

MEMORANDUM

TO Dawn MacNeil, STPA
FROM Dianne Theriault
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DATE 12th May, 2009

FILE NO. S-1312-11
SHIFT: 0630 to 1830
CC: Shawn Bernon, STPA
Wilfred Kaiser, STPA
Terry Smith, ALL-TECH
STPA NO. CO2-NSL-0042

**SUBJECT: 11th May, 2009 Real-time Air Monitoring Results
Sydney Tar Ponds Agency – Tar Cell, Sysco Site
FINAL REPORT**

Attached is a summary of Real-time particulate (as PM₁₀) results for air monitoring performed on the 11th of May, 2009. Donald MacIsaac and Colin MacIsaac of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH) performed all air monitoring activities.

Weather conditions on the day of sampling:

- Mainly cloudy
- Temperature: approximately 6°C
- Wind Direction: Northwest to Northeast To East

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 – Sysco
11th 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 120m Northeast of North Pond main gate	0700	155	12	North	Downwind	Excavation of materials	No observations seen to affect sampling integrity
2 80m Northeast of railway building	0705	155	14	North	Upwind	Background	No observations seen to affect sampling integrity
3 30m Southwest of Ferry St. bridge	0745	155	17	North	Downwind	Excavation of materials	No observations seen to affect sampling integrity
4 100m South of old incinerator	0800	155	18	North	Upwind	Background	No observations seen to affect sampling integrity
5 100m East of railway building	0800	155	19	North	Downwind	Excavation of materials	No observations seen to affect sampling integrity
6 100m East of railway building	0840	155	25	North	Downwind	Excavation of 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
7 100m South of old incinerator	0900	155	14	North	Upwind	Background	No observations seen to affect sampling integrity
8 100m East of railway building	0900	155	21	North	Downwind	Excavation of materials	No observations seen to affect sampling integrity
9 100m East of railway building	0930	155	17	North	Downwind	Excavation of materials	No observations seen to affect sampling integrity
10 100m South of old incinerator	1000	155	9	North	Upwind	Background	No observations seen to affect sampling integrity
11 100m East of railway building	1000	155	11	North	Downwind	Excavation of materials	No observations seen to affect sampling integrity
12 150m Southeast of railway building	1020	155	12	North	Downwind	Excavation of materials	No observations seen to affect sampling integrity
13 100m South of old incinerator	1100	155	12	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 150m Southeast of railway building	1100	155	17	North	Downwind	Excavation of materials	No observations seen to affect sampling integrity
15 150m Southeast of railway building	1135	155	14	North	Downwind	Excavation of materials	No observations seen to affect sampling integrity
16 100m South of old incinerator	1200	155	11	North	Upwind	Background	No observations seen to affect sampling integrity
17 150m East of railway building	1200	155	12	North	Downwind	Excavators filling dump trucks	No observations seen to affect sampling integrity
18 150m East of railway building	1215	155	12	North	Downwind	Excavators filling dump trucks	No observations seen to affect sampling integrity
19 300m Southeast of old incinerator	1300	155	11	Northeast	Upwind	Background	No observations seen to affect sampling integrity
20 150m East of railway building	1300	155	50	Northeast	Downwind	Excavators filling dump trucks	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 150m East of railway building	1320	155	33	Northeast	Downwind	Excavators filling dump trucks	No observations seen to affect sampling integrity
22 200m Southeast of old incinerator	1400	155	12	Northeast	Upwind	Background	No observations seen to affect sampling integrity
23 150m East of railway building	1400	155	41	Northeast	Downwind	Excavators filling dump trucks	No observations seen to affect sampling integrity
24 150m East of railway building	1445	155	25	Northeast	Downwind	Excavators filling dump trucks	No observations seen to affect sampling integrity
25 300m Southeast of old incinerator	1500	155	7	Northeast	Upwind	Background	No observations seen to affect sampling integrity
26 150m East of railway building	1500	155	22	Northeast	Downwind	Excavators filling dump trucks	No observations seen to affect sampling integrity
27 150m East of railway building	1530	155	25	Northeast	Downwind	Excavators filling dump trucks	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 80m Northeast of weigh station	1600	155	33	Northeast	Upwind	Background	No observations seen to affect sampling integrity
29 150m East of railway building	1600	155	20	Northeast	Downwind	Excavators filling dump trucks	No observations seen to affect sampling integrity
30 150m East of railway building	1635	155	47	Northeast	Downwind	Excavators filling dump trucks	No observations seen to affect sampling integrity
31 80m Northeast of weigh station	1700	155	8	East	Upwind	Background	No observations seen to affect sampling integrity
32 120m Northeast of railway building	1700	155	11	East	Downwind	No activity visible from sample location	No observations seen to affect sampling integrity
33 120m Northeast of railway building	1745	155	12	East	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 ($\mu\text{g}/\text{m}^3$)
120m Northeast of North Pond main gate / 30m Southwest of Ferry St. Bridge	0700 to 0759	15	990
100m East of railway building	0800 to 0859	37	990
100m East of railway building	0900 to 0959	56	990
100m East of railway building / 150m Southeast of railway building	1000 to 1059	68	990
150m Southeast of railway building	1100 to 1159	84	990
150m East of railway building	1200 to 1259	96	990
150m East of railway building	1300 to 1359	138	990
150m East of railway building	1400 to 1459	171	990
150m East of railway building	1500 to 1559	195	990
150m East of railway building	1600 to 1659	229	990
120m Northeast of railway building	1700 to 1759	241	990

VOC Monitoring

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