

# Construction Air Monitoring Plan Area 1, Phase 1 Development

*Baltimore Works Site  
Baltimore, Maryland*

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## *LIST OF ACRONYMS*

COC - Chain of Custody

CSSA - Cover Soil Stockpile Area

CrVI - Hexavalent Chromium

° C - Degrees Celsius

° F - Degrees Fahrenheit

DDP - Detailed Development Plan

EPA - U.S. Environmental Protection Agency

ERG - Eastern Research Group

ERS - Environmental Remediation System

FM - Field Manager

HMS - Head Maintenance System

Lpm - Liters per Minute

LSC - Layered Soil Cap

M<sup>3</sup> - Cubic Meters

MDE - Maryland Department of the Environment

mg - Milligram

MMC - Multimedia Cap

NOAA - National Oceanic and Atmospheric Association

ng - Nanogram

NWS - National Weather Service

OAM - Offsite Air Monitor

*LIST OF ACRONYMS (continued)*

PAM - Perimeter Air Monitoring

PM - Project Manager

PVC - Polyvinyl Chloride

RAM - Real-time Aerosol Monitor

RPD - Relative Percent Difference

RH - Relative Humidity

SAP - Sampling and Analysis Plan

QAPP - Quality Assurance Project Plan

Total PM - Total Particulate Matter

µg - Microgram

µm - Micron

USL - Upper Simultaneous Limit

WZ - Work Zone

## 1.0

### *INTRODUCTION*

This Construction Air Monitoring Plan (“the Plan”) has been prepared in support of the Detailed Development Plan (DDP) for the Harbor Point Area 1, Phase 1 Development (the “Site”, Figure 1). The principal contaminant of concern is hexavalent chromium (CrVI). The approved Environmental Remediation System (ERS) is operated and maintained by Honeywell International Inc. (Honeywell) pursuant to the Consent Decree dated April 27, 1989, as amended, among Honeywell, U.S. Environmental Protection Agency (EPA) and Maryland Department of the Environment (MDE) to contain chromium contaminated groundwater and eliminate exposure to impacted soil. The ERS consists of the Multimedia Cap (MMC), Hydraulic Barrier, Head Maintenance System and Outboard Embankment.

## 1.1

### *PURPOSE*

This Plan provides a description of the methods to be implemented during intrusive construction activities for collection of real-time Total Particulate Matter (Total PM) data, weather data, and CrVI air sample data. In addition the Plan describes the laboratory analytical methods and data evaluation and reporting requirements. To that end baseline Total PM and CrVI airborne concentrations established from the pre-construction air monitoring will be compared to air quality during intrusive activities to demonstrate the effectiveness of the dust control measures implemented for the protection of human health and the environment. For the purpose of this Plan, “intrusive activities” occur any time there is disturbance of the surface immediately below the synthetic layers of the existing MMC in Area 1.

A Construction Air Monitoring Sampling and Analyses Plan (SAP) and an Air Monitoring Program Quality Assurance Project Plan (QAPP), have been prepared for this project and are referenced in this Plan. Further discussion of the SAP and QAPP are provided below in Sections 2 and 3, respectively.

This plan is applicable specifically to the redevelopment related activities as described in the Detailed Development Plan – Area 1, Phase 1 Development and will be performed by the Developer and the Developer’s representatives. This Plan is not applicable to routine operations, monitoring and maintenance work undertaken by Honeywell pursuant to the approved Consent Decree work plans.

## 1.2 *SITE DESCRIPTION*

The Site is located on a peninsula on the northeast shore of the Patapsco River of the Inner Harbor, in the Fells Point section of Baltimore City, Maryland. The former chromium chemical manufacturing facility consisted of chromium processing production buildings and numerous support buildings on an area that covered approximately 14 acres. The Site is surrounded by water on the north, west and south, the Living Classrooms facility to the north and condominiums on South Caroline Street to the east. The Thames Street Wharf Office Building is located to the east, beyond which is the Douglas Maritime Museum at South Caroline and Thames Streets.

## 1.3 *SITE USE HISTORY*

The Site has been divided into Areas 1, 2, and 3. Area 1 is the principal site of Honeywell's (formerly AlliedSignal) Baltimore Works Facility (Figure 1). Chromium ore was processed in Area 1 from 1845 to 1985. The former manufacturing processes resulted in chromium impacts to soil and groundwater.

