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## **APPENDIX D – COMMUNITY AIR MONITORING PLAN**

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**FINAL COMMUNITY AIR MONITORING PLAN  
(CAMP)  
OPERABLE UNITS 1 (SITE 110) AND 2 (SITE 109)  
TONAWANDA COKE SITE  
3875 RIVER ROAD  
TONAWANDA, NEW YORK**

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## LIST OF ACRONYMS

CAMP	Community Air Monitoring Plan
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PPM	Parts per million
QA/QC	Quality Assurance/Quality Control
VOCs	Volatile Organic Compounds

# 1.0 INTRODUCTION

## 1.1 CAMP Overview

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A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each Operable Unit (OU) when certain activities are in progress at contaminated sites. This CAMP presents the monitoring program that will be followed at Tonawanda Coke Sites 109 and 110 during Remedial Investigation (RI) activities. RI work will include excavation of test pits, installation of soil borings and monitoring wells, groundwater sampling, and surveying.

The CAMP is not intended for use in establishing action levels for worker respiratory protection (which will be covered under a worker health and safety plan). Rather, its intent is to provide protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. Exceedance of the action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP will confirm that work activities did not spread contamination off-site through the air.

The CAMP presented herein is consistent with guidance provided by NYSDOH in the generic CAMP contained in DER-10 (NYSDEC, 2010), and has been modified based on specific circumstances for this site. No sensitive receptors are located on the property and the nearest residences are approximately 0.3 miles from the property boundary. No special requirements are necessary because work will not take place within 20 feet of potentially exposed individuals or structures and no indoor work will be performed. An evaluation was made of the nature of site contamination and it is confirmed there are no specific individual chemicals expected to be observed in air during work activities. Concentrations of VOCs in surface and subsurface soils were below industrial and commercial SCOs at all Site 109 and Site 110 sampling locations during prior investigations. The monitoring and response levels provided in the CAMP guidance are appropriate based on the proximity of potentially exposed individuals. The RI elements will involve limited, short-term and very localized soil disturbance. Reliance on the CAMP will not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

# 2.0 COMMUNITY AIR MONITORING PLAN

## 2.1 Monitoring Frequency

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Based on potential contaminants at the site, real-time air monitoring for VOCs and particulate levels will be performed at the upwind and downwind perimeter of each OU during intrusive work. Example CAMP locations for each OU are shown on **Figures 1 & 2**. Monitoring frequencies are detailed below in the following sections.

### 2.1.1 Continuous Monitoring

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Continuous monitoring will be performed for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring

wells. Therefore, continuous air monitoring will be performed during all test pitting and installation of soil borings and monitoring wells.

## 2.1.2 Periodic Monitoring

Periodic monitoring for VOCs will be performed during non-intrusive activities such as the collection of surface soil and sediment samples or the collection of groundwater samples from monitoring wells. Periodic monitoring during sample collection will consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well purging, and taking a reading prior to leaving a sample location. All readings will be recorded in the field log. Periodic monitoring is anticipated to be sufficient during non-intrusive activities because sampling locations are not in close proximity to potentially exposed individuals. Activities will be taking place on a currently inactive site that is closed to the public, thus eliminating receptors in close proximity to proposed work areas.

## 2.2 VOC Monitoring, Response Levels, and Actions

VOCs will be monitored at the upwind (background) and downwind perimeter of each OU on a continuous basis (**Figures 1 & 2**). Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The VOC monitoring work will be performed using a MiniRae 3000 (or similar) photoionization detector (PID). The PID will be calibrated at least daily using 100 parts per million (ppm) isobutylene as a surrogate calibration gas. Isobutylene is an appropriate calibration gas because the response of most VOCs is reasonably close to and consistent with it. The PID will be set to calculate 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 ppm above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.
- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shut down and the exceedance will be reported to New York State Department of Environmental Conservation (NYSDEC) and NYSDOH project managers.
- All 15-minute readings will be recorded and be available for State (NYSDEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.
- Maximum upwind and downwind concentrations will be provided to NYSDEC and NYSDOH on a daily basis.

