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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
CARIBBEAN ENVIRONMENTAL PROTECTION DIVISION
CENTRO EUROPA BUILDING, SUITE 417
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SAN JUAN, PR 00907-4127

February 2, 2006

Mr. Christopher Penny
Eastern Vieques Remedial Project Manager
Commander Atlantic Division
Naval Facilities Engineering Command
6506 Hampton Boulevard
Norfolk, VA 23508-1278

Re: Review of the Draft Air Monitoring Data Report August 15, 2005 through September 30, 2005 for the Time Critical Removal Action at the Former Vieques Naval Training Range (VNTR), Vieques Island, Puerto Rico

Dear Mr. Penny:

The U.S. Environmental Protection Agency (EPA) and the Puerto Rico Environmental Quality Board (EQB) have completed the review of the Draft Air Monitoring Data Report August 15, 2005 through September 30, 2005 for the Time Critical Removal Action dated October 2005. Enclosed you will find our comments.

If you have any questions or comments, please contact me at (787) 741-5201.

Sincerely yours,

A handwritten signature in blue ink, appearing to read "Daniel Rodriguez".

Daniel Rodriguez
Remedial Project Manager
Enforcement and Superfund Branch

Enclosures (2)

cc: Yarissa Martinez, EQB, w/ encl.
Felix Lopez, FWS, w/ encl.
Oscar Díaz, FWS, w/ encl.
John Tomik, CH2M Hill, w/ encl.

EPA's Comment
DRAFT AIR MONITORING DATA REPORT
AUGUST 15, 2005 THROUGH SEPTEMBER 30, 2005
FOR
TIME CRITICAL REMOVAL ACTION
FORMER VIEQUES NAVAL TRAINING RANGE (VNTR)
VIEQUES, PUERTO RICO
OCTOBER 2005

GENERAL COMMENTS

1. Analytical results for explosives may be questionable due to use of an inappropriate sampling method for semi-volatile compounds. Additionally, based on the information presented in the Air Monitoring Plan and this Report, it does not appear that method quality control (QC) was conducted in accordance Method 8095 and SW-846 protocols. Please clarify if method quality controls were conducted in accordance with Method 8095 and SW-846 protocols.
2. Figure 2-1 should depict the location where detonations were conducted in order to better evaluate sampling/monitoring results at the different monitoring stations. Please revise Figure 2-1 to depict the detonation locations.

SPECIFIC COMMENTS

3. **Section 3.0, Data, page 3-1:** The first paragraph in Section 3.0 indicates monitoring station OP-1 was not operational during the monitoring period due to power outages at the site. The CH2M Hill responses submitted in response to EPA and Puerto Rico Environmental Quality Board (EQB) comments on the Draft Air Monitoring Plan indicated that the E-BAM monitor/sampler was chosen because it was solar/battery powered. Please clarify the reason why the sampler/monitor could not be operated.
4. **Section 3.1, PM₁₀ Data, page 3-2:** Section 3.1 states that the comparison of metals and explosives data to the risk-based concentrations provides a more direct assessment of impacts to human health and the environment. However, as mentioned in EPA, EQB, and Techlaw, Inc. comments on the draft and final Air Monitoring Plans, the sampling/filter media used is not considered appropriate for the explosive/energetic compounds which are also semi-volatile organic compounds (SVOC), as well as elemental mercury. Please revise the Report to indicate that the method used to collect the data were questioned by the Regulatory Agencies involved, and that a direct assessment of impacts to human health and the environment using risk-based concentrations may not be accurate.
5. **Section 3.2, Metals Data, page 3-4:** Section 3.2 references Tables 3-2 and 3-3 for the three highest 8-hour concentrations of metals during the reporting period. The referenced results are actually found in Tables 3-3 and 3-4. Please revise the Report to correct this error.
6. **Section 4.1.1, Flow Precision, page 4-1:** Section 4.1.1 states that "Precision is determined for the PM₁₀ monitor by conducting weekly flow checks." While this can be

used to determine precision of the instrument flow rate, it would not provide precision for the PM₁₀ data. This could be determined by using collocated samplers as proposed in the Air Monitoring Plan. There is no discussion of collocation of samplers in the report. Please clarify this deviation from the work plan. In addition, please clarify what corrective action was undertaken for the sampler for which the flow check data failed the precision criteria check, to include any impacts on data.

