

MEMORANDUM

TO Dawn MacNeil, STPA
FROM Dianne Theriault
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DATE 14th May, 2009

FILE NO. S-1313-17
SHIFT: 0630 to 1830
CC: Shawn Bernon, STPA
Wilfred Kaiser, STPA
Terry Smith, ALL-TECH
STPA NO. TP6D-SP-0055

**SUBJECT: 13th 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 13th of May, 2009. Jennifer Andrews and Nigel MacLean 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 16°C
- Wind Direction: West to Southwest to North to South

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
13th 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 2m West of Walker St. and Ferry St. intersection	0700	155	14	West	Upwind	Background	No observations seen to affect sampling integrity
2 50m Northwest of STPA office	0700	155	16	West	Downwind	Excavator operating	No observations seen to affect sampling integrity
3 50m Northwest of STPA office	0730	155	19	West	Downwind	Excavators moving materials	No observations seen to affect sampling integrity
4 5m Northwest of fixed station on Intercolonial St.	0800	155	13	Southwest	Upwind	Background	No observations seen to affect sampling integrity
5 20m West of Ferry St. and Inglis St. intersection	0800	155	15	Southwest	Downwind	Excavators moving materials	No observations seen to affect sampling integrity
6 20m West of Ferry St. and Inglis St. intersection	0825	155	18	Southwest	Downwind	Excavators moving materials	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 Northwest of fixed station on Intercolonial St.	0900	155	10	Southwest	Upwind	Background	No observations seen to affect sampling integrity
8 20m West of Ferry St. and Inglis St. intersection	0900	155	17	Southwest	Downwind	Excavators moving materials	No observations seen to affect sampling integrity
9 20m West of Ferry St. and Inglis St. intersection	0930	155	19	Southwest	Downwind	Excavators moving materials	No observations seen to affect sampling integrity
10 30m North of Railway Rd. and Ferry St. bridge intersection	1000	155	9	North	Upwind	Background	No observations seen to affect sampling integrity
11 60m North of Plaza Ford	1000	155	15	North	Downwind	Excavators moving materials	No observations seen to affect sampling integrity
12 60m North of Plaza Ford	1025	155	16	North	Downwind	Excavators moving materials	No observations seen to affect sampling integrity
13 5m West of Ferry St. and Inglis St. intersection	1100	155	14	North	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 60m North of Plaza Ford	1100	155	16	North	Downwind	Excavators moving materials	No observations seen to affect sampling integrity
15 60m North of Plaza Ford	1130	155	18	North	Downwind	Excavators moving materials	No observations seen to affect sampling integrity
16 5m West of Ferry St. and Inglis St. intersection	1200	155	14	North	Upwind	Background	No observations seen to affect sampling integrity
17 60m North of Plaza Ford	1200	155	18	North	Downwind	No activity observed on site	No observations seen to affect sampling integrity
18 60m North of Plaza Ford	1225	155	20	North	Downwind	No activity observed on site	No observations seen to affect sampling integrity
19 5m West of Ferry St. and Inglis St. intersection	1300	155	15	North	Upwind	Background	No observations seen to affect sampling integrity
20 60m North of Plaza Ford	1300	155	24	North	Downwind	Excavators moving materials	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 60m North of Plaza Ford	1340	155	19	North	Downwind	Excavators moving materials	No observations seen to affect sampling integrity
22 5m West of Ferry St. and Inglis St. intersection	1400	155	17	North	Upwind	Background	No observations seen to affect sampling integrity
23 60m North of Plaza Ford	1400	155	22	North	Downwind	Excavators moving materials	No observations seen to affect sampling integrity
24 60m North of Plaza Ford	1425	155	28	North	Downwind	Excavators moving materials	No observations seen to affect sampling integrity
25 60m North of Dodd St. and Prince St. intersection	1500	155	15	South	Upwind	Background	No observations seen to affect sampling integrity
26 25m West of Inglis St. and Ferry St. intersection	1500	155	19	South	Downwind	Excavators moving materials	No observations seen to affect sampling integrity
27 25m West of Inglis St. and Ferry St. intersection	1525	155	19	South	Downwind	Excavators moving materials	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 60m North of Dodd St. and Prince St. intersection	1600	155	25	South	Upwind	Background	No observations seen to affect sampling integrity
29 25m West of Inglis St. and Ferry St. intersection	1600	155	25	South	Downwind	Excavators moving materials	No observations seen to affect sampling integrity
30 25m West of Inglis St. and Ferry St. intersection	1625	155	19	South	Downwind	Excavators moving materials	No observations seen to affect sampling integrity
31 60m North of Dodd St. and Prince St. intersection	1700	155	18	South	Upwind	Background	No observations seen to affect sampling integrity
32 25m West of Inglis St. and Ferry St. intersection	1700	155	15	South	Downwind	Excavators moving materials	No observations seen to affect sampling integrity
33 25m West of Inglis St. and Ferry St. intersection	1745	155	15	South	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 ($\mu\text{g}/\text{m}^3$)
50m Northwest of STPA building	0700 to 0759	18	990
20m West of Ferry St. and Inglis St. intersection	0800 to 0859	35	990
20m West of Ferry St. and Inglis St. intersection	0900 to 0959	53	990
60m North of Plaza Ford	1000 to 1059	69	990
60m North of Plaza Ford	1100 to 1159	86	990
60m North of Plaza Ford	1200 to 1259	105	990
60m North of Plaza Ford	1300 to 1359	127	990
60m North of Plaza Ford	1400 to 1459	152	990
25m West of Inglis St. and Ferry St. intersection	1500 to 1559	171	990
25m West of Inglis St. and Ferry St. intersection	1600 to 1659	193	990
25m West of Inglis St. and Ferry St. intersection	1700 to 1759	208	990

VOC Monitoring

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