## 1.4 *PLAN ORGANIZATION*

The remainder of the Plan is organized as follows:

- Sections 2 provides the core elements of the SAP;
- Section 3 provides the core elements of the QAPP;
- Sections 4 provides discussions regarding action levels; and
- Section 5 provides reporting requirements.

## 2.0 CONSTRUCTION AIR MONITORING

This section summarizes the key elements of construction air monitoring SAP (QAPP, Appendix A). Detailed descriptions of the air monitoring program elements including Data Quality Objectives (DQOs) are provided in the QAPP. Field and Laboratory Standard Operating Procedures (SOPs) have been prepared for implementation during construction air monitoring and are provided in the QAPP Appendices B and C, respectively.

### 2.1 SAMPLING AND ANALYSIS PLAN (SAP) ELEMENTS

#### 2.1.1 *Construction Monitoring Locations*

Six fixed and multiple mobile monitoring locations will be established for construction air monitoring (Figure 2 shows only the fixed locations). Four of the six, fixed locations that will remain the same throughout the project, are perimeter air monitoring (PAM) stations and will be located at the Harbor Point construction site: PAM-1 at the eastern property boundary; PAM-2 at the southeastern Area 1 boundary; PAM-3 at the western Area 1 boundary; and PAM-4 at the northern Area 1 boundary. One of two fixed off-site Air Monitor (OAM-1) stations will be located at the Baltimore National Aquarium, located west of the site. The second off-site station will be located at MDE's Old Town air monitoring site, OAM-2, located north of the site.

Fixed monitoring locations and equipment will be sited, to the extent possible, away from trees, buildings, roadways, or other obstacles that may cause undue influence on the measured concentrations according to 40 CFR Part 58, Appendix E. All sampler inlets should be placed not less than 2 meters above ground level and have unrestricted air flow for at least 270 degrees around each sampler. It is noted that all monitoring locations will require electric power, safe access, and security.

The construction site monitoring location on the site perimeter boundary (PAM-1) will serve as a co-located monitoring site with two DustTrak Model 8533 real-time monitors and two BGI Model PQ-100 CrVI samplers. One DustTrak 8533 and one BGI Model PQ-100 will be designated as the "primary" monitor and sampler and the other equipment pair will be designated as the "duplicate" monitor and sampler. The duplicate DustTrak monitors will be connected to a "T" connection so that the monitors are sampling from the same sampling inlet to reduce variability.

The co-located CrVI sampling equipment inlets will be installed between 2 and 4 meters apart.

Mobile work zone sampling locations will be established to measure Total PM concentrations daily during intrusive construction work days (i.e., during the time period when intrusive construction activities are occurring). The work zone will be monitored by siting a minimum of two real-time DustTrak monitors immediately adjacent to and downwind of the construction Work Zone intrusive activities. These Work Zone monitors will be repositioned each day as necessary, depending on wind direction, to ensure they are measuring downwind concentrations.

The number of mobile monitoring locations will be dependent on the number of intrusive construction locations and whether work is being performed in the pile driving zone or the moment slab zone. If multiple and separate intrusive construction locations occur at the same time in the pile driving zone, each intrusive location must have at least two downwind monitoring locations. Three monitors will be installed downwind of the work zone for the moment slab.

The Work Zone monitors will be set to sound an audible alarm in the event the Total PM action level is exceeded, providing immediate feedback to workers as to when dust levels might require additional controls.

Additionally, when clean, cover soil removed during construction is stockpiled in the Cover Soil Storage Area (CSSA) as shown on Detailed Development Plan drawing EN1.01, a DustTrak 8533 monitoring station will be established, daily, downwind of the CSSA to monitor Total PM concentrations for the time that the stockpile is uncovered. The monitoring station will be repositioned each day as necessary to ensure the downwind area is adequately monitored.

Standard operating procedures for response actions and notifications required should the Total PM action level be exceeded during construction are provided in the QAPP, Appendix D. The real-time Total PM monitoring data transmitted by telemetry from the seven (7) fixed stations (inclusive of the primary and duplicate monitors at PAM-1) and the mobile work zone stations will be continuously accessed during construction work hours from the telemetry dashboard operating on the personal computer located in the construction office trailer. The dashboard will be set to send an alert, by e-mail and text notifications, to the on-site ERM Field Manager and Field Technician if any of the fixed or mobile monitors trigger a STEL event or indicate a malfunctioning unit.



