

MEMORANDUM

TO Dawn MacNeil, STPA
FROM Dianne Theriault
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DATE 6th May, 2009

FILE NO. S-1313-07
SHIFT: 0630 to 1830
CC: Shawn Bernon, STPA
Wilfred Kaiser, STPA
Terry Smith, ALL-TECH
STPA NO. TP6D-CO-0045

**SUBJECT: 5th May, 2009 Real-time Air Monitoring Results
Sydney Tar Ponds Agency – Access Roads, Coke Ovens
FINAL REPORT**

Attached is a summary of Real-time particulate (as PM₁₀) results for air monitoring performed on the 5th of May, 2009. Jennifer Andrews 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 8°C
- Wind Direction: North to East

Comments: *ALL-TECH was on-site at 0630 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 Jennifer Andrews 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 – Access Roads, Coke Ovens
5th May, 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 120m East of Lingan Rd. and Fredrick St. intersection | 0700 | 155 | 6 | North | Upwind | Background | No observations seen to affect sampling integrity |
| 2 20m East of Salvation Army | 0700 | 155 | 5 | North | Downwind | No activity observed on site | No observations seen to affect sampling integrity |
| 3 20m East of Salvation Army | 0740 | 155 | 6 | North | Downwind | Trucks moving material | No observations seen to affect sampling integrity |
| 4 120m East of Lingan Rd. and Fredrick St. intersection | 0800 | 155 | 5 | North | Upwind | Background | No observations seen to affect sampling integrity |
| 5 20m East of Salvation Army | 0800 | 155 | 6 | North | Downwind | Trucks moving material | No observations seen to affect sampling integrity |
| 6 20m East of Salvation Army | 0820 | 155 | 6 | North | Downwind | Trucks 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 |
|---|-------------|--|-------------------------------------|----------------|-------------------|------------------------------|---|
| 7 120m East of Lingan Rd. and Fredrick St. intersection | 0900 | 155 | 6 | North | Upwind | Background | No observations seen to affect sampling integrity |
| 8 20m East of Salvation Army | 0900 | 155 | 3 | North | Downwind | Trucks moving material | No observations seen to affect sampling integrity |
| 9 20m East of Salvation Army | 0930 | 155 | 4 | North | Downwind | Trucks moving material | No observations seen to affect sampling integrity |
| 10 120m East of Lingan Rd. and Fredrick St. intersection | 1000 | 155 | 5 | North | Upwind | Background | No observations seen to affect sampling integrity |
| 11 20m East of Salvation Army | 1000 | 155 | 4 | North | Downwind | No activity observed on site | No observations seen to affect sampling integrity |
| 12 20m East of Salvation Army | 1015 | 155 | 4 | North | Downwind | Trucks moving material | No observations seen to affect sampling integrity |
| 13 120m East of Lingan Rd. and Fredrick St. intersection | 1100 | 155 | 6 | 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 20m East of Salvation Army | 1100 | 155 | 4 | North | Downwind | Trucks moving material | No observations seen to affect sampling integrity |
| 15 20m East of Salvation Army | 1125 | 155 | 5 | North | Downwind | Trucks moving material | No observations seen to affect sampling integrity |
| 16 120m East of Lingan Rd. and Fredrick St. intersection | 1200 | 155 | 57 | North | Upwind | Background | Trucks driving by creating visible dust |
| 17 20m East of Salvation Army | 1200 | 155 | 5 | North | Downwind | Trucks moving material | No observations seen to affect sampling integrity |
| 18 20m East of Salvation Army | 1215 | 155 | 5 | North | Downwind | No activity observed on site | No observations seen to affect sampling integrity |
| 19 120m East of Lingan Rd. and Fredrick St. intersection | 1300 | 155 | 6 | North | Upwind | Background | No observations seen to affect sampling integrity |
| 20 20m East of Salvation Army | 1300 | 155 | 6 | North | Downwind | Trucks 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 |
|--|-------------|--|-------------------------------------|----------------|-------------------|-------------------------|---|
| 21 20m East of Salvation Army | 1330 | 155 | 6 | North | Downwind | Trucks moving material | No observations seen to affect sampling integrity |
| 22 4m Southwest of Coke Ovens Brook main gate | 1400 | 155 | 6 | East | Upwind | Background | No observations seen to affect sampling integrity |
| 23 200m West of TP6D (CO) main gate | 1400 | 155 | 10 | East | Downwind | Trucks moving material | No observations seen to affect sampling integrity |
| 24 200m West of TP6D (CO) main gate | 1435 | 155 | 10 | East | Downwind | Trucks moving material | No observations seen to affect sampling integrity |
| 25 4m Southwest of Coke Ovens Brook main gate | 1500 | 155 | 7 | East | Upwind | Background | No observations seen to affect sampling integrity |
| 26 200m West of TP6D (CO) main gate | 1500 | 155 | 12 | East | Downwind | Trucks moving material | No observations seen to affect sampling integrity |
| 27 200m West of TP6D (CO) main gate | 1530 | 155 | 16 | East | Downwind | Trucks 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 |
|--|-------------|--|-------------------------------------|----------------|-------------------|------------------------------|---|
| 28 4m Southwest of Coke Ovens Brook main gate | 1600 | 155 | 6 | East | Upwind | Background | No observations seen to affect sampling integrity |
| 29 200m West of TP6D (CO) main gate | 1600 | 155 | 12 | East | Downwind | Trucks moving material | No observations seen to affect sampling integrity |
| 30 200m West of TP6D (CO) main gate | 1625 | 155 | 8 | East | Downwind | Trucks moving material | No observations seen to affect sampling integrity |
| 31 4m Southwest of Coke Ovens Brook main gate | 1700 | 155 | 7 | East | Upwind | Background | No observations seen to affect sampling integrity |
| 32 200m West of TP6D (CO) main gate | 1700 | 155 | 8 | East | Downwind | Trucks moving material | No observations seen to affect sampling integrity |
| 33 200m West of TP6D (CO) main gate | 1745 | 155 | 7 | 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 ($\mu\text{g}/\text{m}^3$) |
|----------------------------------|--------------|---|---|
| 20m East of Salvation Army | 0700 to 0759 | 6 | 990 |
| 20m East of Salvation Army | 0800 to 0859 | 12 | 990 |
| 20m East of Salvation Army | 0900 to 0959 | 16 | 990 |
| 20m East of Salvation Army | 1000 to 1059 | 20 | 990 |
| 20m East of Salvation Army | 1100 to 1159 | 25 | 990 |
| 20m East of Salvation Army | 1200 to 1259 | 30 | 990 |
| 20m East of Salvation Army | 1300 to 1359 | 36 | 990 |
| 200m West of TP6D (CO) main gate | 1400 to 1459 | 46 | 990 |
| 200m West of TP6D (CO) main gate | 1500 to 1559 | 60 | 990 |
| 200m West of TP6D (CO) main gate | 1600 to 1659 | 70 | 990 |
| 200m West of TP6D (CO) main gate | 1700 to 1759 | 78 | 990 |

VOC Monitoring

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