

MEMORANDUM

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|-------------|------------------------------|-----------------|---|
| TO | Dawn MacNeil, STPA | FILE NO. | S-1279-12 |
| FROM | Dianne Theriault | SHIFT: | 0730 to 1730 |
| TEL | (902) 539-3012 | CC: | Shawn Bernon, STPA Wilfred Kaiser, STPA Terry Smith, ALL-TECH |
| FAX | (902) 539-3381 | | |
| DATE | 23 rd March, 2009 | STPA NO. | TP2-0128 |

**SUBJECT: 20th March, 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 20th of March, 2009. Jennifer Andrews 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 cloudy
- Temperature: approximately -3°C
- Wind Direction: Northwest to North

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
20th March, 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 100m Northeast of Inglis St. and Spar Rd. Intersection | 0800 | 155 | 20 | Northwest | Upwind | Background | No observations seen to affect sampling integrity |
| 2 5m North of Inglis St. and Spar Rd. Intersection | 0800 | 155 | 23 | Northwest | Downwind | Worker activity | No observations seen to affect sampling integrity |
| 3 5m North of Inglis St. and Spar Rd. Intersection | 0845 | 155 | 14 | Northwest | Downwind | Worker activity | No observations seen to affect sampling integrity |
| 4 100m North of Inglis St. and Spar Rd. Intersection | 0900 | 155 | 10 | North | Upwind | Background | No observations seen to affect sampling integrity |
| 5 90m West of Inglis St. and Spar Rd. Intersection | 0900 | 155 | 21 | North | Downwind | Worker activity | No observations seen to affect sampling integrity |
| 6 90m West of Inglis St. and Spar Rd. Intersection | 0925 | 155 | 17 | North | Downwind | Worker activity | 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 100m North of Inglis St. and Spar Rd. Intersection | 1000 | 155 | 8 | North | Upwind | Background | No observations seen to affect sampling integrity |
| 8 90m West of Inglis St. and Spar Rd. Intersection | 1000 | 155 | 9 | North | Downwind | No activity observed on site | No observations seen to affect sampling integrity |
| 9 90m West of Inglis St. and Spar Rd. Intersection | 1035 | 155 | 8 | North | Downwind | No activity observed on site | No observations seen to affect sampling integrity |
| 10 100m North of Inglis St. and Spar Rd. Intersection | 1100 | 155 | 7 | North | Upwind | Background | No observations seen to affect sampling integrity |
| 11 90m West of Inglis St. and Spar Rd. Intersection | 1100 | 155 | 8 | North | Downwind | Worker activity | No observations seen to affect sampling integrity |
| 12 90m West of Inglis St. and Spar Rd. Intersection | 1130 | 155 | 7 | North | Downwind | Worker activity | No observations seen to affect sampling integrity |
| 13 100m North of Inglis St. and Spar Rd. Intersection | 1200 | 155 | 6 | North | Upwind | Background | 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 |
|--|--------------------|--|--|-----------------------|--------------------------|--------------------------------|---|
| 14 90m West of Inglis St. and Spar Rd. Intersection | 1200 | 155 | 9 | North | Downwind | No activity observed on site | No observations seen to affect sampling integrity |
| 15 90m West of Inglis St. and Spar Rd. Intersection | 1215 | 155 | 9 | North | Downwind | No activity observed on site | No observations seen to affect sampling integrity |
| 16 100m North of Inglis St. and Spar Rd. Intersection | 1300 | 155 | 6 | North | Upwind | Background | No observations seen to affect sampling integrity |
| 17 90m West of Inglis St. and Spar Rd. Intersection | 1300 | 155 | 10 | North | Downwind | Worker activity | No observations seen to affect sampling integrity |
| 18 90m West of Inglis St. and Spar Rd. Intersection | 1340 | 155 | 14 | North | Downwind | Worker activity | No observations seen to affect sampling integrity |
| 19 100m North of Inglis St. and Spar Rd. Intersection | 1400 | 155 | 6 | North | Upwind | Background | No observations seen to affect sampling integrity |
| 20 90m West of Inglis St. and Spar Rd. Intersection | 1400 | 155 | 14 | North | Downwind | Worker activity | 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 90m West of Inglis St. and Spar Rd. Intersection | 1420 | 155 | 11 | North | Downwind | Worker activity | No observations seen to affect sampling integrity |
| 22 100m North of Inglis St. and Spar Rd. Intersection | 1500 | 155 | 8 | North | Upwind | Background | No observations seen to affect sampling integrity |
| 23 90m West of Inglis St. and Spar Rd. Intersection | 1500 | 155 | 15 | North | Downwind | Worker activity | No observations seen to affect sampling integrity |
| 24 90m West of Inglis St. and Spar Rd. Intersection | 1520 | 155 | 14 | North | Downwind | Worker activity | No observations seen to affect sampling integrity |
| 25 100m North of Inglis St. and Spar Rd. Intersection | 1600 | 155 | 6 | North | Upwind | Background | No observations seen to affect sampling integrity |
| 26 90m West of Inglis St. and Spar Rd. Intersection | 1600 | 155 | 14 | North | Downwind | Worker activity | No observations seen to affect sampling integrity |
| 27 90m West of Inglis St. and Spar Rd. Intersection | 1645 | 155 | 16 | North | Downwind | Worker activity | 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 ($\mu\text{g}/\text{m}^3$) |
|--|-----------------|---|---|
| 5m North of Inglis St. and Spar Rd. Intersection | 0800 to 0859 | 19 | 990 |
| 90m West of Inglis St. and Spar Rd. Intersection | 0900 to 0959 | 36 | 990 |
| 90m West of Inglis St. and Spar Rd. Intersection | 1000 to 1059 | 45 | 990 |
| 90m West of Inglis St. and Spar Rd. Intersection | 1100 to 1159 | 53 | 990 |
| 90m West of Inglis St. and Spar Rd. Intersection | 1200 to 1259 | 62 | 990 |
| 90m West of Inglis St. and Spar Rd. Intersection | 1300 to 1359 | 74 | 990 |
| 90m West of Inglis St. and Spar Rd. Intersection | 1400 to 1459 | 88 | 990 |
| 90m West of Inglis St. and Spar Rd. Intersection | 1500 to 1559 | 103 | 990 |
| 90m West of Inglis St. and Spar Rd. Intersection | 1600 to 1659 | 118 | 990 |

VOC Monitoring

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