

AMBIENT AIR DATA SUMMARY TABLE - DECEMBER 2008/JANUARY 2009
Iron King Mine - Humboldt Smelter Superfund Site, Yavapai County, Humboldt - Arizona

Monitoring Station	Chemical	Minimum Concentration	Maximum Concentration	Units	Location of Maximum Concentration	Average Detected Concentration	Screening Criteria ⁽¹⁾	Exceedance (Yes/No)
Humboldt Smelter	Lead	0.0096	0.0096	ug/m3	AHS-02	0.0096	0.15	No
Humboldt Smelter Background	Lead	0.0008	0.0008	ug/m3	ABG-01	0.00080	0.15	No
Iron King Mine	Lead	0.0075	0.0075	ug/m3	AIK-02	0.0075	0.15	No
Humboldt Smelter	Particulate Matter	0	4.86	ug/m3	AHS-02	1.9	150	No
Humboldt Smelter Background	Particulate Matter	1.03	4.12	ug/m3	ABG-01	2.6	150	No
Elementary School	Particulate Matter	49.9	49.9	ug/m3	AES-01	50	150	No
Iron King Mine	Particulate Matter	0.54	2.78	ug/m3	AIK-02	1.4	150	No
Humboldt Smelter	Total Suspended Particulates	5.24	26.72	ug/m3	AHS-02	16	150	No
Humboldt Smelter Background	Total Suspended Particulates	0.27	1.17	ug/m3	ABG-01	0.71	150	No
Elementary School	Total Suspended Particulates	-6.92	12.17	ug/m3	AES-01	2.6	150	No
Iron King Mine	Total Suspended Particulates	0.40	12.48	ug/m3	AIK-02	5.0	150	No

Notes:

ug/m3 = Micrograms per cubic meter.

-- = Not applicable or not available

(1) Screening criteria are National Ambient Air Quality Standards.

This dataset represents samples collected from 16 December 2008 through 21 January 2009 from various locations at the Site.

Wind Speed/Direction

The predominant wind direction for this time period was from the Northwest, with other strong winds from the southwest. From North to East and from South to West, the winds were typically much lighter.

Air Particulate Concentrations

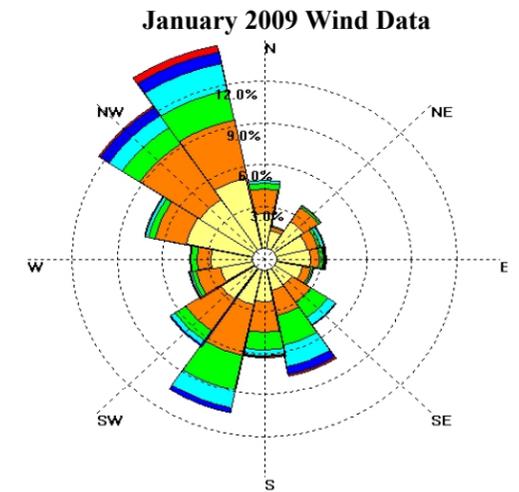
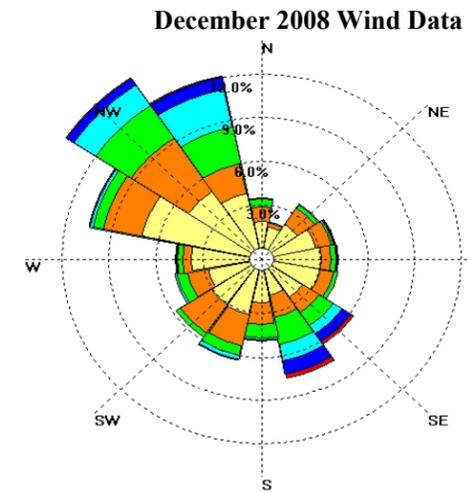
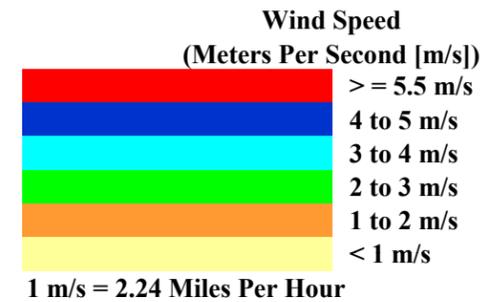
The average Particulate Matter (PM-10) concentration collected from the background station (AHS-01) was 2.6 ug/m3. The Iron King Mine and Humboldt Smelter air sampling locations had average concentrations of PM-10 less than background. Although the air sampling location at the Elementary School had an average concentration greater than background, it was based on a single result, which may be influenced by anthropogenic activities. The maximum PM-10 concentration (49.9 ug/m3) was located at the Elementary School station (AES-01), which is less than the 24-Hour National Ambient Air Quality Standard. Similar results were obtained for the Total Suspended Particulate Samples.

