

MEMORANDUM

TO Dawn MacNeil, STPA
FROM Dianne Theriault
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DATE 3rd June, 2009

FILE NO. S-1332-02
SHIFT: 0630 to 1830
CC: Shawn Bernon, STPA
Wilfred Kaiser, STPA
Terry Smith, ALL-TECH

STPA NO. COCW-0045

**SUBJECT: 2nd June, 2009, Real-time Air Monitoring Results
Sydney Tar Ponds Agency – Vertical Cut-off Walls
FINAL REPORT**

Attached is a summary of Real-time particulate (as PM₁₀) results for air monitoring performed on the 2nd of June, 2009. David Reeves and Keith Neville 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 18°C
- Wind Direction: Southwest

Comments: *ALL-TECH was on-Site at 0630 hours and sampling began as soon as there was site activity, but was later put on standby at 0930 hours due to precipitation. Air monitoring resumed at 1015 hours when weather conditions were within instrument specifications. 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 David Reeves 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 – Vertical Cut-off Walls
2nd June, 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 80m Northwest of fixed station off Victoria Rd.	0700	155	6	Southwest	Upwind	Background	No observations seen to affect sampling integrity
2 45m Northeast of Spar Rd. and Lingan Rd. intersection (N46°09.088') (W060°10.495')	0700	155	7	Southwest	Downwind	Excavator moving material	No observations seen to affect sampling integrity
3 45m Northeast of Spar Rd. and Lingan Rd. intersection (N46°09.088') (W060°10.495')	0735	155	7	Southwest	Downwind	Excavator moving material	No observations seen to affect sampling integrity
4 80m Northwest of fixed station off Victoria Rd	0800	155	6	Southwest	Upwind	Background	No observations seen to affect sampling integrity
5 45m Northeast of Spar Rd. and Lingan Rd. intersection (N46°09.088') (W060°10.495')	0800	155	8	Southwest	Downwind	Excavator moving material	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
6 45m Northeast of Spar Rd. and Lingan Rd. intersection (N46°09.088') (W060°10.495')	0840	155	9	Southwest	Downwind	Excavator moving material	No observations seen to affect sampling integrity
7 80m Northwest of fixed station off Victoria Rd.	0900	155	6	Southwest	Upwind	Background	No observations seen to affect sampling integrity
8 45m Northeast of Spar Rd. and Lingan Rd. intersection (N46°09.088') (W060°10.495')	0900	155	9	Southwest	Downwind	Excavators and trucks operating	No observations seen to affect sampling integrity
9 25m Southwest of coke ovens security trailer (N46°08.879') (W060°10.163')	1020	155	6	Southwest	Downwind	Excavators and trucks operating	No observations seen to affect sampling integrity
10 25m Southwest of coke ovens security trailer (N46°08.879') (W060°10.163')	1040	155	6	Southwest	Downwind	Excavators and trucks operating	No observations seen to affect sampling integrity
11 80m Northwest of fixed station off Victoria Rd	1100	155	7	Southwest	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
12 25m Southwest of coke ovens security trailer (N46°08.879') (W060°10.163')	1100	155	6	Southwest	Downwind	Excavators and trucks operating	No observations seen to affect sampling integrity
13 25m Southwest of coke ovens security trailer (N46°08.879') (W060°10.163')	1145	155	6	Southwest	Downwind	Excavators and trucks operating	No observations seen to affect sampling integrity
14 80m Northwest of fixed station off Victoria Rd	1200	155	7	Southwest	Upwind	Background	No observations seen to affect sampling integrity
15 25m Southwest of coke ovens security trailer (N46°08.879') (W060°10.163')	1200	155	7	Southwest	Downwind	Excavators and trucks operating	No observations seen to affect sampling integrity
16 25m Southwest of coke ovens security trailer (N46°08.879') (W060°10.163')	1220	155	8	Southwest	Downwind	Excavators and trucks operating	No observations seen to affect sampling integrity
17 80m Northwest of fixed station off Victoria Rd	1300	155	12	Southwest	Upwind	Background	No observations seen to affect sampling integrity
18 10m Northeast of coke ovens security trailer (N46°08.034') (W060°10.176')	1300	155	58	Southwest	Downwind	Excavators and trucks 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
19 10m Northeast of coke ovens security trailer (N46°08.034') (W060°10.176')	1330	155	70	Southwest	Downwind	Excavators and trucks operating	Dust from site road
20 80m Northwest of fixed station off Victoria Rd	1400	155	9	Southwest	Upwind	Background	No observations seen to affect sampling integrity
21 50m Northeast of coke ovens security trailer (N46°08.947') (W060°10.097')	1400	155	9	Southwest	Downwind	Excavators and trucks operating	No observations seen to affect sampling integrity
22 50m Northeast of coke ovens security trailer (N46°08.947') (W060°10.097')	1435	155	17	Southwest	Downwind	Excavators and trucks operating	No observations seen to affect sampling integrity
23 80m Northwest of fixed station off Victoria Rd	1500	155	8	Southwest	Upwind	Background	No observations seen to affect sampling integrity
24 50m Northeast of coke ovens security trailer (N46°08.947') (W060°10.097')	1500	155	16	Southwest	Downwind	Excavators and trucks operating	No observations seen to affect sampling integrity
25 50m Northeast of coke ovens security trailer (N46°08.947') (W060°10.097')	1525	155	13	Southwest	Downwind	Excavators and trucks 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
26 80m Northwest of fixed station off Victoria Rd.	1600	155	7	Southwest	Upwind	Background	No observations seen to affect sampling integrity
27 50m Northeast of coke ovens security trailer (N46°08.947') (W060°10.097')	1600	155	12	Southwest	Downwind	Excavators and trucks operating	No observations seen to affect sampling integrity
28 50m Northeast of coke ovens security trailer (N46°08.947') (W060°10.097')	1645	155	6	Southwest	Downwind	Excavators and trucks operating	No observations seen to affect sampling integrity
29 80m Northwest of fixed station off Victoria Rd	1700	155	8	Southwest	Upwind	Background	No observations seen to affect sampling integrity
30 50m Northeast of coke ovens security trailer (N46°08.947') (W060°10.097')	1700	155	8	Southwest	Downwind	Excavators and trucks operating	No observations seen to affect sampling integrity
31 50m Northeast of coke ovens security trailer (N46°08.947') (W060°10.097')	1745	155	5	Southwest	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 ($\mu\text{g}/\text{m}^3$)
45m Northeast of Spar Rd. and Lingan Rd. intersection	0700 to 0759	7	990
45m Northeast of Spar Rd. and Lingan Rd. intersection	0800 to 0859	16	990
45m Northeast of Spar Rd. and Lingan Rd. intersection	0900 to 0959	37	990
25m Southwest of coke ovens security trailer	1000 to 1059	43	990
25m Southwest of coke ovens security trailer	1100 to 1159	49	990
25m Southwest of coke ovens security trailer	1200 to 1259	57	990
10m Northeast of coke ovens security trailer	1300 to 1359	121	990
50m Northeast of coke ovens security trailer	1400 to 1459	134	990
50m Northeast of coke ovens security trailer	1500 to 1559	149	990
50m Northeast of coke ovens security trailer	1600 to 1659	158	990
50m Northeast of coke ovens security trailer	1700 to 1759	165	990

VOC Monitoring

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