



**Naval Facilities Engineering Command Southwest  
BRAC PMO West  
San Diego, CA**

**Air Monitoring Summary Report  
August-September 2021**

Remedial Action Parcel E-2, Phase III  
Hunters Point Naval Shipyard  
San Francisco, CA

November 2021



# **Air Monitoring Summary Report**

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Hunters Point Naval Shipyard  
San Francisco, CA

November 2021

Prepared for:



**Department of the Navy**  
**Naval Facilities Engineering Command Southwest**  
**BRAC PMO West**  
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## 1.0 INTRODUCTION

This Air Monitoring Summary Report (AMSR) was prepared by KEMRON Environmental Services, Inc. (KEMRON) and Leisnoi KEMRON 8(a) Joint Venture (LKJV), for the United States Department of the Navy (Navy) under Southwest Environmental Multiple Award Contract (EMAC) Number N69450-14-D-0018, Contract Task Order (CTO)-0002.

This AMSR documents the Parcel E-2 air monitoring activities conducted by KEMRON and Leisnoi KEMRON Joint Venture (LKJV) at Hunters Point Naval Shipyard (HPNS) in accordance with the Final Dust Control Plan (DCP), included as Appendix D of the *Remedial Action Work Plan, Final Cover, Wetlands, and Landfill Gas Control and Containment System Remedial Action Parcel E-2, Hunters Point Naval Shipyard, San Francisco, California* (KEMRON, 2018). The Remedial Action Work Plan (RAWP) incorporated the requirements from the *Final Design Basis Report, Parcel E-2, Hunters Point Naval Shipyard, San Francisco, California (ERRG, 2014)*.

This AMSR includes the air monitoring activities conducted from 30 August 2021 to 30 September 2020 as part of the remedial action at Parcel E-2 and provides the following:

- Air monitoring locations
- Equipment and test methods used to analyze air monitoring samples
- Air monitoring sample result comparison criteria

## 2.0 AIR MONITORING LOCATIONS

Air monitoring stations were established in upwind and downwind location relative to active earthmoving activities. Based on meteorological data, the prevalent wind direction at HPNS is predominantly from west to the east. Locations of the air monitoring stations are presented on Figure 1.

Wind direction was monitored daily during the reporting period presented in this report using a wind sock. Atmospheric parameters were recorded at the beginning and end of each work day and included in KEMRON's daily quality control reports. Monitoring stations remained stationary while sampling was conducted.

## 3.0 EQUIPMENT AND ANALYTICAL METHODS

Each air monitoring station included three different pieces of equipment as follows:

1. Asbestos was sampled using SKC Quick Take 30 sample pump.
2. Particulate matter less than 10 microns in diameter (PM10) was sampled using Tisch Environmental High Volume Air Sampler, Model 6070V.

3. Total Suspended Particulates (TSP), which was also analyzed for arsenic, lead and manganese, was sampled using Tisch Environmental High Volume Air Sampler, Model 5170V.

During this period, earthmoving activities were on clean imported fill soil and existing soil that had already been radiologically screened and cleared for reuse. Therefore, samples for radionuclides were not collected during this reporting per the approved DCP. Analytical methods used were in accordance with the Final DCP/RAWP (KEMRON, 2018) and Field Change Request 002 (FCR-002, KEMRON, 2020).

Asbestos was analyzed in accordance with National Institute for Occupational Safety and Health (NIOSH) Method 7400, from the *NIOSH Manual of Analytical Methods* (NIOSH, 1994). Method 7400 requires that samples were collected on three-piece cellulose ester filters fitted with conductive cowlings at a sampling rate of between 0.5 liters per minute (L/min) and 16 L/min. Each sample was collected over a period not to exceed 24 hours.

PM10 was sampled in accordance with the U.S. Environmental Protection Agency (EPA) reference sampling method for PM10, described in 40 CFR 50, Subpart J. Each sample was collected on a filter over a period not to exceed 24 hours. The filter was then weighted to determine the amount of PM10 collected.

TSP was sampled with a high-volume (39 to 60 cubic feet per minute [cfm]) air sampler in accordance with the (EPA) reference sampling method for TSP, described in Title 40 Code of Federal Regulations (CFR), Part 50, Subpart B. Each sample was collected on a filter over a period not to exceed 24 hours. The filter was then weighted to determine the amount of TSP collected. Once the filter weight was determined, the sample was analyzed for manganese, arsenic, and lead in accordance with SW-846 Method 6020 per FCR-002 (KEMRON 2020).