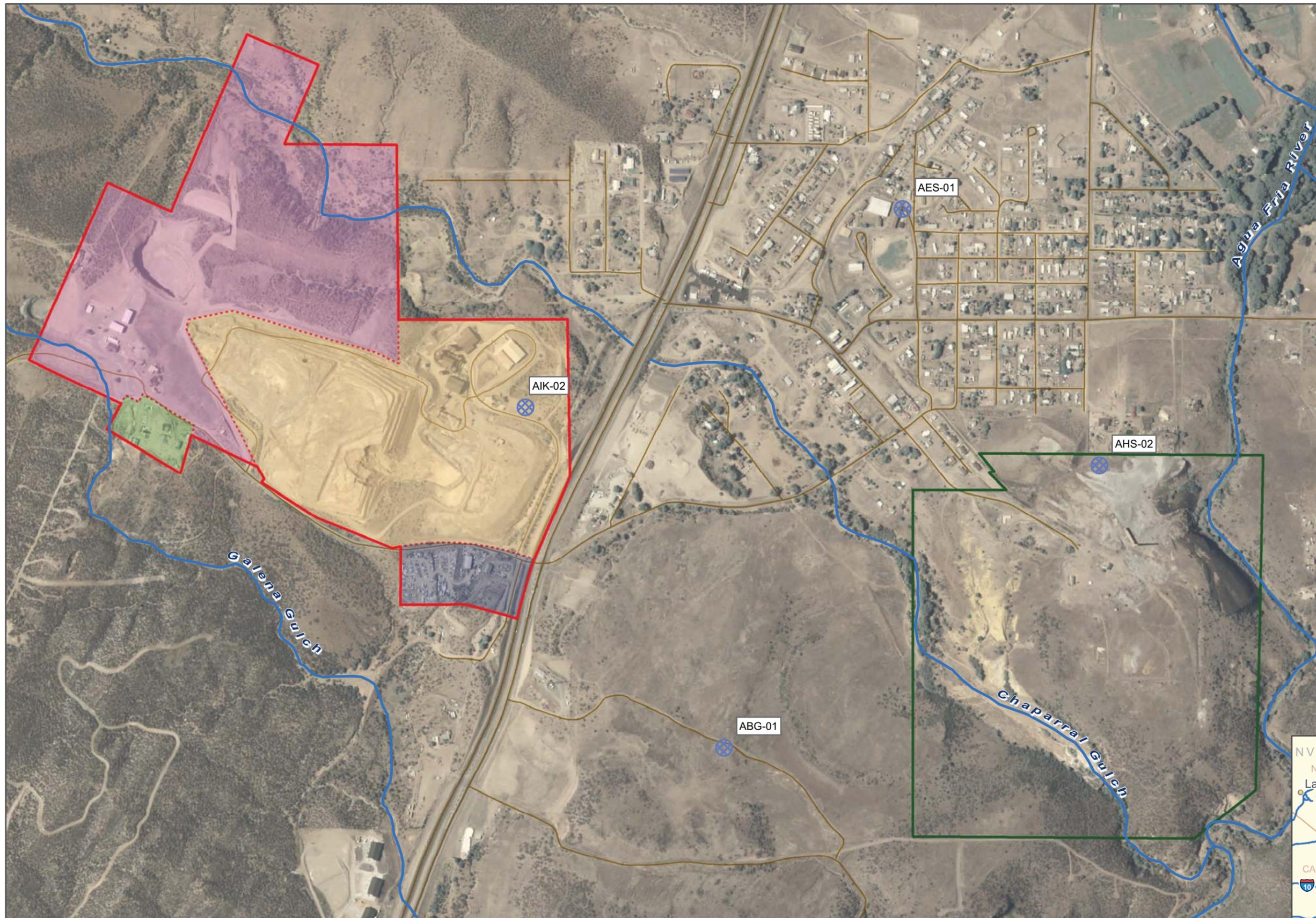
Arsenic and Lead

The predominant contaminants of concern at the Site are arsenic and lead. Arsenic was not detected in this round of air samples. Lead was detected in 3 of the 8 samples collected from the air sampling stations. The 3 lead detections were located at the background location (ABG-01), Iron King Mine station (AIK-02), and Humboldt Smelter station (AHS-02). Although the Iron King Mine and the Humboldt Smelter lead concentrations were an order of magnitude greater than the background station, detected concentrations were less than the National Ambient Air Quality Standard for lead of 0.15 ug/m3.

Summary

Based on a preliminary analysis of the data, the PM-10 levels downwind of the Iron King Mine and the Humboldt Smelter are less than background, but the lead concentrations in the particulates are greater than background. Lead was also infrequently detected in the vicinity of the Iron King Mine and the Humboldt Smelter, but concentrations were less than the National Ambient Air Quality Standard for lead. EPA will continue to monitoring air quality in the vicinity of the Site through August 2009.

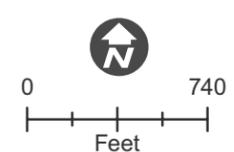




Legend

- Proposed Air Monitoring Locations
- "Sample Identification"
- Waterways**
- Chaparral Gulch, Galena Gulch, Agua Fria River
- Road Centerlines
- Iron King Mine
- Iron King Mine Proper Area
- Iron King Operations Area
- Former Fertilizer Plant Area
- Salvage Yard
- Humboldt Smelter

Note:
Boundaries are approximate and may be subject to change pending further investigation



EPA Identification Number: AZ0000309013
Aerial Photo Source: Yavapai County GIS, 2007
Basemap Source: ESRI StreetMap, 2006



Air Sampling Locations
Air Quality Monitoring Plan

Remedial Investigation/Feasibility Study
Iron King Mine - Humboldt Smelter Superfund Site
Dewey-Humboldt, Yavapai County, Arizona

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