Should an on-site monitor malfunction, the FM or designee will deploy the spare monitor as soon as practicable during construction hours and will contact the equipment provided to deliver a replacement spare monitor. Should an off-site monitor malfunction, the FM or designee will deploy the spare monitor as soon as practicable after construction hours and will contact the equipment provided to deliver a replacement spare monitor.

The monitoring instruments and sampling equipment will be protected inside a waterproof case with an omni-directional air intake port and will be mounted on a tripod. The real-time monitor data loggers (perimeter, off-site and work zone) will be downloaded daily, as practicable, to acquire the results of the previous 24-hour monitoring acquisition period to a personal computer via telemetry provided at each fixed and mobile monitoring station.

### 2.1.2 *Construction Monitoring Duration and Frequency*

Intrusive construction activities are scheduled to be completed over a 25-week duration. The field data objective is to collect daily, real-time Total PM concentration data, including duplicate data, and seven (7) CrVI samples (6 primary samplers plus one co-located sampler), plus a field and a trip blank, per day throughout intrusive construction activities. The sample frequency and duration may be reduced depending on construction progress, field conditions and monitoring results. No modifications to frequency or duration will be made without EPA and MDE approval.

Real-time Total PM monitoring will be performed continuously, 24 hours per day during the work week at each fixed monitoring location throughout the duration of intrusive work. Monitoring will start and end prior to work hours beginning each work day. As such, the 24-hour monitor period started prior to work hours on a Friday business day will end on Saturday. Continuous, real-time Total PM data will be collected to document conditions during work periods to demonstrate the efficacy of the installed dust controls. Total PM concentration data will be accessed remotely via fixed station telemetry and stored to a personal computer on a daily basis, as practicable.

CrVI sampling will be performed by collecting 24-hour duration samples during intrusive construction work days at each fixed monitoring location. Sampling will start and end prior to work hours beginning each work day. As such, the 24-hour sample started prior to work hours on a Friday work day will be recovered on Saturday.

During the first, two weeks of intrusive activities, the most rapid laboratory turn around (3 business days) will be requested for the CrVI samples. Analytical results and the third-party validation reports will be submitted to the agencies as soon as they are available. If this period indicates CrVI concentrations are consistently at or below the background threshold levels (BTVs) developed using the pre-construction data, the analytical frequency will be adjusted, subject to agency approval.

### 2.1.3 *Monitoring Equipment and Methods*

Each fixed monitoring station will have one DustTrak 8533 real-time dust monitor and one BGI Model PQ-100 CrVI sample pump. As noted previously, PAM-1 will have a duplicate DustTrak monitor and co-located PQ-100 CrVI sampler. The DustTrak Model 8533 is reported to monitor Total PM concentrations for particles from 0.1 microns up to approximately 15 microns in diameter and uses the terminology of Total PM to describe the measurement. Although not an established Reference Method, the DustTrak Model 8533 has the advantage of providing real-time concentration readings throughout intrusive construction work.

The DustTrak Model 8533 will monitor Total PM concentrations and store 1-minute averages on the internal data logger. Because the DustTrak Model 8533 will be operated in the Total PM mode rather than size-specific classifications, the factory-set photometric calibration factor (PCF) of 1.0 and size correction factor (SCF) of 1.0 will be used. As recommended by the manufacturer, the Ambient Air calibration factor will be selected to represent outdoor ambient dust. The DustTrak will be calibrated daily and maintained/operated according to the requirements in the Standard Operating Procedures (SOP), Appendix B.

Concurrently with real-time monitoring for Total PM using the DustTrak 8533 at each location, CrVI concentrations will be determined from 24-hour air samples collected using BGI Model PQ-100 samplers. The sampler flow will be verified daily and maintained/operated in the field according to the requirements in the Standard Operating Procedures (SOP), Appendix B of the QAPP. The daily, total air volumes will be recorded on the sample collection sheets in Appendix B and checked by the quality control officer or designee, per QAPP requirements.