#### **4.0 EVALUATION OF AIR MONITORING DATA**

Analytical results from air monitoring samples were compared with the threshold criteria provided below:

- 0.5 milligrams per cubic meter ( $\text{mg}/\text{m}^3$ ) for TSP (the Basewide HPNS level chosen to minimize overall permissible dust releases from the site).
- 200 micrograms per cubic meter ( $\text{ug}/\text{m}^3$ ) for manganese (California Occupational Safety and Health Administration [Cal/OSHA] permissible exposure limit [PEL]).
- 5  $\text{ug}/\text{m}^3$  for arsenic (Cal/OSHA).
- 1.5  $\text{ug}/\text{m}^3$  for lead, 30-day time-weighted average (TWA) (California Ambient Air Quality Standard).
- 50  $\text{ug}/\text{m}^3$  for PM10, 24-hour TWA (California Ambient Air Quality Standard).
- 0.1 fiber/cubic centimeter for asbestos, 8-hour TWA (Cal/OSHA).

The downwind air results are compared to the upwind results to identify to the contribution of site activities for comparison to the threshold criteria.

## **5.0 AIR MONITORING RESULTS**

Remediation action activities conducted during this reporting period did not result in site contributions to the air quality in excess of the established threshold criteria. Please refer to the attached tables.

## **6.0 REFERENCES**

ERRG, 2014. *Final Design Basis Report, Parcel E-2, Hunters Point Naval Shipyard, San Francisco, California*. August.

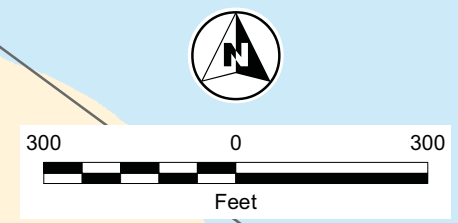
KEMRON Environmental Services, Inc., 2018. *Final Remedial Action Work Plan, Parcel E-2, Hunters Point Naval Shipyard, San Francisco, California*. December.

KEMRON Environmental Services, Inc., 2020. *Field Change Request 002, Hunters Point Naval Shipyard Parcel E-2 Remedial Action, San Francisco, California*. December.

**Figure 1**



- Potential Downwind Air Sampling Location
  - Potential Upwind Air Sampling Location
  - ▲ Wind Sock
- Proposed Hot Spot Excavation by Tier:**
- Tier 1 - Soil concentrations 10 times > remediation goals at near-shore locations (within tidally influenced zone) with corresponding groundwater concentrations consistently exceeding aquatic water quality goals
  - Tier 2 - Soil concentrations 10 times > remediation goals at near-shore locations (within tidally influenced zone) with corresponding grab groundwater concentrations exceeding aquatic water quality goals
  - Tier 3 - Soil concentrations 100 times > remediation goals
  - Tier 4 - Grab groundwater concentrations (within Panhandle Area tidally influenced zone) exceeding aquatic water quality goals at locations with no corresponding soil data
  - Tier 5 - Source of volatile organic compounds that impact groundwater in adjacent Parcel E
- East Adjacent Area
  - Panhandle Area
  - Shoreline Area
  - Landfill Area
- Previous Excavated Areas:**
- Metal Slag
  - PCB Hot Spot Area, Phase 1 (completed, 2005-2007)
  - PCB Hot Spot Area, Phase 2 (completed, 2010-2012)
  - Ship Shielding Area (completed, 2012)
  - Radiological Screening Area
  - Storm Line (Above Groundwater)
  - Storm Lin (Below Groundwater)
  - Groundwater Flow
  - Area with Temporary BMPs
  - Nearshore Slurry Wall
  - Catch Basin Discharge Point
  - Meteorological Station
  - HDPE Barrier Wall and Extraction Trench
  - Grouted Section of HDPE Barrier Wall
  - Sheet Pile Wall
  - UCSF Property
  - Parcel E-2
  - Other Parcel Boundary
  - Building
  - Road



Parcel E-2 Final Cover Installation  
 Hunters Point Naval Shipyard  
 San Francisco, California

