

MEMORANDUM

TO Dawn MacNeil, STPA
FROM Dianne Theriault
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DATE 8th June, 2009

FILE NO. S-1331-11
SHIFT: 0630 to 1830
CC: Shawn Bernon, STPA
Wilfred Kaiser, STPA
Terry Smith, ALL-TECH
STPA NO. TP6D-SP-0085

**SUBJECT: 5th June, 2009 Real-time Air Monitoring Results
Sydney Tar Ponds Agency – Access Roads, South Pond
FINAL REPORT**

Attached is a summary of Real-time particulate (as PM₁₀) results for air monitoring performed on the 5th of June, 2009. Jennifer Andrews and Dwayne Timmons 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 20°C
- Wind Direction: Northeast to Southwest

Comments: *ALL-TECH was on-Site at 0630 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 PM₁₀ were below the established Site Action Level for this parameter of 155 µg/m³.

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 Jennifer Andrews and reviewed by Dianne Theriault. If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,



Dianne Theriault, B.Tech
Environmental Technologist
ALL-TECH Environmental Services Cape Breton Ltd.

Copied via e-mail:

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Real-time Airborne PM₁₀ Concentration Results
Sydney Tar Ponds Agency – Access Roads, South Pond
5th June, 2009

Sample No. & Air Monitoring Location	Time of Day	PM₁₀ Action Level (µg/m³)	Average Result (µg/m³)	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
1 5m West of Ferry St. and Inglis St. intersection (N46°08.450' W060°11.380')	0700	155	18	Northeast	Upwind	Background	No observations seen to affect sampling integrity
2 70m Southwest of Dorchester St. and Intercolonial St. intersection (N46°08.500' W060°11.380')	0700	155	10	Northeast	Downwind	No activity observed on site	No observations seen to affect sampling integrity
3 70m Southwest of Dorchester St. and Intercolonial St. intersection (N46°08.500' W060°11.380')	0730	155	9	Northeast	Downwind	No activity observed on site	No observations seen to affect sampling integrity
4 5m West of Ferry St. and Inglis St. intersection (N46°08.450' W060°11.380')	0800	155	11	Northeast	Upwind	Background	No observations seen to affect sampling integrity
5 70m Southwest of Dorchester St. and Intercolonial St. intersection (N46°08.500' W060°11.380')	0800	155	17	Northeast	Downwind	Truck moving material	No observations seen to affect sampling integrity
6 120m Southwest of Dorchester St. and Intercolonial St. intersection (N46°08.484' W060°11.377')	0840	155	25	Northeast	Downwind	Truck moving material	No observations seen to affect sampling integrity

Sample No. & Air Monitoring Location	Time of Day	PM₁₀ Action Level (µg/m³)	Average Result (µg/m³)	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
7 5m West of Ferry St. and Inglis St. intersection (N46°08.450' W060°11.380')	0900	155	13	Northeast	Upwind	Background	No observations seen to affect sampling integrity
8 120m Southwest of Dorchester St. and Intercolonial St. intersection (N46°08.484' W060°11.377')	0900	155	23	Northeast	Downwind	No activity observed on site	No observations seen to affect sampling integrity
9 120m Southwest of Dorchester St. and Intercolonial St. intersection (N46°08.484' W060°11.377')	0945	155	6	Northeast	Downwind	Truck and loader in operation	No observations seen to affect sampling integrity
10 150m North of Dodd St. and Prince St. intersection (N46°08.877' W060°11.200')	1000	155	9	Southwest	Upwind	Background	No observations seen to affect sampling integrity
11 15m West of Ferry St. and Inglis St. intersection (N46°08.867' W060°11.210')	1000	155	7	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
12 15m West of Ferry St. and Inglis St. intersection (N46°08.867' W060°11.210')	1035	155	6	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity

Sample No. & Air Monitoring Location	Time of Day	PM ₁₀ Action Level (µg/m ³)	Average Result (µg/m ³)	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
13 150m North of Dodd St. and Prince St. intersection (N46°08.877' W060°11.200')	1100	155	9	Southwest	Upwind	Background	No observations seen to affect sampling integrity
14 15m West of Ferry St. and Inglis St. intersection (N46°08.867' W060°11.210')	1100	155	6	Southwest	Downwind	Truck moving material	No observations seen to affect sampling integrity
15 15m West of Ferry St. and Inglis St. intersection (N46°08.867' W060°11.210')	1115	155	7	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
16 150m North of Dodd St. and Prince St. intersection (N46°08.877' W060°11.200')	1200	155	10	Southwest	Upwind	Background	No observations seen to affect sampling integrity
17 15m West of Ferry St. and Inglis St. intersection (N46°08.867' W060°11.210')	1200	155	9	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
18 15m West of Ferry St. and Inglis St. intersection (N46°08.867' W060°11.210')	1245	155	7	Southwest	Downwind	Truck moving material	No observations seen to affect sampling integrity

