

MEMORANDUM

TO Dawn MacNeil, STPA
FROM Dianne Theriault
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DATE 9th June, 2009

FILE NO. S-1329-06
SHIFT: 0730 to 1730
CC: Shawn Bernon, STPA
Wilfred Kaiser, STPA
Terry Smith, ALL-TECH
STPA NO. TP2-0174

**SUBJECT: 8th June, 2009 Real-time Air Monitoring Results
Sydney Tar Ponds Agency – Material Processing Facility
FINAL REPORT**

Attached is a summary of Real-time particulate (as PM₁₀) results for air monitoring performed on the 8th of June, 2009. Shaun Dove and Alison Giovannetti 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 17°C
- Wind Direction: Southwest to West

Comments: *ALL-TECH was on-Site at 0730 hours and sampling began as soon as there was site activity. 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 Alison Giovannetti 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 – Material Processing Facility
8th June, 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 90m North of Ferry St. and Railway Rd. intersection (N 46° 08.757' W 060° 11.540') | 0800 | 155 | 5 | Southwest | Upwind | Background | No observations seen to affect sampling integrity |
| 2 60m Southeast of TP2 main entrance (N 46° 08.932' W 060° 11.253') | 0800 | 155 | 5 | Southwest | Downwind | Worker activity | No observations seen to affect sampling integrity |
| 3 60m Southeast of TP2 main entrance (N 46° 08.932' W 060° 11.253') | 0820 | 155 | 6 | Southwest | Downwind | Man-lift operating | No observations seen to affect sampling integrity |
| 4 90m North of Ferry St. and Railway Rd. intersection (N 46° 08.757' W 060° 11.540') | 0900 | 155 | 3 | Southwest | Upwind | Background | No observations seen to affect sampling integrity |
| 5 60m Southeast of TP2 main entrance (N 46° 08.932' W 060° 11.253') | 0900 | 155 | 7 | Southwest | Downwind | Man-lift 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 |
|---|-------------|--|-------------------------------------|----------------|-------------------|----------------------------------|---|
| 6 60m Southeast of TP2 main entrance (N 46° 08.932' W 060° 11.253') | 0915 | 155 | 5 | Southwest | Downwind | Man-lift operating | No observations seen to affect sampling integrity |
| 7 150m North of Ferry St. and Railway Rd. intersection (N 46° 08.791' W 060° 11.577') | 1000 | 155 | 5 | West | Upwind | Background | No observations seen to affect sampling integrity |
| 8 50m Northwest of Inglis St. and Ferry St. intersection (N 46° 08.904' W 060° 11.222') | 1000 | 155 | 7 | West | Downwind | No activity observed on site | No observations seen to affect sampling integrity |
| 9 50m Northwest of Inglis St. and Ferry St. intersection (N 46° 08.904' W 060° 11.222') | 1015 | 155 | 9 | West | Downwind | Man-lift and excavator operating | No observations seen to affect sampling integrity |
| 10 150m North of Ferry St. and Railway Rd. intersection (N 46° 08.791' W 060° 11.577') | 1100 | 155 | 4 | West | Upwind | Background | No observations seen to affect sampling integrity |
| 11 50m Northwest of Inglis St. and Ferry St. intersection (N 46° 08.904' W 060° 11.222') | 1100 | 155 | 9 | West | Downwind | Man-lift and excavator 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 |
|--|-------------|--|-------------------------------------|----------------|-------------------|-----------------------------------|---|
| 12 50m Northwest of Inglis St. and Ferry St. intersection (N 46° 08.904' W 060° 11.222') | 1125 | 155 | 7 | West | Downwind | Man-lift and excavator operating | No observations seen to affect sampling integrity |
| 13 150m North of Ferry St. and Railway Rd. intersection (N 46° 08.791' W 060° 11.577') | 1200 | 155 | 4 | West | Upwind | Background | No observations seen to affect sampling integrity |