**Figure 1**  
 Air Monitoring Locations





## Tables

	Sample Date	8/30/2021		8/30/2021		Site Contribution (E2DW minus E2UW)	Limit
	StationName	E2UW		E2DW			
	ReportingUnits	Result	Qual	Result	Qual		
Asbestos	fibers/cc	0.001	U	0.001	U	0.000	0.1
Arsenic	ug/m3	0.004	U	0.0037	U	0.000	5
Manganese	ug/m3	0.035		0.041		0.006	200
Lead	ug/m3	0.014		0.02		0.006	1.5
Particulate Matter as PM 10	ug/m3	31		58		27.000	50
Total Suspended Particulates	mg/m3	0.0671		0.0858		0.019	0.5

	Sample Date	8/31/2021		8/31/2021		Site Contribution (E2DW minus E2UW)	Limit
	StationName	E2UW		E2DW			
	ReportingUnits	Result	Qual	Result	Qual		
Asbestos	fibers/cc	0.001	U	0.001	U	0.000	0.1
Arsenic	ug/m3	0.0035	U	0.0032	U	0.000	5
Manganese	ug/m3	0.061		0.041		-0.020	200
Lead	ug/m3	0.024		0.013		-0.011	1.5
Particulate Matter as PM 10	ug/m3	95		31		-64.000	50
Total Suspended Particulates	mg/m3	0.1231		0.0942		-0.029	0.5

	Sample Date	9/1/2021		9/1/2021		Site Contribution (E2DW minus E2UW)	Limit
	StationName	E2UW		E2DW			
	ReportingUnits	Result	Qual	Result	Qual		
Asbestos	fibers/cc	0.001	U	0.001	U	0.000	0.1
Arsenic	ug/m3	0.0034	U	0.0033	U	0.000	5
Manganese	ug/m3	0.067		0.036		-0.031	200
Lead	ug/m3	0.021		0.011		-0.010	1.5
Particulate Matter as PM 10	ug/m3	52		28		-24.000	50
Total Suspended Particulates	mg/m3	0.1203		0.0824		-0.038	0.5

	Sample Date	9/2/2021		9/2/2021		Site Contribution (E2DW minus E2UW)	Limit
	StationName	E2UW		E2DW			
	ReportingUnits	Result	Qual	Result	Qual		
Asbestos	fibers/cc	0.001	U	0.001	U	0.000	0.1
Arsenic	ug/m3	0.0031	U	0.003	U	0.000	5
Manganese	ug/m3	0.026		0.026		0.000	200
Lead	ug/m3	0.0065		0.0073		0.001	1.5
Particulate Matter as PM 10	ug/m3	51		30		-21.000	50
Total Suspended Particulates	mg/m3	0.0541		0.0613		0.007	0.5

- Notes:
- Qualifier of U indicates nondetect. Qualifier of J indicates estimated concentration.
  - E2UW = Upwind location E2DW = Downwind location
  - Analytical results will be compared to the following standards:
    - 0.5 milligrams per cubic meter (mg/m3) for TSP (the Basewide HPNS level chosen to minimize overall permissible dust releases from the site).
    - 200 micrograms per cubic meter (ug/m3) for manganese (California Occupational Safety and Health Administration [Cal/OSHA] permissible exposure limit [PEL]).
    - 5 ug/m3 for arsenic (Cal/OSHA).
    - 1.5 ug/m3 time-weighted average (TWA) 30-days for lead (California Ambient Air Quality Standard).
    - 50 ug/m3 for PM10, 24-hour TWA (California Ambient Air Quality Standard).
    - 0.1 fiber/cubic centimeter for asbestos, 8-hour TWA (Cal/OSHA).

	Sample Date	9/7/2021		9/7/2021		Site Contribution (E2DW minus E2UW)	Limit
	StationName	E2UW		E2DW			
	Reporting Units	Result	Qual	Result	Qual		
Asbestos	fibers/cc	0.001	U	0.001	U	0.000	0.1
Arsenic	ug/m3	0.0042	U	0.0034	U	-0.001	5
Manganese	ug/m3	0.041		0.039		-0.002	200
Lead	ug/m3	0.016		0.014		-0.002	1.5
Particulate Matter as PM 10	ug/m3	51		65		14.000	50
Total Suspended Particulates	mg/m3	0.0773		0.0769		0.000	0.5

	Sample Date	9/8/2021		9/8/2021		Site Contribution (E2DW minus E2UW)	Limit
	StationName	E2UW		E2DW			
	Reporting Units	Result	Qual	Result	Qual		
Asbestos	fibers/cc	0.001	U	0.001	U	0.000	0.1
Arsenic	ug/m3	0.0032	U	0.0012	J	-0.002	5
Manganese	ug/m3	0.033		0.067		0.034	200
Lead	ug/m3	0.011		0.026		0.015	1.5
Particulate Matter as PM 10	ug/m3	42		47		5.000	50
Total Suspended Particulates	mg/m3	0.0668		0.1292		0.062	0.5

