

MEMORANDUM

TO Dawn MacNeil, STPA
FROM Grant Harrigan
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DATE 10th March, 2008

FILE NO. S-1100-08
SHIFT: 0630 to 1845
CC: Shawn Bernon, STPA
Wilfred Kaiser, STPA
Terry Smith, ALL-TECH

STPA NO. CP-0093

**SUBJECT: 7th 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 7th 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.

Weather conditions on the day of sampling:

- Clear skies
- Temperature: approximately 5°C (data unavailable from Environment Canada)
- Wind Direction: Southeast to Northeast to Northwest to South to 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. Grant Harrigan performed all sampling activities from 0630 to 0800, at which time Trevor Rowe sampled until the remainder for the day.

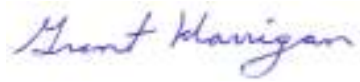
All downwind and upwind measurements of PM₁₀ were well below the established Site Action Level for this parameter of 155 µg/m³.

All downwind and upwind measurements of Total Volatile Organic Compounds (TVOC) were well 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
7th March, 2008

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 Southwest of STPA	0700	155	30	Southeast	Upwind	Background	No observations seen to effect sampling integrity
2 70m South of Walker Street	0700	155	27	Southeast	Downwind	No activity observed on-site	Varying wind direction
3 80m East of Cooling Pond main gate	0740	155	26	Southwest	Downwind	Loaders moving material	Varying wind direction
4 40m Northeast of Acadian Lines terminal	0800	155	22	Northeast	Upwind	Background	Varying wind direction
5 15m Northwest of Terminal Road, Inglis Street intersection	0805	155	26	North	Downwind	Excavators moving material	Varying wind direction
6 15m Northwest of Terminal Road, Inglis Street intersection	0840	155	20	North	Downwind	Excavators moving material	Varying wind direction
7 30m East of Ferry Street bridge	0900	155	18	Northwest	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 20m West of front doors of STPA building	0905	155	24	Northwest	Downwind	Excavators moving material	Varying wind direction
9 20m West of front doors of STPA building	0930	155	15	Northwest	Downwind	Excavators moving material	Varying wind direction
10 40m Northeast of Acadian Lines terminal	1000	155	10	Southwest	Upwind	Background	No observations seen to effect sampling integrity
11 20m West of front doors of STPA building	1000	155	10	Southwest	Downwind	Excavators moving material	Varying wind direction
12 20m West of front doors of STPA building	1015	155	9	South	Downwind	Excavators moving material	Varying wind direction
13 40m Northeast of Acadian Lines terminal	1100	155	9	South	Upwind	Background	No observations seen to effect sampling integrity
14 40m North of Spar Road, Inglis Street intersection	1110	155	13	South	Downwind	Excavators moving material	Varying winds from South to Southwest
15 40m North of Spar Road, Inglis Street intersection	1140	155	11	South	Downwind	Excavators moving material	Varying winds from South to Southwest

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 15m Northwest of Inglis Street, Terminal Road intersection	1200	155	10	South	Upwind	Background	Varying winds from South to Southwest
17 40m North of Spar Road, Inglis Street intersection	1200	155	8	South	Downwind	Excavators moving material	Varying winds from South to Southwest
18 40m North of Spar Road, Inglis Street intersection	1215	155	8	South	Downwind	No activity observed on-site	Varying winds from South to Southwest
19 15m Northwest of Inglis Street, Terminal Road intersection	1300	155	10	Southwest	Upwind	Background	Varying winds from South to Southwest
20 150m North of STPA building, 15m East of Inglis Street	1300	155	17	Southwest	Downwind	Excavators moving material	Varying winds from South to Southwest
21 150m North of STPA building, 15m East of Inglis Street	1330	155	26	Southwest	Downwind	Excavators moving material	Varying winds from South to Southwest
22 40m Northeast of Acadian Lines terminal	1400	155	9	Southwest	Upwind	Background	No observations seen to effect sampling integrity
23 150m North of STPA building, 15m East of Inglis Street	1400	155	10	Southwest	Downwind	Excavators moving material	Varying winds from South to Southwest

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 150m North of STPA building, 15m East of Inglis Street	1445	155	10	Southwest	Downwind	Excavators moving material	Varying winds from South to Southwest
25 40m Northeast of Acadian Lines terminal	1500	155	9	Southwest	Upwind	Background	No observations seen to effect sampling integrity
26 170m North of STPA building, 15m East of Inglis Street	1500	155	11	Southwest	Downwind	Excavators moving material	Varying winds from South to Southwest
27 170m North of STPA building, 15m East of Inglis Street	1515	155	24	Southwest	Downwind	Excavators moving material	Varying winds from South to Southwest
28 40m Northeast of Acadian Lines terminal	1600	155	9	Southwest	Upwind	Background	No observations seen to effect sampling integrity
29 170m North of STPA building, 15m East of Inglis Street	1600	155	21	Southwest	Downwind	Excavators moving material	Varying winds from South to Southwest
30 170m North of STPA building, 15m East of Inglis Street	1630	155	18	Southwest	Downwind	Excavators moving material	Varying winds from South to Southwest
31 40m Northeast of Acadian Lines terminal	1700	155	12	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
32 170m North of STPA building, 15m East of Inglis Street	1700	155	10	Southwest	Downwind	Excavators moving material	Varying winds from South to Southwest
33 170m North of STPA building, 15m East of Inglis Street	1745	155	12	Southwest	Downwind	Excavators moving material	Varying winds from South to Southwest
34 40m Northeast of Acadian Lines terminal	1800	155	13	Southwest	Upwind	Background	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 (µg/m ³)	Dust Budget Exceedance Value (µg/m ³)
70m South of Walker Street	0700 to 0759	27	990
15m Northwest of Terminal Road and Inglis Street intersection	0800 to 0859	50	990
20m West of front doors of STPA building	0900 to 0959	70	990
20m West of front doors of STPA building	1000 to 1059	80	990

Location	Duration	Dust Budget Value ($\mu\text{g}/\text{m}^3$)	Dust Budget Exceedance Value ($\mu\text{g}/\text{m}^3$)
40m North of Spar Road and Inglis Street intersection	1100 to 1159	92	990
40m North of Spar Road and Inglis Street intersection	1200 to 1259	100	990
150m North of STPA building, 15m East of Inglis Street	1300 to 1359	122	990
150m North of STPA building, 15m East of Inglis Street	1400 to 1459	132	990
170m North of STPA building, 15m East of Inglis Street	1500 to 1559	150	990
170m North of STPA building, 15m East of Inglis Street	1600 to 1659	170	990
170m North of STPA building, 15m East of Inglis Street	1700 to 1759	181	990

VOC Monitoring

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