

MEMORANDUM

TO Dawn MacNeil, STPA
FROM Grant Harrigan
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DATE 13th March, 2008

FILE NO. S-1100-12
SHIFT: 0630 to 1730
CC: Shawn Bernon, STPA
Wilfred Kaiser, STPA
Terry Smith, ALL-TECH
STPA NO. CP-0097

**SUBJECT: 12th March 2008, Real-time Air Monitoring Results
Sydney Tar Ponds Agency – Cooling Pond
FINAL REPORT**

Attached is a summary of Real-time particulate (as PM₁₀) results for air monitoring performed on the 12th of March, 2008. Colin MacIsaac, Grant Harrigan and Trevor Rowe of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH), performed all air monitoring activities on the asphalt pad.

Weather conditions on the day of sampling:

- Overcast
- Temperature: approximately 4°C (data unavailable from Environment Canada)
- Wind Direction: Southwest

Comments: *ALL-TECH was on-Site at 0630 and sampling began as soon as there was Site activity. Air monitoring was performed during EarthTech's construction activities. Trevor Rowe performed air monitoring from 0630 to 1300, at which time Grant Harrigan performed air monitoring for the remainder of the day.*

All downwind and upwind measurements of PM₁₀ were well 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), TVOC sampling is halted and resumes after the precipitation has ended.

This report has been prepared by Colin MacIsaac and reviewed by Grant Harrigan and Dianne Theriault. If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,



Grant Harrigan, 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 – Cooling Pond
12th March, 2008

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 35m Northeast of Acadian Lines terminal	0700	155	9	Southwest	Upwind	Background	No observations seen to effect sampling integrity
2 15m South of Spar Road, 5m East of Inglis Street	0710	155	6	Southwest	Downwind	No activity observed on-site	Dust from sweeping of Inglis Street, varying winds
3 15m South of Spar Road, 5m East of Inglis Street	0745	155	8	Southwest	Downwind	No activity observed on-site	Dust from sweeping of Inglis Street, varying winds
4 35m Northeast of Acadian Lines terminal	0800	155	10	Southwest	Upwind	Background	No observations seen to effect sampling integrity
5 15m South of Spar Road, 5m East of Inglis Street	0800	155	12	Southwest	Downwind	No activity observed on-site	Dust from sweeping of Inglis Street, varying winds
6 15m South of Spar Road, 5m East of Inglis Street	0815	155	8	Southwest	Downwind	No activity observed on-site	Dust from sweeping of Inglis Street, varying winds
7 35m Northeast of Acadian Lines terminal	0900	155	9	Southwest	Upwind	Background	No observations seen to effect 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
8 15m South of Spar Road, 5m East of Inglis Street	0900	155	18	Southwest	Downwind	Tractor on-site	Dust from sweeping of Inglis Street, varying winds
9 15m South of Spar Road, 5m East of Inglis Street	0925	155	30	Southwest	Downwind	Tractor on-site	Dust from sweeping of Inglis Street, varying winds
10 35m Northeast of Acadian Lines terminal	1000	155	9	Southwest	Upwind	Background	No observations seen to effect sampling integrity
11 15m South of Spar Road, 5m East of Inglis Street	1000	155	8	West	Downwind	No activity observed on-site	Dust from sweeping of Inglis Street, varying winds
12 15m South of Spar Road, 5m East of Inglis Street	1045	155	13	West	Downwind	Tractor on-site	Dust from sweeping of Inglis Street, varying winds
13 35m Northeast of Acadian Lines terminal	1100	155	8	Southwest	Upwind	Background	No observations seen to effect sampling integrity
14 15m South of Spar Road, 5m East of Inglis Street	1100	155	14	Southwest	Downwind	Tractor on-site	Dust from sweeping of Inglis Street, varying winds
15 15m South of Spar Road, 5m East of Inglis Street	1125	155	15	Southwest	Downwind	Tractor on-site	Dust from sweeping of Inglis Street, varying winds

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
16 35m Northeast of Acadian Lines terminal	1200	155	8	Southwest	Upwind	Background	No observations seen to effect sampling integrity
17 15m South of Spar Road, 5m East of Inglis Street	1200	155	30	Southwest	Downwind	Payloader active on site	Dust from sweeping of Inglis Street, varying winds
18 15m South of Spar Road, 5m East of Inglis Street	1215	155	26	West	Downwind	Payloader moving material	Dust from sweeping of Inglis Street, varying winds
19 35m Northeast of Acadian Lines terminal	1216	155	8	Southwest	Upwind	Background	No observations seen to effect sampling integrity
20 35m Northeast of Acadian Lines terminal	1300	155	8	Southwest	Upwind	Background	No observations seen to effect sampling integrity
21 15m South of Spar Road, 5m East of Inglis Street	1300	155	27	West	Downwind	Payloader moving material	Dust from sweeping of Inglis Street, varying winds
22 15m South of Spar Road, 5m East of Inglis Street	1322	155	17	Southwest	Downwind	Payloader moving material	Dust from sweeping of Inglis Street, varying winds
23 35m Northeast of Acadian Lines terminal	1400	155	9	Southwest	Upwind	Background	No observations seen to effect 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
24 15m South of Spar Road, 5m East of Inglis Street	1400	155	17	Southwest	Downwind	Payload moving material	No observations seen to effect sampling integrity
25 15m South of Spar Road, 5m East of Inglis Street	1450	155	27	Southwest	Downwind	Payload moving material	Changing wind direction
26 35m Northeast of Acadian Lines terminal	1500	155	9	Southwest	Upwind	Background	No observations seen to effect sampling integrity
27 15m South of Spar Road, 5m East of Inglis Street	1509	155	52	Southwest	Downwind	Payload moving material	No observations seen to effect sampling integrity
28 15m South of Spar Road, 5m East of Inglis Street	1551	155	15	Southwest	Downwind	Payload moving material	No observations seen to effect sampling integrity
29 35m Northeast of Acadian Lines terminal	1600	155	9	Southwest	Upwind	Background	No observations seen to effect sampling integrity
30 15m South of Spar Road, 5m East of Inglis Street	1605	155	14	Southwest	Downwind	Payload moving material	No observations seen to effect sampling integrity
31 15m South of Spar Road, 5m East of Inglis Street	1650	155	5	Southwest	Downwind	No activity observed on-site	No observations seen to effect 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 ($\mu\text{g}/\text{m}^3$)
15m South of Spar Road, 5m East of Inglis Street	0700 to 0759	7	990
15m South of Spar Road, 5m East of Inglis Street	0800 to 0859	17	990
15m South of Spar Road, 5m East of Inglis Street	0900 to 0959	41	990
15m South of Spar Road, 5m East of Inglis Street	1000 to 1059	52	990
15m South of Spar Road, 5m East of Inglis Street	1100 to 1159	67	990
15m South of Spar Road, 5m East of Inglis Street	1200 to 1259	95	990
15m South of Spar Road, 5m East of Inglis Street	1300 to 1359	117	990
15m South of Spar Road, 5m East of Inglis Street	1400 to 1459	139	990
15m South of Spar Road, 5m East of Inglis Street	1500 to 1559	173	990
15m South of Spar Road, 5m East of Inglis Street	1600 to 1659	183	990

VOC Monitoring

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