

MEMORANDUM

TO Dawn MacNeil, STPA
FROM Dianne Theriault
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DATE 15th May, 2009

FILE NO. S-1313-18
SHIFT: 0630 to 1830
CC: Shawn Bernon, STPA
Wilfred Kaiser, STPA
Terry Smith, ALL-TECH
STPA NO. TP6D-SP-0056

**SUBJECT: 14th May, 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 14th of May, 2009. Jennifer Andrews, Nigel MacLean and Tyler Rowe 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 19°C
- Wind Direction: Southwest to West 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
14th May, 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 20m South of fixed station on Intercolonial St.	0700	155	13	Southwest	Upwind	Background	No observations seen to affect sampling integrity
2 20m Southwest of Ferry St. and Inglis St. intersection	0700	155	23	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
3 20m Southwest of Ferry St. and Inglis St. intersection	0725	155	22	Southwest	Downwind	Excavators moving material	No observations seen to affect sampling integrity
4 20m South of fixed station on Intercolonial St.	0800	155	14	Southwest	Upwind	Background	No observations seen to affect sampling integrity
5 20m Southwest of Ferry St. and Inglis St. intersection	0800	155	27	Southwest	Downwind	Excavators moving material	No observations seen to affect sampling integrity
6 20m Southwest of Ferry St. and Inglis St. intersection	0815	155	26	Southwest	Downwind	Excavators 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
7 20m South of fixed station on Intercolonial St.	0900	155	16	Southwest	Upwind	Background	No observations seen to affect sampling integrity
8 20m Southwest of Ferry St. and Inglis St. intersection	0900	155	26	Southwest	Downwind	Excavators moving material	No observations seen to affect sampling integrity
9 20m Southwest of Ferry St. and Inglis St. intersection	0930	155	26	Southeast	Downwind	Excavators moving material	No observations seen to affect sampling integrity
10 5m Northwest of fixed station on Intercolonial St.	1000	155	15	West	Upwind	Background	No observations seen to affect sampling integrity
11 30m South of Ferry St. and Inglis St. intersection	1000	155	20	West	Downwind	Excavators moving material	No observations seen to affect sampling integrity
12 30m South of Ferry St. and Inglis St. intersection	1030	155	42	West	Downwind	Excavators moving material	No observations seen to affect sampling integrity
13 5m Northwest of fixed station on Intercolonial St.	1100	155	18	West	Upwind	Background	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
14 30m South of Ferry St. and Inglis St. intersection	1100	155	35	West	Downwind	Excavators moving material	No observations seen to affect sampling integrity
15 30m South of Ferry St. and Inglis St. intersection	1130	155	31	West	Downwind	Excavators moving material	No observations seen to affect sampling integrity
16 20m South of fixed station on Intercolonial St	1200	155	16	Southwest	Upwind	Background	No observations seen to affect sampling integrity
17 20m West of Ferry St. and Inglis St. intersection	1200	155	33	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
18 20m West of Ferry St. and Inglis St. intersection	1240	155	25	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
19 20m South of fixed station on Intercolonial St	1300	155	27	Southwest	Upwind	Background	No observations seen to affect sampling integrity
20 20m West of Ferry St. and Inglis St. intersection	1300	155	29	Southwest	Downwind	Excavators 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
21 20m West of Ferry St. and Inglis St. intersection	1320	155	26	Southwest	Downwind	Excavators moving material	No observations seen to affect sampling integrity
22 20m South of fixed station on Intercolonial St	1400	155	20	Southwest	Upwind	Background	No observations seen to affect sampling integrity
23 20m West of Ferry St. and Inglis St. intersection	1400	155	40	Southwest	Downwind	Excavators moving material	No observations seen to affect sampling integrity
24 20m West of Ferry St. and Inglis St. intersection	1420	155	54	Southwest	Downwind	Excavators moving material	No observations seen to affect sampling integrity
25 20m South of fixed station on Intercolonial St.	1500	155	30	Southwest	Upwind	Background	No observations seen to affect sampling integrity
26 20m West of Ferry St. and Inglis St. intersection	1500	155	28	Southwest	Downwind	Excavators moving material	No observations seen to affect sampling integrity
27 20m West of Ferry St. and Inglis St. intersection	1520	155	27	Southwest	Downwind	Excavators 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
28 20m South of fixed station on Intercolonial St.	1600	155	27	Southwest	Upwind	Background	No observations seen to affect sampling integrity
29 20m West of Ferry St. and Inglis St. intersection	1600	155	40	Southwest	Downwind	Loader moving material	No observations seen to affect sampling integrity
30 20m West of Ferry St. and Inglis St. intersection	1635	155	30	Southwest	Downwind	Loader moving material	No observations seen to affect sampling integrity
31 20m South of fixed station on Intercolonial St.	1700	155	19	Southwest	Upwind	Background	No observations seen to affect sampling integrity
32 20m West of Ferry St. and Inglis St. intersection	1700	155	27	Southwest	Downwind	Loader moving material	No observations seen to affect sampling integrity
33 20m West of Ferry St. and Inglis St. intersection	1745	155	22	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 ($\mu\text{g}/\text{m}^3$)
20m Southwest of Ferry St. and Inglis St. intersection	0700 to 0759	23	990
20m Southwest of Ferry St. and Inglis St. intersection	0800 to 0859	50	990
20m Southwest of Ferry St. and Inglis St. intersection	0900 to 0959	76	990
30m South of Ferry St. and Inglis St. intersection	1000 to 1059	107	990
30m South of Ferry St. and Inglis St. intersection	1100 to 1159	140	990
20m West of Ferry St. and Inglis St. intersection	1200 to 1259	169	990
20m West of Ferry St. and Inglis St. intersection	1300 to 1359	197	990
20m West of Ferry St. and Inglis St. intersection	1400 to 1459	244	990
20m West of Ferry St. and Inglis St. intersection	1500 to 1559	272	990
20m West of Ferry St. and Inglis St. intersection	1600 to 1659	307	990
20m West of Ferry St. and Inglis St. intersection	1700 to 1759	332	990

VOC Monitoring

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