

MEMORANDUM

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|-------------|----------------------------|-----------------|-----------------------|
| TO | Dawn MacNeil, STPA | FILE NO. | S-1312-27 |
| FROM | Dianne Theriault | SHIFT: | 0630 to 1830 |
| TEL | (902) 539-3012 | CC: | Shawn Bernon, STPA |
| FAX | (902) 539-3381 | | Wilfred Kaiser, STPA |
| DATE | 26 th May, 2009 | | Terry Smith, ALL-TECH |
| | | STPA NO. | CO2-NSL-0058 |

**SUBJECT: 25th May, 2009 Real-time Air Monitoring Results
Sydney Tar Ponds Agency – Tar Cell, Sysco Site
FINAL REPORT**

Attached is a summary of Real-time particulate (as PM₁₀) results for air monitoring performed on the 25th of May, 2009. Donald MacIsaac and Reg Peters of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH) performed all air monitoring activities.

Weather conditions on the day of sampling:

- Mainly sunny, cloudy with rain
- Temperature: approximately 19°C
- Wind Direction: Northwest to West to Northwest

Comments: *ALL-TECH was on-Site at 0630 and sampling began as soon as there was site activity, but was later put on standby at 1715 and cancelled for the day at 1830 due to ongoing precipitation. Air monitoring was performed during SLR'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 Donald MacIsaac 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 – Tar Cell, Sysco Site
25th May, 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 80m Northeast of railway building | 0700 | 155 | 5 | Northwest | Upwind | Background | No observations seen to affect sampling integrity |
| 2 100m South of new truck scale | 0700 | 155 | 6 | Northwest | Downwind | No activity observed on site | No observations seen to affect sampling integrity |
| 3 100m South of new truck scale | 0725 | 155 | 8 | Northwest | Downwind | Equipment operating | No observations seen to affect sampling integrity |
| 4 80m Northeast of railway building | 0800 | 155 | 5 | Northwest | Upwind | Background | No observations seen to affect sampling integrity |
| 5 100m South of new truck scale | 0800 | 155 | 10 | Northwest | Downwind | Equipment operating | No observations seen to affect sampling integrity |
| 6 100m South of new truck scale | 0820 | 155 | 7 | Northwest | Downwind | Equipment operating | No observations seen to affect sampling integrity |

| 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 |
|---|--------------------|--|--|-----------------------|--------------------------|--------------------------------|---|
| 7 80m Northeast of railway building | 0900 | 155 | 5 | Northwest | Upwind | Background | No observations seen to affect sampling integrity |
| 8 100m South of new truck scale | 0900 | 155 | 7 | Northwest | Downwind | Equipment operating | No observations seen to affect sampling integrity |
| 9 100m South of new truck scale | 0930 | 155 | 6 | Northwest | Downwind | Equipment operating | No observations seen to affect sampling integrity |
| 10 80m Northeast of railway building | 1000 | 155 | 5 | Northwest | Upwind | Background | No observations seen to affect sampling integrity |
| 11 100m South of new truck scale | 1000 | 155 | 8 | Northwest | Downwind | Equipment operating | No observations seen to affect sampling integrity |
| 12 100m South of new truck scale | 1045 | 155 | 11 | Northwest | Downwind | Equipment operating | No observations seen to affect sampling integrity |
| 13 80m Northeast of railway building | 1100 | 155 | 7 | Northwest | 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 100m South of new truck scale | 1100 | 155 | 14 | Northwest | Downwind | Equipment operating | No observations seen to affect sampling integrity |
| 15 100m South of new truck scale | 1145 | 155 | 17 | Northwest | Downwind | Equipment operating | No observations seen to affect sampling integrity |
| 16 80m Northeast of railway building | 1200 | 155 | 6 | Northwest | Upwind | Background | No observations seen to affect sampling integrity |
| 17 100m South of new truck scale | 1200 | 155 | 16 | Northwest | Downwind | Equipment operating | No observations seen to affect sampling integrity |
| 18 100m South of new truck scale | 1220 | 155 | 11 | Northwest | Downwind | Equipment operating | No observations seen to affect sampling integrity |
| 19 100m East of railway building | 1300 | 155 | 8 | West | Upwind | Background | No observations seen to affect sampling integrity |
| 20 70m South of new truck scale | 1300 | 155 | 16 | West | Downwind | No activity observed on site | No observations seen to affect sampling integrity |

| 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 |
|---|--------------------|--|--|-----------------------|--------------------------|--------------------------------|---|
| 21 70m South of new truck scale | 1340 | 155 | 26 | West | Downwind | Equipment operating | No observations seen to affect sampling integrity |
| 22 100m East of railway building | 1400 | 155 | 4 | West | Upwind | Background | No observations seen to affect sampling integrity |
| 23 70m South of new truck scale | 1400 | 155 | 32 | West | Downwind | Equipment operating | No observations seen to affect sampling integrity |
| 24 70m South of new truck scale | 1435 | 155 | 31 | West | Downwind | Equipment operating | No observations seen to affect sampling integrity |
| 25 100m East of railway building | 1500 | 155 | 5 | West | Upwind | Background | No observations seen to affect sampling integrity |
| 26 70m South of new truck scale | 1500 | 155 | 41 | West | Downwind | Equipment operating | No observations seen to affect sampling integrity |
| 27 70m South of new truck scale | 1520 | 155 | 28 | West | Downwind | Equipment 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 |
|---|-------------|--|-------------------------------------|----------------|-------------------|-------------------------|---|
| 28 100m East of railway building | 1600 | 155 | 21 | West | Upwind | Background | No observations seen to affect sampling integrity |
| 29 70m South of new truck scale | 1600 | 155 | 26 | West | Downwind | Equipment operating | No observations seen to affect sampling integrity |
| 30 70m South of new truck scale | 1625 | 155 | 24 | West | Downwind | Equipment operating | No observations seen to affect sampling integrity |
| 31 80m Northeast of railway building | 1700 | 155 | 9 | Northwest | Upwind | Background | No observations seen to affect sampling integrity |
| 32 130m South of new truck scale | 1700 | 155 | 80 | Northwest | Downwind | Equipment operating | Dust from road traffic |

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 ($\mu\text{g}/\text{m}^3$) |
|-------------------------------|--------------|--|---|
| 100m South of new truck scale | 0700 to 0759 | 7 | 990 |
| 100m South of new truck scale | 0800 to 0859 | 16 | 990 |
| 100m South of new truck scale | 0900 to 0959 | 23 | 990 |
| 100m South of new truck scale | 1000 to 1059 | 33 | 990 |
| 100m South of new truck scale | 1100 to 1159 | 49 | 990 |
| 100m South of new truck scale | 1200 to 1259 | 63 | 990 |
| 70m South of new truck scale | 1300 to 1359 | 84 | 990 |
| 70m South of new truck scale | 1400 to 1459 | 116 | 990 |
| 70m South of new truck scale | 1500 to 1559 | 151 | 990 |
| 70m South of new truck scale | 1600 to 1659 | 176 | 990 |
| 70m South of new truck scale | 1700 to 1759 | 256 | 990 |

VOC Monitoring

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