Sample No. & Air Monitoring Location	Time of Day	PM ₁₀ Action Level (µg/m ³)	Average Result (µg/m ³)	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
19 150m North of Dodd St. and Prince St. intersection (N46°08.877' W060°11.200')	1300	155	11	Southwest	Upwind	Background	No observations seen to affect sampling integrity
20 15m West of Ferry St. and Inglis St. intersection (N46°08.867' W060°11.210')	1300	155	9	Southwest	Downwind	Truck moving material	No observations seen to affect sampling integrity
21 15m West of Ferry St. and Inglis St. intersection (N46°08.867' W060°11.210')	1325	155	8	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
22 150m North of Dodd St. and Prince St. intersection (N46°08.877' W060°11.200')	1400	155	14	Southwest	Upwind	Background	No observations seen to affect sampling integrity
23 15m West of Ferry St. and Inglis St. intersection (N46°08.867' W060°11.210')	1400	155	15	Southwest	Downwind	Truck moving material	No observations seen to affect sampling integrity
24 15m West of Ferry St. and Inglis St. intersection (N46°08.867' W060°11.210')	1445	155	9	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity

Sample No. & Air Monitoring Location	Time of Day	PM ₁₀ Action Level (µg/m ³)	Average Result (µg/m ³)	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
25 150m North of Dodd St. and Prince St. intersection (N46°08.877' W060°11.200')	1500	155	12	Southwest	Upwind	Background	No observations seen to affect sampling integrity
26 15m West of Ferry St. and Inglis St. intersection (N46°08.867' W060°11.210')	1500	155	22	Southwest	Downwind	Truck moving material	No observations seen to affect sampling integrity
27 15m West of Ferry St. and Inglis St. intersection (N46°08.867' W060°11.210')	1535	155	10	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
28 150m North of Dodd St. and Prince St. intersection (N46°08.877' W060°11.200')	1600	155	11	Southwest	Upwind	Background	No observations seen to affect sampling integrity
29 15m West of Ferry St. and Inglis St. intersection (N46°08.867' W060°11.210')	1600	155	7	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
30 15m West of Ferry St. and Inglis St. intersection (N46°08.867' W060°11.210')	1620	155	9	Southwest	Downwind	Truck moving material	No observations seen to affect sampling integrity

Sample No. & Air Monitoring Location	Time of Day	PM ₁₀ Action Level (µg/m ³)	Average Result (µg/m ³)	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
31 150m North of Dodd St. and Prince St. intersection (N46°08.877' W060°11.200')	1700	155	10	Southwest	Upwind	Background	No observations seen to affect sampling integrity
32 15m West of Ferry St. and Inglis St. intersection (N46°08.867' W060°11.210')	1700	155	12	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
32 15m West of Ferry St. and Inglis St. intersection (N46°08.867' W060°11.210')	1745	155	6	Southwest	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 ($\mu\text{g}/\text{m}^3$)
70m Southwest of Dorchester St. and Intercolonial St. intersection	0700 to 0759	10	990
70m / 120m Southwest of Dorchester St. and Intercolonial St. intersection	0800 to 0859	31	990
120m Southwest of Dorchester St. and Intercolonial St. intersection	0900 to 0959	46	990
15m West of Ferry St. and Inglis St. intersection	1000 to 1059	53	990
15m West of Ferry St. and Inglis St. intersection	1100 to 1159	60	990
15m West of Ferry St. and Inglis St. intersection	1200 to 1259	68	990
15m West of Ferry St. and Inglis St. intersection	1300 to 1359	77	990
15m West of Ferry St. and Inglis St. intersection	1400 to 1459	89	990
15m West of Ferry St. and Inglis St. intersection	1500 to 1559	105	990
15m West of Ferry St. and Inglis St. intersection	1600 to 1659	113	990
15m West of Ferry St. and Inglis St. intersection	1700 to 1759	122	990

VOC Monitoring

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