## 2.3 Particulate Monitoring Response Levels, and Actions

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the OU at temporary particulate monitoring stations (**Figures 1 & 2**). Additional details regarding particulate monitoring are

contained in **Appendix A-1**. The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) such as a TSI DustTrak Aerosol Monitor (or similar). The monitoring equipment will be capable of integrating over a period of 15 minutes for comparison to the airborne particulate action level. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities. The following action levels and responses will be followed:

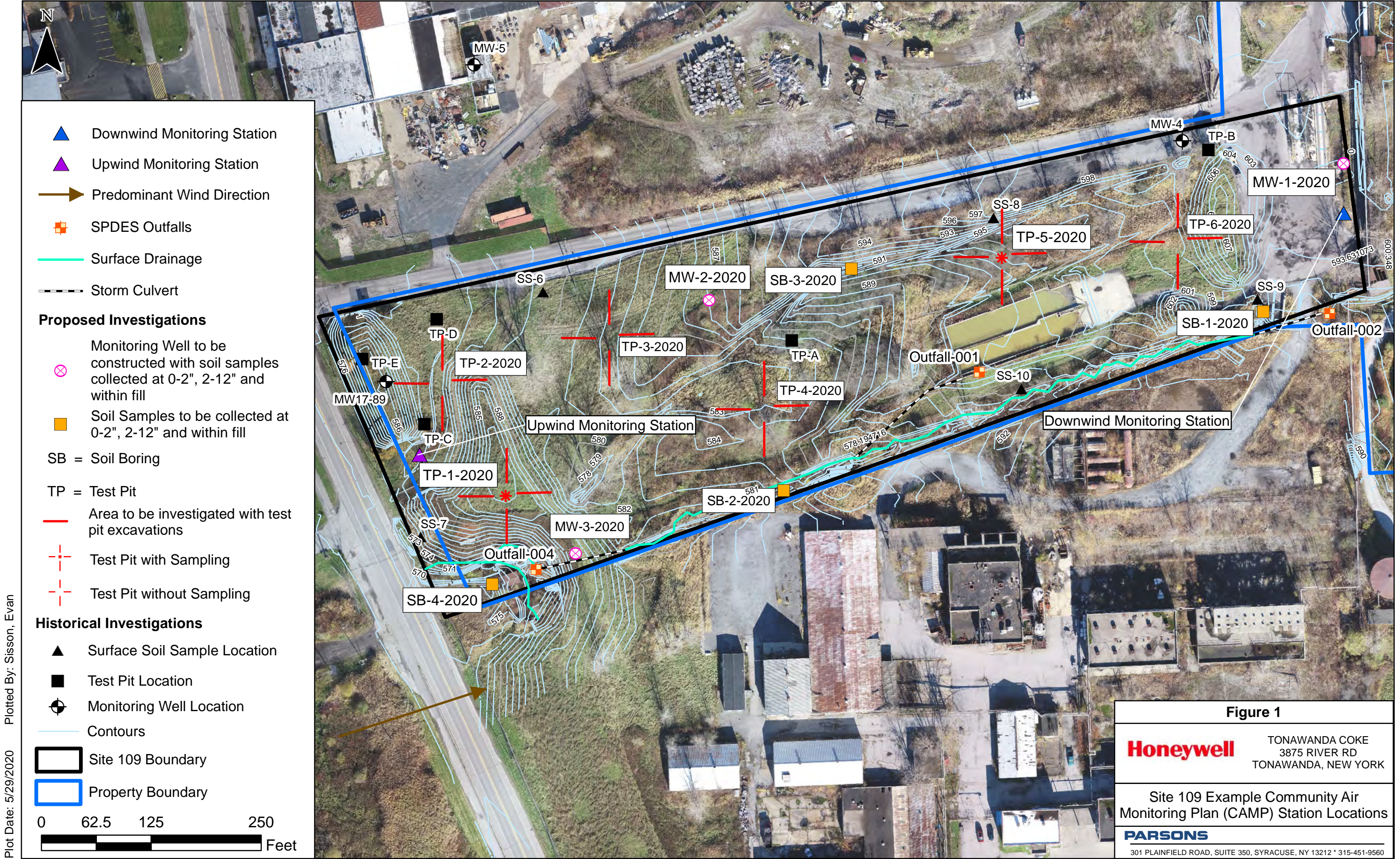
- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m<sup>3</sup>) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m<sup>3</sup> above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m<sup>3</sup> above the upwind level, work will be stopped, and a re-evaluation of activities initiated. Work will resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m<sup>3</sup> of the upwind level and in preventing visible dust migration. Exceedances will be reported to NYSDEC and NYSDOH project managers.
- All 15-minute readings will be recorded and available for State (NYSDEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.
- Maximum upwind and downwind concentrations will be provided to NYSDEC and NYSDOH on a daily basis.