7. **Section 4.2, Laboratory QA/QC, page 4-3:** Section 4.2 states that “All analytical data were reviewed based on criteria analogous to that set forth in the EPA *National Functional Guidelines* and the Air Monitoring Plan.” Unless significantly more laboratory QC was conducted than was presented in the Final Air Monitoring Plan (surrogate spiking, MS/MSD, etc.), there would not be sufficient information to conduct data validation in accordance with *National Functional Guidelines*. Please revise the Report to provide specific details on laboratory QC conducted and to describe what was reviewed as part of this analogous data validation process.
8. **Section 4.2.1, Metals, page 4-3:** The first paragraph in Section 4.2.1 states that “Accuracy is determined by the analysis of a NIST reference standard analyzed with each batch of samples.” However, varying concentrations of the different analytes in the field samples could result in matrix effects that impact the results. In response to Puerto Rico EQB comments on the draft Air Monitoring Plan, CH2M Hill stated that digestion followed by ICP analysis for metals would be used to evaluate the metals (XRF) method accuracy. Please clarify if this was done and present the data in the Report or revise the Report to explain the deviation.
9. **Section 4.2.2, Explosive Residue, page 4-3:** Analysis of a NIST standard alone is not sufficient to determine accuracy as it may not account for potential matrix effects in the field samples. SW-846 Method 8095 QC requirements include surrogate spiking of all samples, matrix spike/matrix spike duplicates (MS/MSD), Lab Control Samples, etc. The *Final Air Monitoring Plan* did not adequately address QC for the method. The lack of adequate method QC along with an inappropriate sample collection method would render this data as questionable. Related comments regarding QC criteria are included in comments submitted for the Final Air Monitoring Plan. Please clarify if SW-846 Method 8095 QC requirements including surrogate spiking of all samples, matrix spike/matrix spike duplicates (MS/MSD), Lab Control Samples, etc., were used in addition to the NIST standard. In addition, please revise the Report to specify the extraction method used.
10. **Section 5.0, Summary, page 5-1:** In the third paragraph of Section 5.0, the report suggests that elevated PM₁₀ levels observed on September 9 and 10 may have been the result of volcanic activity in the Caribbean Basin. Please revise the Report to expound on the location of the activity relative to the Vieques site (e.g., direction, distance, prevailing winds, etc.).

EQB's Comments
Draft Report
Time Critical Removal Action
Former Vieques Naval Training Range
Air Monitoring Data Report
August 15, 2005 through September 30, 2005
Dated October 2005

Introduction

The *Draft Report Time Critical Removal Action Former Vieques Naval Training Range Air Monitoring Data Report, August 15, 2005 through September 30, 2005*, (AMDR) describes the monitoring program objectives; the monitoring sites; selected monitoring results, and quality assurance/quality control (QA/QC) activities.

The AMDR was reviewed for compliance with the Final Air Monitoring Plan, Time Critical Removal Action, Former Vieques Naval Training Range, Vieques, Puerto Rico, September 2005, applicable EPA monitoring guidance and regulations, as well as standard industry practices.

Air quality data generated by the current air monitoring program are not acceptable due to the deficiencies identified. These deficiencies should be adequately addressed prior to conducting further blow-in-place (BIPs).

General Comments

1. The AMDR describes the monitoring program objectives, the monitoring sites, selected monitoring results, and quality assurance/quality control (QA/QC) activities. The format and timeliness of the report generally conform to standard air quality monitoring reporting requirements. However, computer compatible files of all final, valid data collected during the monitoring period should be included with this and future AMDRs to facilitate independent review of the data and results.
2. The description of site activities is generally acceptable such that potential influences to the monitoring results can be interpreted. Overall, however, insufficient data are presented to enable independent verification of the results. Nonetheless, the following deficiencies are noted and suggest that corrective action to the program is warranted:
 - The siting of the instrumentation, both in regards to representativeness of the rooftop locations for meteorological data collection and the design of the network for capturing plumes caused by activities in the LIA is not demonstrated.