CrVI concentrations will be determined in the laboratory in accordance with the Standard Operating Procedure for the Preparation and Analysis of Hexavalent Chromium by Ion Chromatography prepared by Eastern Research Group, Inc. (ERG), dated February 2014, as provided in the QAPP, Appendix C. ERG's document references ASTM Standard Test Method D7614-12 Determination of Total Suspended Particulate (TSP)

## Hexavalent Chromium in Ambient Air Analyzed by Ion Chromatography (IC) and Spectrophotometric Measurements.

Sampling for CrVI will be performed at approximately 15 Lpm for 24 hours. The samples are collected on 47 mm ashless cellulose filters (Whatman 541) that have been nitric acid washed and impregnated with sodium bicarbonate solution by the laboratory. ERG will provide the pre-treated and pre-conditioned filters loaded in pre-cleaned filter cassettes. The filter cassettes are sealed in zip lock plastic bags. The zip lock-sealed bag with the filter cassette and a pre-cleaned, glass funnel, sealed in a separate zip lock bag ("sample media"), are placed by the laboratory in a plastic container with a numbered lid, and the sealed container is placed in a sealed zip lock bag ("sample container"), along with the chain of custody form. The sample containers are then packed into a cooler with ice packs prior for shipment from the laboratory to the field. The coolers will be sealed with tape and a chain of custody seal.

Upon receipt in the field from the laboratory, the sample containers will be removed from the coolers, logged in the freezer chain of custody and stored in the on-site secure freezer. The freezer chain of custody will include date and time placed into the freezer with the signature of the Field Manager or designee placing them into the freezer, and the same information will be recorded upon retrieval from the freezer as discussed below.

At the beginning of each sampling day, sample containers retrieved from the on-site secure freezer for that day's sampling will be recorded as logged-out on the freezer chain of custody and will be placed in coolers with ice packs for transit from the site to the sampling locations. At the conclusion of each day's sampling, the sample media will be recovered, placed in the sealed sample containers, temporarily stored in coolers with ice packs during transit from the sampling stations to the on-site secure freezer, logged in to the freezer chain of custody and placed in the on-site, secured freezer to maintain a nominal temperature of 0° C or less.

For shipment of samples to the laboratory from the field, the sample containers will be logged out on the freezer log. The sample containers will then be shipped back to the laboratory inside the sealed zip lock-sealed bag with the sample chain of custody and will be maintained at or below 0° C at all times in the sealed shipping coolers with frozen ice packs. The shipping coolers will be sealed with tape and a chain of custody seal for shipment to the laboratory.

Although CrVI samples are stable for more than three weeks prior to extraction, providing they are kept frozen, it is planned that CrVI samples

collected during intrusive construction work days, and field and trip blanks will be shipped daily via overnight, next day delivery to the laboratory during the first two weeks of intrusive activities. Thereafter, and following the approval of the agencies, CrVI samples collected during intrusive construction work days will be held and kept frozen in the on-site, secure freezer (following the freezer chain of custody log procedures described above) for subsequent shipment to the laboratory twice per week, targeting Monday and Thursday of each week. Sample coolers will be refreshed on site with ice packs as necessary to ensure a temperature of less than 0°C is maintained through overnight shipment and until receipt by the laboratory.

Upon receipt by the laboratory, the samples will be stored in the laboratory freezer until extraction and sample analysis. The CrVI samples will be shipped to the laboratory in coolers via overnight shipment. The laboratory will provide the analytical results within five (5) business days of receipt.

A meteorological monitoring station will be sited following EPA siting guidance in EPA-454/B-08-002 *Quality Assurance Handbook for Air Pollution Measurement Systems Volume IV: Meteorological Measurements Version 2.0 (Final)*, March 2008. The wind speed and direction sensors for the meteorological monitoring system will be situated approximately 10 meters above ground, mounted to one of the temporary construction office trailers housing the either Developer's or General Contractor's representatives. The meteorological sensors will be calibrated on-site during installation following the guidance of EPA-454/B-08-002.

### 3.0 *QUALITY ASSURANCE AND QUALITY CONTROL.*

The QAPP addresses all aspects of the pre-construction and construction monitoring program ranging from siting the sampling equipment to sampling and analytical procedures. It is imperative that the approved QAPP and related documents be followed during pre-construction and construction air monitoring. No modifications to the QAPP may be implemented without written approval from EPA/MDE.