## 3.0 REFERENCES

NYSDEC DER-10, *Technical Guidance for Site Investigation and Remediation*, May 2010.

## FIGURES





Plot Date: 5/29/2020 Plotted By: Sisson, Evan







## APPENDIX A-1 FUGITIVE DUST AND PARTICULATE MONITORING

A program for suppressing fugitive dust and particulate matter monitoring during intrusive investigation work is presented below. The fugitive dust and particulate monitoring program presented herein has been modified from the generic program contained in DER-10 (NYSDEC, 2010). The following fugitive dust suppression and particulate monitoring program will be employed during intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques will be employed during all site activities which may generate fugitive dust.
2. Particulate monitoring will be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Excavation, grading, or placement of clean fill do not necessitate use of these control measures.
3. Particulate monitoring will be performed using real-time particulate monitors and will monitor particulate matter less than ten microns (PM<sub>10</sub>) with the following minimum performance standards:
  - Objects to be measured: Dust, mists or aerosols;
  - Measurement Ranges: 0.001 to 400 mg/m<sup>3</sup> (1 to 400,000 :ug/m<sup>3</sup>);
  - Precision (2-sigma) at constant temperature: +/- 10 :g/m<sup>3</sup> for one second averaging; and +/- 1.5 g/m<sup>3</sup> for sixty second averaging;
  - Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
  - Resolution: 0.1% of reading or 1g/m<sup>3</sup>, whichever is larger;
  - Particle Size Range of Maximum Response: 0.1-10;
  - Total Number of Data Points in Memory: 10,000;
  - Logged Data: Each data point with average concentration, time/date and data point number;
  - Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
  - Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
  - Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
  - Operating Temperature: -10 to 50o C (14 to 122o F); and
  - Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.
4. In order to ensure the validity of the fugitive dust measurements performed, there will be appropriate Quality Assurance/Quality Control (QA/QC). The monitoring instrument will be calibrated periodically, all persons operating the instruments will be trained in doing so, daily instrument performance (span) checks will be performed, and all records including monitoring data, exceedances, suppression actions, fugitive dust observations, and other pertinent information will be kept with field documentation.
5. The action level will be established at 150 ug/m<sup>3</sup> (15 minutes average).
6. While conservative, this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m<sup>3</sup>, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater

than 100 ug/m<sup>3</sup> above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m<sup>3</sup> continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

7. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM<sub>10</sub> at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential will require the need for special measures to be considered.
8. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:
  - (a) Applying water on haul roads;
  - (b) Wetting equipment and excavation faces;
  - (c) Spraying water on buckets during excavation and dumping;
  - (d) Hauling materials in properly tarped or watertight containers;
  - (e) Restricting vehicle speeds to 10 mph;
  - (f) Covering excavated areas and material after excavation activity ceases; and
  - (g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m<sup>3</sup> action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

9. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended.