

MEMORANDUM

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|-------------|-----------------------------|-----------------|---|
| TO | Dawn MacNeil, STPA | FILE NO. | S-1293-02 |
| FROM | Dianne Theriault | SHIFT: | 0630 to 1830 |
| TEL | (902) 539-3012 | CC: | Shawn Bernon, STPA Wilfred Kaiser, STPA Terry Smith, ALL-TECH |
| FAX | (902) 539-3381 | | |
| DATE | 7 th April, 2009 | STPA NO. | CO2-0005 |

**SUBJECT: 2nd April, 2009, Real-time Air Monitoring Results
Sydney Tar Ponds Agency – Tar Cell
FINAL REPORT (Revised)**

Attached is a summary of Real-time particulate (as PM₁₀) results for air monitoring performed on the 2nd of April, 2009. Trevor Rowe 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:

- Sunny with cloudy periods
- Temperature: approximately 4°C
- Wind Direction: Southwest

Comments: *ALL-TECH was on-Site at 0630 hours and sampling began as soon as there was site activity. 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 Trevor Rowe 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:

Shawn Bernon shawn@tarpondscleanup.ca, Wilfred Kaiser wilfred@tarpondscleanup.ca, Nancy LeDrew nancy@tarpondscleanup.ca, Trish Magliaro trish@tarpondscleanup.ca, Terry Smith tsmith@toalltech.com, Phyllis Low pilow@toalltech.com, Dianne Theriault dtheriault@toalltech.com, Darren Gardiner dgardiner@croworld.com, Darren Lawless dlawless@toalltech.com, Kevin Mac Pherson kevinmacp@cbcl.ca, Kathy Harquail kharquail@toalltech.com

Real-time Airborne PM₁₀ Concentration Results
Sydney Tar Ponds Agency – Tar Cell
2nd April, 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 50M South of Spar Road & Spar Road Extension Intersection | 0700 | 155 | 18 | Southwest | Upwind | Background | No observations seen to affect sampling integrity |
| 2 75m West of Spar Road and Lingan Road intersection | 0700 | 155 | 17 | Southwest | Downwind | No activity observed on site | No observations seen to affect sampling integrity |
| 3 75m West of Spar Road and Lingan Road intersection | 0730 | 155 | 17 | Southwest | Downwind | Excavators Loading Trucks | No observations seen to affect sampling integrity |
| 4 50M South of Spar Road & Spar Road Extension Intersection | 0800 | 155 | 22 | Southwest | Upwind | Background | No observations seen to affect sampling integrity |
| 5 75m West of Spar Road and Lingan Road intersection | 0800 | 155 | 16 | Southwest | Downwind | Excavators Loading Trucks | No observations seen to affect sampling integrity |
| 6 75m West of Spar Road and Lingan Road intersection | 0830 | 155 | 18 | Southwest | Downwind | Excavators Loading Trucks | 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 50M South of Spar Road & Spar Road Extension Intersection | 0900 | 155 | 27 | Southwest | Upwind | Background | No observations seen to affect sampling integrity |
| 8 75m West of Spar Road and Lingan Road intersection | 0900 | 155 | 23 | Southwest | Downwind | Excavators Loading Trucks | No observations seen to affect sampling integrity |
| 9 75m West of Spar Road and Lingan Road intersection | 0915 | 155 | 21 | Southwest | Downwind | Excavators Loading Trucks | No observations seen to affect sampling integrity |
| 10 50M South of Spar Road & Spar Road Extension Intersection | 1000 | 155 | 27 | Southwest | Upwind | Background | No observations seen to affect sampling integrity |
| 11 75m West of Spar Road and Lingan Road intersection | 1000 | 155 | 20 | Southwest | Downwind | No activity observed on site | No observations seen to affect sampling integrity |
| 12 75m West of Spar Road and Lingan Road intersection | 1030 | 155 | 22 | Southwest | Downwind | Excavators Loading Trucks | No observations seen to affect sampling integrity |
| 13 100M South of Spar Road & Spar Road Extension Intersection | 1100 | 155 | 25 | Southwest | 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 75m West of Spar Road and Lingan Road intersection | 1100 | 155 | 19 | Southwest | Downwind | Excavators Loading Trucks | No observations seen to affect sampling integrity |
| 15 75m West of Spar Road and Lingan Road intersection | 1125 | 155 | 19 | Southwest | Downwind | Excavators Loading Trucks | No observations seen to affect sampling integrity |
| 16 100M South of Spar Road & Spar Road Extension. Intersection | 1200 | 155 | 21 | Southwest | Upwind | Background | No observations seen to affect sampling integrity |
| 17 75m West of Spar Road and Lingan Road intersection | 1200 | 155 | 17 | Southwest | Downwind | Excavators Loading Trucks | No observations seen to affect sampling integrity |
| 18 75m West of Spar Road and Lingan Road intersection | 1230 | 155 | 16 | Southwest | Downwind | Excavators Loading Trucks | No observations seen to affect sampling integrity |
| 19 100M South of Spar Road & Spar Road Extension. Intersection | 1300 | 155 | 20 | Southwest | Upwind | Background | No observations seen to affect sampling integrity |
| 20 75m West of Spar Road and Lingan Road intersection | 1300 | 155 | 15 | Southwest | 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 |
|---|-------------|--|-------------------------------------|----------------|-------------------|---------------------------|---|
| 21 75m West of Spar Road and Lingan Road intersection | 1330 | 155 | 14 | Southwest | Downwind | Excavators Loading Trucks | No observations seen to affect sampling integrity |
| 22 100M South of Spar Road & Spar Road Extension. Intersection | 1400 | 155 | 16 | Southwest | Upwind | Background | No observations seen to affect sampling integrity |
| 23 75m West of Spar Road and Lingan Road intersection | 1400 | 155 | 14 | Southwest | Downwind | Excavators Loading Trucks | No observations seen to affect sampling integrity |
| 24 75m West of Spar Road and Lingan Road intersection | 1430 | 155 | 12 | Southwest | Downwind | Excavators Loading Trucks | No observations seen to affect sampling integrity |
| 25 100M South of Spar Road & Spar Road Extension. Intersection | 1500 | 155 | 16 | Southwest | Upwind | Background | No observations seen to affect sampling integrity |
| 26 75m West of Spar Road and Lingan Road intersection | 1500 | 155 | 17 | Southwest | Downwind | Excavators Loading Trucks | No observations seen to affect sampling integrity |
| 27 75m West of Spar Road and Lingan Road intersection | 1530 | 155 | 17 | Southwest | Downwind | Excavators Loading Trucks | 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 South of Spar Road & Spar Road Extension. Intersection | 1600 | 155 | 16 | Southwest | Upwind | Background | No observations seen to affect sampling integrity |
| 29 75m West of Spar Road and Lingan Road intersection | 1600 | 155 | 17 | Southwest | Downwind | Excavators Loading Trucks | No observations seen to affect sampling integrity |
| 30 75m West of Spar Road and Lingan Road intersection | 1630 | 155 | 16 | Southwest | Downwind | Excavators Loading Trucks | No observations seen to affect sampling integrity |
| 31 100M South of Spar Road & Spar Road Extension. Intersection | 1700 | 155 | 17 | Southwest | Upwind | Background | No observations seen to affect sampling integrity |
| 32 75m West of Spar Road and Lingan Road intersection | 1700 | 155 | 17 | Southwest | Downwind | Excavators Loading Trucks | No observations seen to affect sampling integrity |
| 33 75m West of Spar Road and Lingan Road intersection | 1745 | 155 | 17 | Southwest | Downwind | Excavators Loading Trucks | 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 ($\mu\text{g}/\text{m}^3$) |
|--|--------------|---|---|
| 75m West of Spar Road and Lingan Road intersection | 0700 to 0759 | 17 | 990 |
| 75m West of Spar Road and Lingan Road intersection | 0800 to 0859 | 34 | 990 |
| 75m West of Spar Road and Lingan Road intersection | 0900 to 0959 | 56 | 990 |
| 75m West of Spar Road and Lingan Road intersection | 1000 to 1059 | 77 | 990 |
| 75m West of Spar Road and Lingan Road intersection | 1100 to 1159 | 96 | 990 |
| 75m West of Spar Road and Lingan Road intersection | 1200 to 1259 | 113 | 990 |
| 75m West of Spar Road and Lingan Road intersection | 1300 to 1359 | 128 | 990 |
| 75m West of Spar Road and Lingan Road intersection | 1400 to 1459 | 141 | 990 |
| 75m West of Spar Road and Lingan Road intersection | 1500 to 1559 | 158 | 990 |
| 75m West of Spar Road and Lingan Road intersection | 1600 to 1659 | 175 | 990 |
| 75m West of Spar Road and Lingan Road intersection | 1700 to 1759 | 192 | 990 |

VOC Monitoring

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