### 3.1 *DATA MANAGEMENT*

This section describes the data management process and methods to ensure data integrity from data production in the field to final use and retention. All data will be reviewed and verified for accuracy by the ERM QA/QC Officer and Technical Lead/Field Manager (FM). The ERM FM or designee will ensure that the field and technical data obtained for the project will provide the end user with acceptable data. All field and technical data shall be reviewed under the direction of ERM's QA/QC Officer, to ensure that the final data is accurate prior to the inclusion in the project report. The field data sheets, log books, chain-of-custody forms, and DustTrak data are reviewed and submitted (faxed, electronic, or hard copy) by the ERM FM to the ERM QA/QC Officer weekly.

The CrVI analytical data processing procedure is summarized as follows:

1. Samples are sent to the laboratory under chain-of-custody.
2. The laboratory enters the sample information into their tracking system and performs the analysis.
3. The laboratory electronically submits raw data, sample results, and their QA information to ERM Project Manager (PM) or designee.
4. The ERM Project Manager (PM) or designee submits the laboratory raw data, sample results and QA information to an independent third party validator, who in turn performs Level II validation, as described in EPA's *Guidance on Environmental Data Verification and Data Validation* (2002).
5. The third party validator electronically submits their validation report to ERM's PM or designee.

6. ERM reviews the data validation report under the direction of ERM's QA/QC Officer, and, if acceptable, stores all data into the project files. If unacceptable, ERM will request re-evaluation of the analytical dataset by the laboratory and then by the third-party data validator. ERM PM will bring any unacceptable analytical result to the attention of EPA and MDE prior to a re-evaluation of the analytical data and will follow-up with the findings of the re-evaluation results on the next business day, as practicable.
7. Once the accuracy review is completed under the direction of ERM's QA/QC Officer, the ERM FM, or designee, then stores the validated information electronically into ERM's project files and uploads the summary tables to the project website on the next business day, as practicable.

Real-time data processing is summarized as follows:

1. The field data sheets (real-time Total PM) and real-time instrument data logs are submitted (faxed, electronic, or hard copy) by field personnel to the ERM PM weekly;
2. Real-time Total PM concentration data will be provided as 15-minute averages based on one (1) minute frequency data collection;
3. The third-party validator will review the estimates of precision by reviewing the duplicate monitoring instrument relative percent differences (RPDs); and
4. The ERM FM, or designee, then stores the information electronically into ERM's project files and uploads the summary tables to the project website the next business day.

Data will be retained on file at ERM for a minimum of one year after the cessation of air monitoring, and will be readily available for audits and data verification activities. After one year, hardcopy records and computer backup electronic media will be discarded.

## 3.2

### ***DATA REVIEW AND VALIDATION***

All data will be verified by a review of the completeness and accuracy of each result's metadata. Field operations will be fully documented, reviewed, and audited. All CrVI data will undergo Level II third party data validation. The precision of the DustTrak particulate data will be determined by daily duplicate results.

The quality of laboratory data will also be evaluated based on precision, accuracy, representativeness, completeness, and comparability of the data generated by each type of analysis. The specific analytical criteria, including reporting limits and control limits for QC results, are provided in the QAPP, Appendix C.

Data validation is confirmation by examination and provision of objective evidence that the particular requirements for a specific intended use are fulfilled. The laboratory will provide Level 2 validation data packages in both hard copy and electronic format, including all raw data and calculations, summary data sheets and supporting quality assurance/quality control (QA/QC) and analytical information. To ensure that data is of a known and acceptable quality, all analytical data generated from the CrVI air sampling will be validated by a third party, independent of ERM, including 40% raw data re-calculation.

Data qualifiers will be assigned using guidance for qualification outlined in EPA documents *EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (January 2010). If deficiencies are encountered or specific data appear to be problematic based on the initial data review, more extensive data review will be implemented, such as review of raw data.

The Total PM dust action level for the work zone and CrVI concentration background threshold values (BTVs) to be utilized for construction air monitoring were established based upon the pre-construction monitoring data. The action level for the fixed perimeter Total PM monitoring will be the National Ambient Air Quality Standard for PM<sub>10</sub> of 150 ug/m<sup>3</sup>. Construction air monitoring data will be directly compared to the BTV values. In the event that the original BTVs, collected in March, may not reflect background conditions later in the year, revised BTVs may be calculated after the first 6-8 weeks of construction monitoring using data from the background off-site stations. This would be considered necessary if the off-site station results show a clear seasonal trend differing from the March data distribution. The original BTVs may be revised by the addition of off-site station particulate and CrVI data, collected as the construction period progresses, to the original BTV datasets. All of the relevant information, including the ProUCL 5.0 print-outs, must be submitted to and approved by the agencies prior to the on-site use of refined BTVs.