	Sample Date	9/9/2021		9/9/2021		Site Contribution (E2DW minus E2UW)	Limit
	StationName	E2UW		E2DW			
	Reporting Units	Result	Qual	Result	Qual		
Asbestos	fibers/cc	0.001	U	0.001	U	0.000	0.1
Arsenic	ug/m3	0.0031	U	0.0011	J	-0.002	5
Manganese	ug/m3	0.018		0.073		0.055	200
Lead	ug/m3	0.0071		0.023		0.016	1.5
Particulate Matter as PM 10	ug/m3	85		67		-18.000	50
Total Suspended Particulates	mg/m3	0.0385		0.1488		0.110	0.5

	Sample Date	9/10/2021		9/10/2021		Site Contribution (E2DW minus E2UW)	Limit
	StationName	E2UW		E2DW			
	Reporting Units	Result	Qual	Result	Qual		
Asbestos	fibers/cc	0.001	U	0.001	U	0.000	0.1
Arsenic	ug/m3	0.0037	U	0.0032	U	-0.001	5
Manganese	ug/m3	0.021		0.023		0.002	200
Lead	ug/m3	0.01		0.0076		-0.002	1.5
Particulate Matter as PM 10	ug/m3	27		41		14.000	50
Total Suspended Particulates	mg/m3	0.0419		0.0456		0.004	0.5

- Notes:
- Qualifier of U indicates nondetect. Qualifier of J indicates estimated concentration.  
 E2UW = Upwind location E2DW = Downwind location  
 Analytical results will be compared to the following standards:
- 0.5 milligrams per cubic meter (mg/m3) for TSP (the Basewide HPNS level chosen to minimize overall permissible dust releases from the site).
  - 200 micrograms per cubic meter (ug/m3) for manganese (California Occupational Safety and Health Administration [Cal/OSHA] permissible exposure limit [PEL]).
  - 5 ug/m3 for arsenic (Cal/OSHA).
  - 1.5 ug/m3 time-weighted average (TWA) 30-days for lead (California Ambient Air Quality Standard).
  - 50 ug/m3 for PM10, 24-hour TWA (California Ambient Air Quality Standard).
  - 0.1 fiber/cubic centimeter for asbestos, 8-hour TWA (Cal/OSHA).

	Sample Date	9/13/2021		9/13/2021		Site Contribution (E2DW minus E2UW)	Limit
	StationName	E2UW		E2DW			
	Reporting Units	Result	Qual	Result	Qual		
Asbestos	fibers/cc	0.001	U	0.001	U	0.000	0.1
Arsenic	ug/m3	0.0031	U J1	0.003	U	0.000	5
Manganese	ug/m3	0.023	J1	0.044		0.021	200
Lead	ug/m3	0.0082	J1	0.021		0.013	1.5
Particulate Matter as PM 10	ug/m3	69		42		-27.000	50
Total Suspended Particulates	mg/m3	0.0584		0.0963		0.038	0.5

	Sample Date	9/14/2021		9/14/2021		Site Contribution (E2DW minus E2UW)	Limit
	StationName	E2UW		E2DW			
	Reporting Units	Result	Qual	Result	Qual		
Asbestos	fibers/cc	0.001	U	0.001	U	0.000	0.1
Arsenic	ug/m3	0.0033	U	0.0028	U	-0.001	5
Manganese	ug/m3	0.039		0.032		-0.007	200
Lead	ug/m3	0.014		0.014		0.000	1.5
Particulate Matter as PM 10	ug/m3	31		42		11.000	50
Total Suspended Particulates	mg/m3	0.0598		0.0596		0.000	0.5

	Sample Date	9/15/2021		9/15/2021		Site Contribution (E2DW minus E2UW)	Limit
	StationName	E2UW		E2DW			
	Reporting Units	Result	Qual	Result	Qual		
Asbestos	fibers/cc	0.001	U	0.001	U	0.000	0.1
Arsenic	ug/m3	0.0031	U	0.0028	U	0.000	5
Manganese	ug/m3	0.041		0.035		-0.006	200
Lead	ug/m3	0.015		0.011		-0.004	1.5
Particulate Matter as PM 10	ug/m3	14		27		13.000	50
Total Suspended Particulates	mg/m3	0.0785		0.0749		-0.004	0.5

