

MEMORANDUM

TO Dawn MacNeil, STPA
FROM Dianne Theriault
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DATE 25th May, 2009

FILE NO. S-1312-26
SHIFT: 0630 to 1730
CC: Shawn Bernon, STPA
Wilfred Kaiser, STPA
Terry Smith, ALL-TECH

STPA NO. CO2-PM-0057

**SUBJECT: 22nd May, 2009 Real-time Air Monitoring Results
Sydney Tar Ponds Agency – Tar Cell, Pug Mill
FINAL REPORT**

Attached is a summary of Real-time particulate (as PM₁₀) results for air monitoring performed on the 22nd of May, 2009. Donald MacIsaac 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 Northwest to Northeast to North

Comments: *ALL-TECH was on-Site at 0630 and sampling began as soon as there was site activity. Air monitoring was performed during SLR'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 Donald MacIsaac 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 – Tar Cell, Pug Mill
22nd May, 2009

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
1 300m South of old incinerator	0700	155	24	Southwest	Upwind	Background	No observations seen to affect sampling integrity
2 Shore road, 180m North of Dominion Street	0700	155	20	Southwest	Downwind	Site not visible from sampling location	No observations seen to affect sampling integrity
3 Shore road, 180m North of Dominion Street	0730	155	18	Southwest	Downwind	Site not visible from sampling location	No observations seen to affect sampling integrity
4 300m South of old incinerator	0800	155	90	Southwest	Upwind	Background	Dust from road traffic
5 Shore road, 180m North of Dominion Street	0800	155	18	Southwest	Downwind	Site not visible from sampling location	No observations seen to affect sampling integrity
6 Shore road, 180m North of Dominion Street	0830	155	17	Southwest	Downwind	Site not visible from sampling location	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 200m Southwest of old incinerator	0900	155	23	Northwest	Upwind	Background	No observations seen to affect sampling integrity
8 20m Northwest of Harbourside school	0900	155	24	Northwest	Downwind	Trucks and equipment operating	No observations seen to affect sampling integrity
9 Shore Road, 20m South of Broadway Street	0930	155	23	Northwest	Downwind	Trucks and equipment operating	No observations seen to affect sampling integrity
10 Shore Road, 80m North of Dominion Street	1000	155	16	Northwest	Upwind	Background	No observations seen to affect sampling integrity
11 300m Southeast of old incinerator	1000	155	19	Northwest	Downwind	Trucks and equipment operating	No observations seen to affect sampling integrity
12 300m Southeast of old incinerator	1030	155	23	Northwest	Downwind	Trucks and equipment operating	No observations seen to affect sampling integrity
13 Shore Road, 80m North of Dominion Street	1100	155	10	Northwest	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 300m Southeast of old incinerator	1100	155	17	Northwest	Downwind	Trucks and equipment operating	No observations seen to affect sampling integrity
15 300m Southeast of old incinerator	1130	155	24	Northwest	Downwind	Trucks and equipment operating	No observations seen to affect sampling integrity
16 Shore Road, 80m North of Dominion Street	1200	155	13	Northwest	Upwind	Background	No observations seen to affect sampling integrity
17 300m Southeast of old incinerator	1200	155	22	Northwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
18 300m Southeast of old incinerator	1230	155	20	Northwest	Downwind	Trucks and equipment operating	No observations seen to affect sampling integrity
19 20m Southwest of Matilda Street, Dominion Street intersection	1300	155	13	Northeast	Upwind	Background	No observations seen to affect sampling integrity
20 240m South of old incinerator	1300	155	22	Northeast	Downwind	Trucks and equipment 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 240m South of old incinerator	1330	155	12	Northeast	Downwind	Trucks and equipment operating	No observations seen to affect sampling integrity
22 20m Southwest of Matilda Street, Dominion Street intersection	1400	155	5	Northeast	Upwind	Background	No observations seen to affect sampling integrity
23 240m South of old incinerator	1400	155	27	Northeast	Downwind	Trucks and equipment operating	No observations seen to affect sampling integrity
24 240m South of old incinerator	1430	155	5	Northeast	Downwind	Trucks and equipment operating	No observations seen to affect sampling integrity
25 Shore Road, 80m North of Dominion Street	1500	155	4	North	Upwind	Background	No observations seen to affect sampling integrity
26 240m Southeast of old incinerator	1500	155	3	North	Downwind	Trucks and equipment operating	No observations seen to affect sampling integrity
27 240m Southeast of old incinerator	1530	155	8	North	Downwind	Trucks and equipment 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 Shore Road, 80m North of Dominion Street	1600	155	7	North	Upwind	Background	No observations seen to affect sampling integrity
29 240m Southeast of old incinerator	1600	155	7	North	Downwind	Trucks and equipment operating	No observations seen to affect sampling integrity
30 240m Southeast of old incinerator	1645	155	11	North	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 ($\mu\text{g}/\text{m}^3$)
Shore road, 180m North of Dominion Street	0700 to 0759	19	990
Shore road, 180m North of Dominion Street	0800 to 0859	37	990
20m Northwest of Harbourside school	0900 to 0959	61	990
300m Southeast of old incinerator	1000 to 1059	82	990
300m Southeast of old incinerator	1100 to 1159	103	990
300m Southeast of old incinerator	1200 to 1259	124	990
240m South of old incinerator	1300 to 1359	141	990
240m South of old incinerator	1400 to 1459	157	990
240m Southeast of old incinerator	1500 to 1559	163	990
240m Southeast of old incinerator	1600 to 1659	172	990

VOC Monitoring

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