Revised BTV calculations will use exactly the same procedures and methods as included in the pre-construction air monitoring plan, as follows:

- Each of the individual data sets (Total PM and CrVI) will be statistically tested for distribution and the presence of outliers. Distribution and outlier tests (including normal Q-Q plots) will be conducted to establish that the background data set represents a single environmental population without outliers;
- Statistical comparison between the two, duplicate DRX 8533 real-time monitor Total PM datasets to assess instrument precision;
- Statistical comparison between the two, co-located CrVI sampler datasets to assess sampling precision; and
- 
- Statistical refinement of the real-time Total PM action level and CrVI BTV based on datasets collected during construction monitoring.



BTVs may be updated by calculating 95% upper simultaneous limits (USL) from the construction off-site data combined with the pre-construction BTV datasets. ProUCL Version 5.0.00 recommends the use of a USL95 when a large number of onsite observations (current or future) need to be compared with BTVs. Data sets with non-detects (left-censored) will be evaluated following the ProUCL 5.0.00, Chapter 5 methods.

## **5.0 REPORTING**

This subsection describes the types of reports that may be produced for the project. The types of reports that may be produced include daily data summary tables, event logs, data quality assessment reports, PE and audit reports, and the construction summary report.

### **5.5.1 Daily Data Summary Tables**

Electronic spreadsheet data summary tables with hourly airborne Total PM concentrations for each PAM and OAM station, hourly wind speed, wind direction and daily rainfall will be prepared by the field staff daily, as practicable, for the previous 24-hour monitoring acquisition period. The electronic spreadsheets will then be uploaded to ERM's project files and website the following business day following the data acquisition, as practicable, for access by the agencies and the public.

Following the receipt of the laboratory analytical results and once the CrVI analytical data has been validated by the third party; those analytical results will be added to the daily electronic spreadsheet summary tables and uploaded to ERM's project files and website the following business day, as practicable for access by the agencies and the public.

### **5.5.2 Event Logs**

When applicable, event logs will be generated to identify nonconforming situations and corrective actions taken per the SOP for Response Actions and Notifications provided in the QAPP, Appendix D. Corrective actions to remedy a nonconforming situation in the field can be defined by the ERM FM, ERM QA/QC Officer or ERM PM. A description of the required action will be documented in an event log. Corrective actions must be approved verbally by ERM's QA/QC Officer and by both the EPA and MDE representatives prior to implementation. Upon implementation of the corrective action, the ERM QA/QC Officer or PM will be provided with the completed event log, which becomes part of the project file. Copies of completed event logs will also be provided electronically to the agencies on the same day as the event.

### **5.5.3 Data Quality Assessment Reports**

ERM's FM or designee will report to the ERM PM, or a qualified designee on the progress of each phase of field work and any QA/QC issues associated with field activities. Additionally, the laboratory will maintain detailed procedures for record-keeping and reporting to support the

validity of all analytical work. The Laboratory QA Manager will provide the ERM QA/QC Officer certification documentation, including audit reports, upon request.

Data quality assessment reports will be submitted electronically and hard copy to the agencies on a monthly basis throughout the intrusive construction activity duration. All field and laboratory verification and validation information will be included, electronically, as well as the complete laboratory data packages, third party data validation reports, and metadata.

#### **5.5.4**      *Performance Evaluation and Audit Reports*

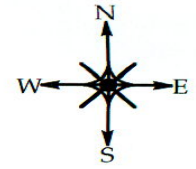
As discussed in the QAPP, Section 3.1, laboratory PEs and audits may be performed during the course of the project. If performed, the ERM QA/QC Officer will prepare a report summarizing the results to be submitted to the agencies within two weeks of the audit.

#### **5.5.5**      *Summary Data Reports*

The final summary data report titled, “Harbor Point Development Construction Air Monitoring Report”, will be produced by ERM and will combine all of the interim reports described above; the complete laboratory data packages and validation reports; and all underlying metadata, electronically. Pro UCL 5.0 printouts from the statistical evaluations of the refinement of the established Total PM action level and CrVI BTV concentration, based on the combination of the pre-construction and off-site construction monitoring station results, previously submitted to and approved by the agencies will also be provided in this summary data report.