- Documentation of the appropriateness of field data collection techniques and laboratory analyses for the compounds of concern, especially the semi-volatiles, is lacking.
 - The reported data capture rate is below both the requirements of the Air Monitoring Plan and the EPA standard for ambient particulate measurement field programs.
 - The lack of a collocated PM₁₀ monitor, as discussed in the Air Monitoring Plan and as required by EPA for monitoring programs intended to demonstrate NAAQS compliance, prohibits objective determination of network precision.
 - The lack of compliance with QA/QC audit scheduling and the lack of reporting of results of audits (performance and systems) as required in the quality assurance program in the Air Monitoring Plan must be corrected.
 - Documentation of the appropriateness of the field data collection techniques and laboratory analyses for the compounds of concern, especially the semi-volatiles has not been presented.
3. It appears that BIPs have taken place when one or more air quality monitors are not operational. Provide justification for continuing to conduct open detonations while air monitoring station(s) were not operational. The justification should discuss this decision in the context of protecting public health and environment.

Specific Comments

Section 2.0 Monitoring Sites

1. Section 2.0, page 2-1 - A demonstration must be presented that the monitoring sites do, in fact, capture the plumes from the LIA. This demonstration should include, at a minimum, air quality/flow modeling, monitoring data analysis and/or field measurements, such as tracer/ flow visualization using smoke generators. The demonstration should be presented in a special report or be included in the AMDR being prepared for the period October through December 2005.
2. Section 2.2, Page 2-1 - The actual height of the monitors above grade should be provided rather than the range of "2 to 7 meters."

Section 3.0 Data

3. Section 3.0, page 3-1 - The description of site activities should include all activities that could impact air quality monitoring results. Were there any other such activities or events (e.g., road maintenance, brush clearing, etc.) that might influence monitoring results? If no other activities (e.g., road maintenance, brush

clearing, etc.) were conducted, then the text should state “no other activities were conducted that would influence results.”

4. Section 3.0, page 3-1 - The text should be expanded to describe the fire of August 17 to 18 and the ways in which the fire might have influenced monitoring results. Provide information in the report on the size of the fire, the types of materials that burned (munitions, brush, etc.) and how it was extinguished.

Section 3.1 PM₁₀ Data

5. Section 3.1 - National Ambient Air Quality Standards (NAAQS) have been promulgated by the EPA Administrator to be protective of human health and the environment. These standards are established following an exhaustive technical review of the scientific literature by the Clean Air Scientific Advisory Committee (CASAC) regarding the consequences of exposure to the criteria pollutants, including PM₁₀. CASAC consists of independent senior scientists whose role is to assess the risk of pollutant exposures and recommend concentrations that are protective of health. The statement “Furthermore, PM₁₀ is a measurement of the particulate concentrations in the air and are [sic] not a direct measurement of risks to human health and the environment” should be struck here and in the Summary Section.
6. Section 3.1 - Figure 3-1 shows reported 24-hour average concentrations for the period August 15 through 19, with a BIP on August 17. The indicated PM₁₀ concentrations are low and appear to be near background levels following the BIP and the subsequent fire from August 17 to 18. According to Section 3.0, the monitor at OP-5 was out of operation from August 18-25, however this figure shows data for OP-5 on August 18 and 19. Please clarify this apparent discrepancy. Also, OP-1 reports wind speed and direction for this event (see Table 3-5) but no concentrations. Again, according to Section 3.0, the monitor at OP-1 was inoperative due to power failure. Please clarify why meteorological data were available at OP-1, but concentration data were not available. It appears the plume from the BIP and subsequent fire either missed the monitors completely or produced concentrations so low they were not detectible above the background concentrations, which is unlikely. Since a fire that lasted 20 hours should have produced enough particles to be detectible, it appears the plume missed the monitoring array completely. Given a reported 24-hour average wind speed of 2.8 m/s and an estimated distance of approximately 1,000 meters from the fire to the air monitoring stations, it would take approximately 10 minutes for the plume from the fire to reach the monitoring stations. Monitor placement should be reviewed as described above to ensure that plumes during all easterly wind conditions will be captured.