	Sample Date	9/16/2021		9/16/2021		Site Contribution (E2DW minus E2UW)	Limit
	StationName	E2UW		E2DW			
	Reporting Units	Result	Qual	Result	Qual		
Asbestos	fibers/cc	0.001	U	0.001	U	0.000	0.1
Arsenic	ug/m3	0.0029	U	0.0007	J	-0.002	5
Manganese	ug/m3	0.028		0.041		0.013	200
Lead	ug/m3	0.012		0.0095		-0.003	1.5
Particulate Matter as PM 10	ug/m3	22		46		24.000	50
Total Suspended Particulates	mg/m3	0.0453		0.0845		0.039	0.5

- Notes:
- Qualifier of U indicates nondetect. Qualifier of J indicates estimated concentration.  
 E2UW = Upwind location E2DW = Downwind location  
 Analytical results will be compared to the following standards:
- 0.5 milligrams per cubic meter (mg/m3) for TSP (the Basewide HPNS level chosen to minimize overall permissible dust releases from the site).
  - 200 micrograms per cubic meter (ug/m3) for manganese (California Occupational Safety and Health Administration [Cal/OSHA] permissible exposure limit [PEL]).
  - 5 ug/m3 for arsenic (Cal/OSHA).
  - 1.5 ug/m3 time-weighted average (TWA) 30-days for lead (California Ambient Air Quality Standard).
  - 50 ug/m3 for PM10, 24-hour TWA (California Ambient Air Quality Standard).
  - 0.1 fiber/cubic centimeter for asbestos, 8-hour TWA (Cal/OSHA).

	Sample Date	9/20/2021		9/20/2021		Site Contribution (E2DW minus E2UW)	Limit
	StationName	E2UW		E2DW			
	Reporting Units	Result	Qual	Result	Qual		
Asbestos	fibers/cc	0.001	U	0.001	U	0.000	0.1
Arsenic	ug/m3	0.003	U	0.0008	J	-0.002	5
Manganese	ug/m3	0.026		0.07		0.044	200
Lead	ug/m3	0.011		0.022		0.011	1.5
Particulate Matter as PM 10	ug/m3	36		37		1.000	50
Total Suspended Particulates	mg/m3	0.0403		0.1021		0.062	0.5

	Sample Date	9/21/2021		9/21/2021		Site Contribution (E2DW minus E2UW)	Limit
	StationName	E2UW		E2DW			
	Reporting Units	Result	Qual	Result	Qual		
Asbestos	fibers/cc	0.001	U	0.001	U	0.000	0.1
Arsenic	ug/m3	0.0007	J	0.0012	J	0.001	5
Manganese	ug/m3	0.061		0.094		0.033	200
Lead	ug/m3	0.019		0.019		0.000	1.5
Particulate Matter as PM 10	ug/m3	72		46		-26.000	50
Total Suspended Particulates	mg/m3	0.0873		0.1464		0.059	0.5

	Sample Date	9/22/2021		9/22/2021		Site Contribution (E2DW minus E2UW)	Limit
	StationName	E2UW		E2DW			
	Reporting Units	Result	Qual	Result	Qual		
Asbestos	fibers/cc	0.001	U	0.001	U	0.000	0.1
Arsenic	ug/m3	0.003	U	0.0009	J	-0.002	5
Manganese	ug/m3	0.026		0.063		0.037	200
Lead	ug/m3	0.0088		0.01		0.001	1.5
Particulate Matter as PM 10	ug/m3	31		40		9.000	50
Total Suspended Particulates	mg/m3	0.044		0.1176		0.074	0.5

	Sample Date	9/23/2021		9/23/2021		Site Contribution (E2DW minus E2UW)	Limit
	StationName	E2UW		E2DW			
	Reporting Units	Result	Qual	Result	Qual		
Asbestos	fibers/cc	0.001	U	0.001	U	0.000	0.1
Arsenic	ug/m3	0.0031	U	0.0011	J	-0.002	5
Manganese	ug/m3	0.043		0.084		0.041	200
Lead	ug/m3	0.014		0.03		0.016	1.5
Particulate Matter as PM 10	ug/m3	46		40		-6.000	50
Total Suspended Particulates	mg/m3	0.0667		0.1247		0.058	0.5