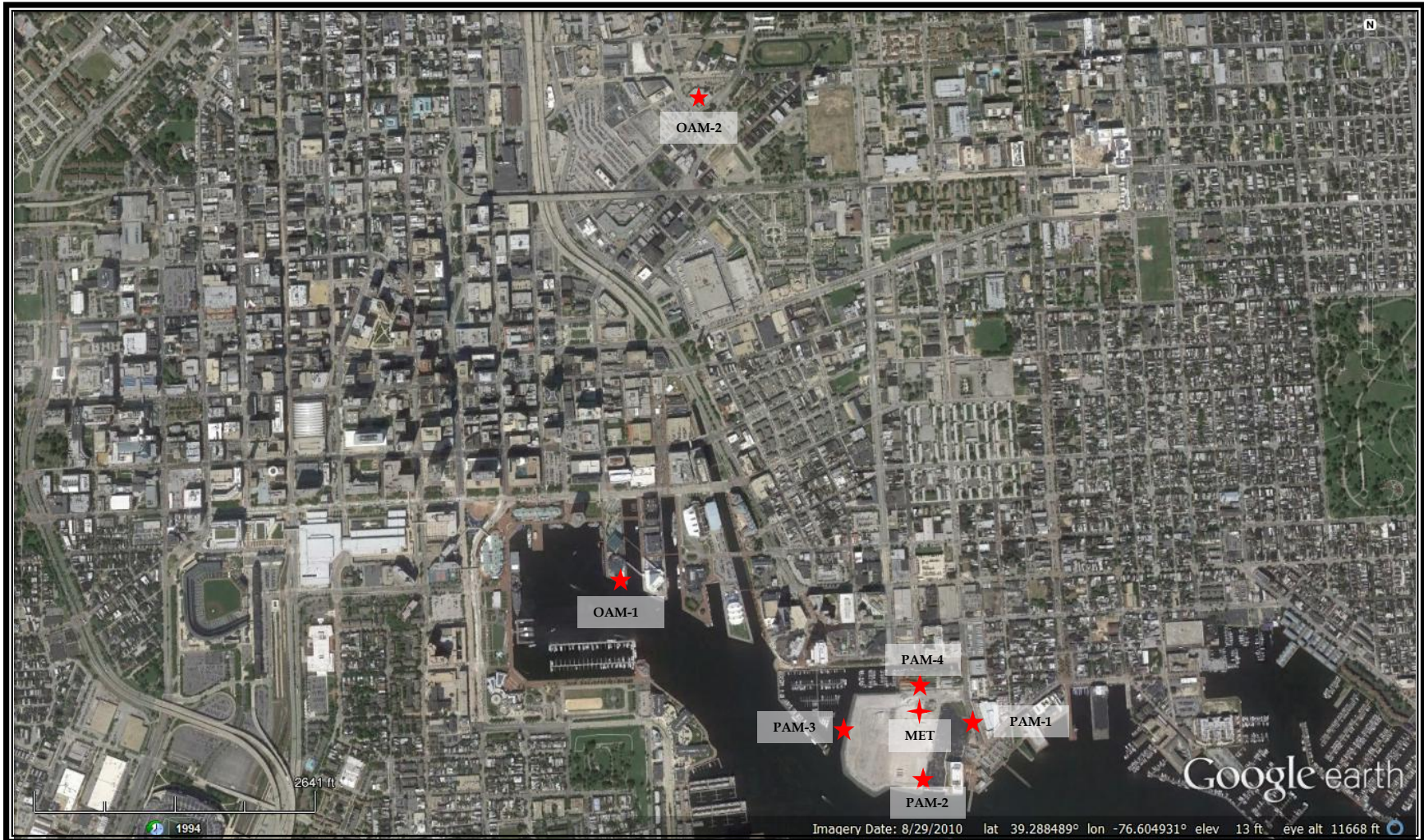
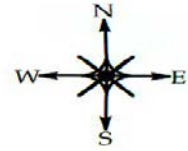
## FIGURES

**Figure 1**  
**Site Location Map**





**Figure 2**  
**Construction Air Monitoring Locations**  
**Harbor Point**  
**Baltimore, Maryland**



MET - Meteorological Station

PAM - Perimeter Air Monitor

OAM - Off-site Air Monitor

1 - Baltimore National Aquarium

2 - MDE's Old Town Station