Also, all final data reported should be made available for review in a readily readable electronic format (e.g., Excel spreadsheet), including the shortest averaging times available for the PM₁₀ and meteorological data (hourly, as

described in Section 5.0 or shorter, 15-minute averages as described in Section 6.1). Note that Section 9.3.1 of the AMP calls for hourly PM₁₀ and meteorological data to be reported in the AMDR. The sample data report shown in Appendix G of the AMP appears to provide example hourly average and real-time concentration data every 15 minutes. Clarify why hourly and 15-minute, real-time concentration data were not provided in this report. Provide data collected in the format as shown in the Appendix G of the AMP with sampling date and time indicated. Note that the data reported should be provided electronically.

7. Figure 3-2 - Figure 3-2 shows reported 24-hour average concentrations for the period August 21 through 27, with a BIP on August 25. The indicated PM₁₀ concentrations are low and appear to be near background levels following the BIP. Only the Boathouse monitor was online for this period. Again, there is no indication of a plume from the BIP impacting the monitor. Since the collection of 24-hour average concentrations is not likely to detect short-duration elevations in concentrations, clarify why 24-hour average concentrations are being reported. The report should discuss the impact of collecting 24-hour averages on the data results. Short averaging time data should be collected, analyzed and reported to aid in determining if the monitor was within the plume. Also, short averaging time data should be collected in the future coincident with BIPs (taking into account travel time from the LIA to the air monitoring stations) to provide supporting documentation that the air monitoring stations are intersecting the plume.
8. Figure 3-3 - Figure 3-3 shows reported 24-hour average concentrations for the period September 3 through 10, with a BIP on September 8. Data are not shown for OP-5 prior to September 7, even though Section 3.0 indicates this monitor was online after August 25. Please clarify this apparent discrepancy.

Section 3.2 Metals Data

9. No data or documentation has been provided to date either in the AMP (Sept 2005) or in this first AMDR regarding the current status of EPA's evaluation of this method for measurement of metals in ambient air. Also, the QA/QC section of this report states that all QA/QC results were within acceptable limits for the first sampling quarter. Provide data to support this claim.

Documentation has not been provided to support the use of the combined sampling and analysis methodology currently employed for measurement of metals in ambient air. Provide the method validation data as well as the QA/QC data associated with lab analyses conducted during the 1st quarter of the program. Without this information the results reported cannot be viewed as acceptable and/or representative of metals concentrations present in ambient air.

The methodology employed for sampling and analyses of metals continues to be inappropriate for the measurement of elemental gaseous mercury in ambient air. The method in current use is most appropriate for the measurement of particulate associated mercury in air provided it is present in the non elemental or ionic form. The report should be revised to clarify that the method employed is appropriate for the collection and analysis of nonelemental and ionic forms of mercury.

10. Section 3.2 - Table reference should be “Tables 3-3 and 3-4.”
11. Section 3.2, pages 3-5 and 3-6 - The detection limit for each compound should be presented on Tables 3-3 and 3-4 either as a separate column (see Table A-1), or by reporting Non-Detects as “<detection limit” (i.e., for Cu, report “<0.004 $\mu\text{g}/\text{m}^3$ ”).
12. Section 3.2, page 3-5 - Include nickel in Table 3-3 (see Table A-1).

Section 3.3 Explosive Residue Data

13. Section 3.3 - Include all supporting documentation regarding the status of EPA’s evaluation of this method for measurement of explosive residue target compounds in ambient air. Thus far, no documentation has been offered to EQB/TRC to demonstrate that the methods in use are actually under investigation by EPA for measurement of explosive residues in ambient air as stated by the preparers of the Vieques TCRA AMP in prior responses to questions posed by TRC on this same issue. The method as proposed is not appropriate for measurement of some of the explosive residue target compounds listed in Table 3-1 of the September 2005 AMP. Without data addressing to the precision and accuracy of the proposed sampling and analysis method for explosive residues, the sampling and analyses methods continue to be inappropriate and unacceptable and the results reported cannot be viewed as acceptable and/or representative of explosives concentrations in ambient air. Please provide appropriate documentation to address these issues.
14. Section 3.3 - Using the technical literature, show that ambient concentrations of the explosive residue target parameters determined using the Teflon tape sampling and analyses methods are representative of true ambient concentrations.