| 14 50m Northwest of Inglis St. and Ferry St. intersection (N 46° 08.904' W 060° 11.222') | 1200 | 155 | 10 | West | Downwind | No activity observed on site | No observations seen to affect sampling integrity |
| 15 50m Northwest of Inglis St. and Ferry St. intersection (N 46° 08.904' W 060° 11.222') | 1220 | 155 | 6 | West | Downwind | No activity observed on site | No observations seen to affect sampling integrity |
| 16 150m North of Ferry St. and Railway Rd. intersection (N 46° 08.791' W 060° 11.577') | 1300 | 155 | 6 | West | Upwind | Background | No observations seen to affect sampling integrity |
| 17 50m Northwest of Inglis St. and Ferry St. intersection (N 46° 08.904' W 060° 11.222') | 1300 | 155 | 9 | West | Downwind | Zoom boom and man-lifts 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 |
|--|-------------|--|-------------------------------------|----------------|-------------------|-----------------------------------|---|
| 18 50m Northwest of Inglis St. and Ferry St. intersection (N 46° 08.904' W 060° 11.222') | 1340 | 155 | 7 | West | Downwind | Zoom boom and man-lifts operating | No observations seen to affect sampling integrity |
| 19 150m North of Ferry St. and Railway Rd. intersection (N 46° 08.791' W 060° 11.577') | 1400 | 155 | 3 | West | Upwind | Background | No observations seen to affect sampling integrity |
| 20 50m Northwest of Inglis St. and Ferry St. intersection (N 46° 08.904' W 060° 11.222') | 1400 | 155 | 8 | West | Downwind | Zoom boom and man-lifts operating | No observations seen to affect sampling integrity |
| 21 50m Northwest of Inglis St. and Ferry St. intersection (N 46° 08.904' W 060° 11.222') | 1415 | 155 | 14 | West | Downwind | Zoom boom and man-lifts operating | No observations seen to affect sampling integrity |
| 22 150m North of Ferry St. and Railway Rd. intersection (N 46° 08.791' W 060° 11.577') | 1500 | 155 | 17 | West | Upwind | Background | No observations seen to affect sampling integrity |
| 23 50m Northwest of Inglis St. and Ferry St. intersection (N 46° 08.904' W 060° 11.222') | 1500 | 155 | 15 | West | Downwind | No activity observed on site | 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 |
|--|-------------|--|-------------------------------------|----------------|-------------------|------------------------------|---|
| 24 50m Northwest of Inglis St. and Ferry St. intersection (N 46° 08.904' W 060° 11.222') | 1545 | 155 | 20 | West | Downwind | Zoom boom operating | No observations seen to affect sampling integrity |
| 25 150m North of Ferry St. and Railway Rd. intersection (N 46° 08.791' W 060° 11.577') | 1600 | 155 | 3 | West | Upwind | Background | No observations seen to affect sampling integrity |
| 26 50m Northwest of Inglis St. and Ferry St. intersection (N 46° 08.904' W 060° 11.222') | 1600 | 155 | 9 | West | Downwind | Zoom boom operating | No observations seen to affect sampling integrity |
| 27 50m Northwest of Inglis St. and Ferry St. intersection (N 46° 08.904' W 060° 11.222') | 1640 | 155 | 13 | West | 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 ($\mu\text{g}/\text{m}^3$) |
|--|--------------|--|---|
| 60m Southeast of TP2 main entrance | 0800 to 0859 | 6 | 990 |
| 60m Southeast of TP2 main entrance | 0900 to 0959 | 12 | 990 |
| 50m Northwest of Inglis St. and Ferry St. intersection | 1000 to 1059 | 20 | 990 |
| 50m Northwest of Inglis St. and Ferry St. intersection | 1100 to 1159 | 28 | 990 |
| 50m Northwest of Inglis St. and Ferry St. intersection | 1200 to 1259 | 36 | 990 |
| 50m Northwest of Inglis St. and Ferry St. intersection | 1300 to 1359 | 44 | 990 |
| 50m Northwest of Inglis St. and Ferry St. intersection | 1400 to 1459 | 55 | 990 |
| 50m Northwest of Inglis St. and Ferry St. intersection | 1500 to 1559 | 73 | 990 |
| 50m Northwest of Inglis St. and Ferry St. intersection | 1600 to 1659 | 84 | 990 |

VOC Monitoring

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

