

MEMORANDUM

TO Dawn MacNeil, STPA
FROM Dianne Theriault
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DATE 29th April, 2009

FILE NO. S-1292-22
SHIFT: 0630 to 1830
CC: Shawn Bernon, STPA
Wilfred Kaiser, STPA
Terry Smith, ALL-TECH
STPA NO. TP6D-SP-0032

**SUBJECT: 28th April, 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 28th of April, 2009. Nigel MacLean and Dave Reeves, 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 23°C
- Wind Direction: Southwest to West

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 Nigel MacLean 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
28th April, 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 40m South of Dodd St. and Prince St. intersection	0710	155	13	Southwest	Upwind	Background	No observations seen to affect sampling integrity
2 180m North of Prince St. and Terminal Rd. intersection	0700	155	19	Southwest	Downwind	Excavator, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
3 180m North of Prince St. and Terminal Rd. intersection	0730	155	22	Southwest	Downwind	Excavator, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
4 40m South of Dodd St. and Prince St. intersection	0800	155	17	Southwest	Upwind	Background	No observations seen to affect sampling integrity
5 180m North of Prince St. and Terminal Rd. intersection	0800	155	22	Southwest	Downwind	Excavator, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
6 180m North of Prince St. and Terminal Rd. intersection	0825	155	26	Southwest	Downwind	Excavator, dump trucks, bulldozer operating	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 40m South of Dodd St. and Prince St. intersection	0900	155	18	Southwest	Upwind	Background	No observations seen to affect sampling integrity
8 180m North of Prince St. and Terminal Rd. intersection	0900	155	22	Southwest	Downwind	Excavator, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
9 180m North of Prince St. and Terminal Rd. intersection	0920	155	27	Southwest	Downwind	Excavator, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
10 40m South of Dodd St. and Prince St. intersection	1000	155	20	Southwest	Upwind	Background	No observations seen to affect sampling integrity
11 180m North of Prince St. and Terminal Rd. intersection	1000	155	21	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
12 180m North of Prince St. and Terminal Rd. intersection	1030	155	24	Southwest	Downwind	Excavator, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
13 40m South of Dodd St. and Prince St. intersection	1100	155	21	Southwest	Upwind	Background	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
14 180m North of Prince St. and Terminal Rd. intersection	1100	155	24	Southwest	Downwind	Excavator, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
15 180m North of Prince St. and Terminal Rd. intersection	1125	155	23	Southwest	Downwind	Excavator, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
16 40m South of Dodd St. and Prince St. intersection	1200	155	20	Southwest	Upwind	Background	No observations seen to affect sampling integrity
17 180m North of Prince St. and Terminal Rd. intersection	1200	155	26	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
18 180m North of Prince St. and Terminal Rd. intersection	1240	155	29	Southwest	Downwind	Excavator, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
19 40m South of Dodd St. and Prince St. intersection	1300	155	19	Southwest	Upwind	Background	No observations seen to affect sampling integrity
20 180m North of Prince St. and Terminal Rd. intersection	1300	155	31	Southwest	Downwind	Excavator, dump trucks, bulldozer operating	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 180m North of Prince St. and Terminal Rd. intersection	1325	155	44	Southwest	Downwind	Excavator, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
22 40m South of Dodd St. and Prince St. intersection	1400	155	24	Southwest	Upwind	Background	No observations seen to affect sampling integrity
23 200m North of Prince St. and Terminal Rd. intersection	1400	155	33	Southwest	Downwind	Excavator, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
24 200m North of Prince St. and Terminal Rd. intersection	1420	155	36	Southwest	Downwind	Excavator, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
25 20m North of former train station on Dodd St.	1500	155	24	West	Upwind	Background	No observations seen to affect sampling integrity
26 140m North of Prince St. and Terminal Rd. intersection	1500	155	36	West	Downwind	No activity observed on site	No observations seen to affect sampling integrity
27 140m North of Prince St. and Terminal Rd. intersection	1530	155	37	West	Downwind	Excavator, dump trucks, bulldozer operating	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 North of former train station on Dodd St.	1600	155	24	West	Upwind	Background	No observations seen to affect sampling integrity
29 140m North of Prince St. and Terminal Rd. intersection	1600	155	37	West	Downwind	Excavator, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
30 140m North of Prince St. and Terminal Rd. intersection	1620	155	38	West	Downwind	Excavator, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
31 20m North of former train station on Dodd St.	1700	155	25	West	Upwind	Background	No observations seen to affect sampling integrity
32 140m North of Prince St. and Terminal Rd. intersection	1700	155	38	West	Downwind	Excavator, dump trucks, bulldozer operating	No observations seen to affect sampling integrity
33 140m North of Prince St. and Terminal Rd. intersection	1745	155	37	West	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 ($\mu\text{g}/\text{m}^3$)
180m North of Prince St. and Terminal Rd. intersection	0700 to 0759	21	990
180m North of Prince St. and Terminal Rd. intersection	0800 to 0859	45	990
180m North of Prince St. and Terminal Rd. intersection	0900 to 0959	70	990
180m North of Prince St. and Terminal Rd. intersection	1000 to 1059	93	990
180m North of Prince St. and Terminal Rd. intersection	1100 to 1159	117	990
200m North of Prince St. and Terminal Rd. intersection	1200 to 1259	145	990
140m North of Prince St. and Terminal Rd. intersection	1300 to 1359	183	990
140m North of Prince St. and Terminal Rd. intersection	1400 to 1459	218	990
140m North of Prince St. and Terminal Rd. intersection	1500 to 1559	255	990
140m North of Prince St. and Terminal Rd. intersection	1600 to 1659	293	990
140m North of Prince St. and Terminal Rd. intersection	1700 to 1759	331	990

VOC Monitoring

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