Section 3.4 Wind Speed and Direction

15. The indicated wind speeds are generally low (Boathouse with the longest period of record reported an average wind speed of 1.9 m/s). The long term average wind speed reported at Roosevelt Roads, the closest readily available wind observing site, is only 3.6 m/s (1945-1990). This suggests that light winds, which may not have enough energy to lift the plumes over the ridge where the monitors are located, are common in the area and that the plumes may instead be diverted around the ridge. Possible wind steering around the ridge may be indicated by the ~30 degree wind direction shear between OP-1 and the Boathouse as seen on

Table 3-5. Again, a demonstration of adequacy of the monitoring system placement must be provided.

16. Section 3.4 - The locations of the wind sensors on the rooftops of the observing posts and boathouse do not conform to EPA Meteorological Monitoring Guidance for Regulatory Modeling Applications (EPA-454/R-99-005) and it is likely that the reported wind speed and directions are not representative of the VNTR site. The lack of defensible wind direction and speed information further confounds efforts to demonstrate that the air monitoring stations are intersecting BIP plumes. Please state why the wind observations should be considered representative of air flows between the LIA and the monitoring locations.
17. Section 3.4 - Wind direction is indicated on Table 3-5 as “wind direction in degrees north of west”. Revise the report to provide wind direction in standard meteorological convention with wind blowing from the north to the south as 0 degrees, wind from the east to the west as 90 degrees, wind from the south to the north as 180 degrees, etc.

Section 4.0 Quality Assurance and Quality Control Activities

Section 4.1 Field QA/QC

18. Section 4.1.1, page 4.1 - Field precision data is critical to the success of this program. Collocated samplers should be in place throughout the entire term, not at a later date to be determined as noted by the report’s preparers. The spare EBAM system, as called for in Section 8.1 of the AMP, should have been placed in service at the outset of the program and used at all times that samples were being collected for PM₁₀, metals or explosive residues. The collocated monitoring station must be placed in service ASAP to demonstrate the monitoring network precision. A 5th system should be available as a spare so that one of the current systems can be dedicated to collocated sampling.
19. Section 4.1.1, page 4.1 - The Boathouse monitor flow checks on August 22 and September 9 found that the instrument was beyond the ± 2 percent acceptable flow range. Clarify whether the flow rates were adjusted to be within specifications at these times.
20. Table 4-1 and Section 4.1.2 - Table 4-1 and Section 4.1.2 indicates that on September 7 the Boathouse monitor was out of compliance with flow standards established in the QA plan and was not recalibrated until September 10. Data prior to the recalibration should be footnoted with respect to this non-compliant flow audit and the report should discuss the uncertainty of the data collected while the monitor was out of compliance.
21. Section 4.1.3, page 4-2 - The initial performance audit was conducted on August 3, 2005. A second audit was scheduled for December 21-23, 2005. This does not conform to Section 8.7.1 of the Final Time Critical Removal Action Air

Monitoring Plan, September 2005 (AMP): “Quality assurance documents also require performance audits for particulate monitoring to be conducted every 3 months...”. Data recorded beyond the specified audit schedule should be flagged as “suspect.”

22. Section 4.1.3, page 4-2 - Copies of the EBAM Calibration/Flow Check/Audit Data Forms (AMP Section 8.7.3) should be included with the AMDR.
23. Section 4.1.3, page 4-3 - No initial audit results are presented for OP-1. Clarify whether an audit was conducted within 30 days of the start-up of OP-1 as required in AMP Section 8.7.1.
24. Section 4.1.3, page 4-2 - No audit results are presented for the meteorological monitoring equipment. EPA generally requires meteorological monitoring systems to be audited upon installation and semi-annually thereafter. Clarify whether QA audits of the meteorological equipment have or will be performed.
25. Section 4.1.3, page 4-2 - No audit results for the initial systems audit specified in AMP Section 8.7.1 are presented. Results for the systems audit must be provided.

