northwest	Upwind	Background	No observations seen to affect sampling integrity
11 30 m Southeast of the Cooling Pond security gate	1138	155	12	Northwest	Downwind	Crane operating	No observations seen to effect sampling integrity
12 15m north of Ferry and Walker St. intersection	1200	155	1	Northwest	Upwind	Background	No observations seen to affect sampling integrity
13 30 m Southeast of the Cooling Pond security gate	1200	155	10	Northwest	Downwind	Crane operating	No observations seen to effect sampling integrity
14 30 m Southeast of the Cooling Pond security gate	1226	155	13	Northwest	Downwind	Crane operating	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
15 15m north of Ferry and Walker St. intersection	1300	155	6	North	Upwind	Background	No observations seen to affect sampling integrity
16 30 m Southeast of the Cooling Pond security gate	1300	155	12	Northwest	Downwind	Driving support steel for sheet piling	No observations seen to effect sampling integrity
17 30 m Southeast of the Cooling Pond security gate	1321	155	16	Northwest	Downwind	Driving support steel for sheet piling	No observations seen to effect sampling integrity
18 15m north of Ferry and Walker St. intersection	1400	155	5	Northwest	Upwind	Background	No observations seen to affect sampling integrity
19 60m Southeast of cooling pond security gate	1400	155	15	Northwest	Downwind	Driving support steel for sheet piling	No observations seen to effect sampling integrity
20 60m Southeast of cooling pond security gate.	1417	155	16	Northwest	Downwind	Driving support steel for sheet piling	No observations seen to effect sampling integrity
21 15m north of Ferry and Walker St. Intersection	1500	155	3	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
22 60m Southeast of cooling pond security gate.	1500	155	16	Northwest	Downwind	Driving support steel for sheet piling	No observations seen to effect sampling integrity
23 60m Southeast of cooling pond security gate.	1530	155	24	Northwest	Downwind	Driving support steel for sheet piling	No observations seen to effect sampling integrity
24 10m East of Ferry St. bridge	1612	155	2	North	Upwind	Background	No observations seen to affect sampling integrity
25 10m East of Inglis and Cape Breton St. intersection	1600	155	7	North	Downwind	Driving support steel for sheet piling	No observations seen to effect sampling integrity
26 10m East of Inglis and Cape Breton St. intersection	1647	155	6	North	Downwind	Driving support steel for sheet piling	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 ( $\mu\text{g}/\text{m}^3$ )
20m Northeast of Cooling Pond security gate	0800 to 0859	13	990
20m Northeast of Cooling Pond security gate	0900 to 0959	22	990
30m Southeast of Cooling Pond security gate	1000 to 1059	35	990
30m Southeast of Cooling Pond security gate	1100 to 1159	47	990
30m Southeast of Cooling Pond security gate	1200 to 1259	59	990
30m Southeast of Cooling Pond security gate	1300 to 1359	73	990
60m Southeast of Cooling Pond security gate	1400 to 1459	89	990
60m Southeast of Cooling Pond security gate	1500 to 1559	109	990
10m East of the Inglis and Cape Breton St. corner	1600 to 1659	116	990

### VOC Monitoring

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