- Notes:
- Qualifier of U indicates nondetect. Qualifier of J indicates estimated concentration.  
 E2UW = Upwind location E2DW = Downwind location  
 Analytical results will be compared to the following standards:
- 0.5 milligrams per cubic meter (mg/m3) for TSP (the Basewide HPNS level chosen to minimize overall permissible dust releases from the site).
  - 200 micrograms per cubic meter (ug/m3) for manganese (California Occupational Safety and Health Administration [Cal/OSHA] permissible exposure limit [PEL]).
  - 5 ug/m3 for arsenic (Cal/OSHA).
  - 1.5 ug/m3 time-weighted average (TWA) 30-days for lead (California Ambient Air Quality Standard).
  - 50 ug/m3 for PM10, 24-hour TWA (California Ambient Air Quality Standard).
  - 0.1 fiber/cubic centimeter for asbestos, 8-hour TWA (Cal/OSHA).

	Sample Date	9/27/2021		9/27/2021		Site Contribution (E2DW minus E2UW)	Limit
	StationName	E2UW		E2DW			
	Reporting Units	Result	Qual	Result	Qual		
Asbestos	fibers/cc	0.001	U	0.001	U	0.000	0.1
Arsenic	ug/m3	0.003	U	0.0028	U	0.000	5
Manganese	ug/m3	0.014		0.033		0.019	200
Lead	ug/m3	0.0066		0.0073		0.001	1.5
Particulate Matter as PM 10	ug/m3	16		19		3.000	50
Total Suspended Particulates	mg/m3	0.0225		0.0662		0.044	0.5

	Sample Date	9/28/2021		9/28/2021		Site Contribution (E2DW minus E2UW)	Limit
	StationName	E2UW		E2DW			
	Reporting Units	Result	Qual	Result	Qual		
Asbestos	fibers/cc	0.001	U	0.001	U	0.000	0.1
Arsenic	ug/m3	0.003	U	0.003	U	0.000	5
Manganese	ug/m3	0.032		0.022		-0.010	200
Lead	ug/m3	0.014		0.0071		-0.007	1.5
Particulate Matter as PM 10	ug/m3	48		23		-25.000	50
Total Suspended Particulates	mg/m3	0.0582		0.0474		-0.011	0.5

	Sample Date	9/29/2021		9/29/2021		Site Contribution (E2DW minus E2UW)	Limit
	StationName	E2UW		E2DW			
	Reporting Units	Result	Qual	Result	Qual		
Asbestos	fibers/cc	0.001	U	0.001	U	0.000	0.1
Arsenic	ug/m3	0.003	U	0.0029	U	0.000	5
Manganese	ug/m3	0.029		0.037		0.008	200
Lead	ug/m3	0.011		0.012		0.001	1.5
Particulate Matter as PM 10	ug/m3	44		29		-15.000	50
Total Suspended Particulates	mg/m3	0.055		0.0777		0.023	0.5

	Sample Date	9/30/2021		9/30/2021		Site Contribution (E2DW minus E2UW)	Limit
	StationName	E2UW		E2DW			
	Reporting Units	Result	Qual	Result	Qual		
Asbestos	fibers/cc	0.001	U	0.001	U	0.000	0.1
Arsenic	ug/m3	0.0031	U	0.0007	J	-0.002	5
Manganese	ug/m3	0.044		0.05		0.006	200
Lead	ug/m3	0.019		0.016		-0.003	1.5
Particulate Matter as PM 10	ug/m3	58		30		-28.000	50
Total Suspended Particulates	mg/m3	0.0677		0.0777		0.010	0.5

- Notes:
- Qualifier of U indicates nondetect. Qualifier of J indicates estimated concentration.  
 E2UW = Upwind location E2DW = Downwind location  
 Analytical results will be compared to the following standards:
- 0.5 milligrams per cubic meter (mg/m3) for TSP (the Basewide HPNS level chosen to minimize overall permissible dust releases from the site).
  - 200 micrograms per cubic meter (ug/m3) for manganese (California Occupational Safety and Health Administration [Cal/OSHA] permissible exposure limit [PEL]).
  - 5 ug/m3 for arsenic (Cal/OSHA).
  - 1.5 ug/m3 time-weighted average (TWA) 30-days for lead (California Ambient Air Quality Standard).
  - 50 ug/m3 for PM10, 24-hour TWA (California Ambient Air Quality Standard).
  - 0.1 fiber/cubic centimeter for asbestos, 8-hour TWA (Cal/OSHA).