Section 4.2 Laboratory QA/QC

26. Section 4.2.1, page 4-3 - Results for NIST reference material analyses, “second source standard” analyses and replicate samples should be presented in the AMDR.
27. Section 4.2.4, page 4-4 - Data recovery is listed for the quarter; however, Section 9.3.1 of the AMP specifies that both monthly and quarterly data completeness will be reported. Clarify why monthly reports are not included and whether they will be in future reports.
28. Section 4.2.4, page 4-4 - Data capture/completeness of 55% for the report period is well below the completeness goal/objective of 80% identified in the report as well as the September 2005 TCRA Final Air Monitoring Plan (AMP) page 8-2. This level of performance for this critical monitoring program is unacceptable. This report should address improvements or modifications that will be made to ensure that the data capture/completeness meets the data objective. Any conclusions made in this report should address the significant uncertainty associated with the use of limited data.

It remains unclear how an assessment of data capture/completeness can actually be performed as part of the current monitoring program. The AMP still does not provide data quality objectives in terms of precision and accuracy for the proposed sampling and analyses methods. Hence it is not clear how a completeness goal of 80% can be met for metals, explosive residues and PM₁₀ measurements. The plan preparers should provide data quality objectives in terms

of precision and accuracy for the proposed methods. If data validity cannot be demonstrated how can completeness/data capture be examined at all? The September 2005 Final version of the TCRA AMP states that a data completeness objective/goal of 80% will be maintained. Section 4.2.4 of the report states that data completeness for the reporting period was 55% due to power issues at the OP-1 location. The data completeness goal was not met for this reporting period for PM₁₀. Therefore, the results cannot be viewed as acceptable and/or representative of PM₁₀ concentrations in ambient air.

If PM₁₀ data recovery (the sole sample collection method) was unacceptable, the data completeness for metals and explosive residues was also likely unacceptable. Provide supporting documentation for the data recovery for metals and explosives and discuss this deficiency in the report. Data recovery must be addressed for data collected during this report period as well as during all subsequent reporting periods.

29. Section 4.2.4, page 4-4 - Data completeness for this reporting period was not provided for metals and explosive residues. Provide documentation on data completeness for agency review.

Section 5.0 Summary

30. Section 5.0, page 5-1 - Clarify whether vessels approach closer than 4 miles to the LIA. If so, the discussion in the first paragraph of this section should be modified or deleted.
31. Section 5.0, Page 5-1 - Summary indicates that the elevated PM₁₀ concentrations seen on September 8 and 9 may be due to volcanic eruptions in the Caribbean Basin on September 8. Please provide the locations of the eruptions and any other relevant information regarding the transport of the volcanic plumes to Vieques. Attached is a Raw Data Report from EPA's Air Quality System (AQS) for the PM₁₀ monitor at Fajardo Lighthouse covering the period September 2 through 9, 2005. Note that the regional PM₁₀ concentrations measured at Fajardo Lighthouse generally track the data presented for the Former Vieques Naval Training Range (VNTR) quite well, including the concentration peak on September 8 and 9. This indicates that the air monitoring stations are capturing regional air quality. However, there is no indication in the data reported by the VTNR air monitoring stations that the plume from the BIP impacted the Vieques monitoring locations. Short averaging time data should be examined to determine if the monitor was within the plume. If it cannot be demonstrated through data analysis, acceptable flow modeling, field flow visualizations or tracer studies that the plumes from the BIPs are captured by the monitoring network, the network must be re-designed to measure the plume concentrations.
32. Section 5.0, page 5-1 – Provide further details on the volcanic activity alluded to in the final paragraph.

Appendix A Complete Analytical Results

33. Provide computer compatible files of hourly (or shorter averaging time, if available) meteorological and PM₁₀ concentration data for the full period of record.
34. Provide QA documentation to support the discussion in Section 4.
35. Appendix A, page A-1 - In Table A-1, a nickel concentration is reported below the 8-hour target reporting/"non-detectible" limit. Please comment.

Additional Comments

1. The EPA monitor siting criterion stated in the Draft Final AMP is as follows: "The distance from the sampler to an obstacle, such as a building, must be at least twice the height of the obstacle above the sampler." This criterion was deleted in the Final AMP. Siting a particle monitor on a roof can be in accordance with EPA siting criteria; however siting a meteorological monitoring station on a rooftop requires that the instruments be located well above the aerodynamic wake zone induced by the structure. EPA recommends meteorological instruments be located to avoid the aerodynamic wake at a height approximately 2.5 times the height of the building. This requirement has not been incorporated in the siting of the air monitoring stations, resulting in the air monitoring stations being located within the aerodynamic wake zone induced by the structures upon which they are located. Please explain why the instrument siting is appropriate.
2. The audit frequency for meteorological equipment as stated in the Draft Final AMP was every six months, but was changed to annual audits in the Final AMP. EPA meteorological monitoring guidance calls for meteorological monitoring audits each six months. Clarify why this air monitoring program does not follow EPA guidance requirements. Considering the operational problems that have occurred, clarify why annual audits are considered appropriate.
3. If the EBAM is in an "out of control" condition, the Final AMP gives the data manager discretion to accept the data (see Section 9.2.2.1 of the Final AMP), whereas the Draft Final AMP prescribed that such data were invalid. Clarify the limits and guidance used by the data manager to identify and invalidate out of control data. The report should document the basis for acceptance of all suspect data.
4. An objective of the AMP, as stated in Section 1.0, is to determine whether monitored concentrations exceed NAAQS. NAAQS for PM₁₀ are determined as block 24-hour averages for the short-term standard and using all valid recorded data for the annual (long-term) average. To demonstrate that operations on the site do not cause an exceedance of NAAQS, data reporting and averaging must conform to 40 CFR Part 50 and Appendix K. Please ensure that data processing and reporting conform to 40 CFR Part 50 for PM₁₀. Where the monitoring

program does not conform to 40 CFR Part 50, please explicitly note the deviation and the reason for non-compliance.

Recommendations

The following corrective actions should be immediately undertaken to ensure adequate data are collected from the monitoring program:

- “Prove-out” should be conducted to demonstrate monitoring locations capture emissions from the LIA
- Increase the data capture so that it meets the requirements of the Air Monitoring Plan and the EPA for ambient particulate measurement field programs.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
RAW DATA REPORT

(81102) PM10 Total 0-10um STP

SITE ID: 72-053-0003 POC: 1

COUNTY: (053) Fajardo

(0000) Not in a city CITY:

SITE ADDRESS: FAJARDO LIGHTHOUSE,FAJARDO

SITE COMMENTS: REMOTE SITE TO MEASURE SAHARA DUST.

MONITOR COMMENTS:

SUPPORT AGENCY: (0889) Puerto Rico Environmental Quality Board

MONITOR TYPE: SLAMS

COLLECTION AND ANALYSIS METHOD: (063) HI-VOL SA/GMW-1200 GRAVIMETRIC

REPORTING ORG: (0889) Puerto Rico Environmental Quality Board

STATE: (72) Puerto Rico

AQCR: (244) PUERTO RICO

URBANIZED AREA: (7440) SAN JUAN, PR

LAND USE: FOREST

LOCATION SETTING: RURAL

REPORT FOR: 2005

Jan. 3, 2006

CAS NUMBER:

LATITUDE: 18.383333

LONGITUDE: -65.619444

UTM ZONE: 20

UTM NORTHING: 2034471

UTM EASTING: 223222

ELEVATION-MSL: 0

PROBE HEIGHT: 7

DURATION: 24 HOURS

UNITS: UG/CU METER (25 C)

MIN DETECTABLE: 4

Day	SEPTEMBER
1	
2	
3	60 c
4	53 c
5	6
6	17
7	14
8	24
9	121 u
10	73 u
11	
NO.:	8
MAX:	121.
MEAN:	46.0

Note: Qualifier codes with regional concurrence are shown in upper case, and those without regional review are shown in lower case. An asterisk ("*") indicates that the region has reviewed the value and does not concur with the qualifier.

QUALIFIER CODES:

Qualifier Code	Qualifier Description	Qualifier Type
c	VOLCANIC ERUPTIONS	NAT
u	SAHARA DUST	NAT

Note: Qualifier codes with regional concurrence are shown in upper case, and those without regional concurrence are shown in lower case.