

# Appendix N

## Air Monitoring Data

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## Air Monitoring Data

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This appendix includes air monitoring data from Sections 2 and 5 of the *Remedial Investigation Report Iron King Mine – Humboldt Smelter Superfund Site Dewey-Humboldt, Yavapai County, Arizona*, prepared by EA Engineering, Science, and Technology, Inc., dated March 2010.

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**Table 2-9  
Ambient Air Sample Data Analyses Summary**

Sample Group	Point ID	Sample Date	Sample ID	Mercury	Metals	PM-10	TSP
Background Sample	BG	8/17/2008	AHS-01-PM10-081708	X		X	
Background Sample	BG	8/17/2008	AHS-01-TSP-081708		X		
Background Sample	BG	8/18/2008	AHS-01-PM10-081808	X			
Background Sample	BG	8/18/2008	AHS-01-TSP-081808		X		X
Background Sample	BG	8/19/2008	AHS-01-PM10-081908	X		X	
Background Sample	BG	8/19/2008	AHS-01-TSP-081908		X		X
Background Sample	BG	8/20/2008	AHS-01-PM10-082008	X		X	
Background Sample	BG	8/20/2008	AHS-01-TSP-082008		X		X
Background Sample	BG	8/21/2008	AHS-01-PM10-082108	X		X	
Background Sample	BG	8/21/2008	AHS-01-TSP-082108		X		
Background Sample	BG	8/22/2008	AHS-01-PM10-082208	X		X	
Background Sample	BG	8/22/2008	AHS-01-TSP-082208		X		X
Background Sample	BG	8/23/2008	AHS-01-PM10-082308	X		X	
Background Sample	BG	8/23/2008	AHS-01-TSP-082308		X		X
Background Sample	BG	8/24/2008	AHS-01-PM10-082408	X		X	
Background Sample	BG	8/24/2008	AHS-01-TSP-082408		X		
Background Sample	BG	8/25/2008	AHS-01-PM10-082508	X		X	
Background Sample	BG	8/25/2008	AHS-01-TSP-082508		X		
Background Sample	BG	8/27/2008	AHS-01-PM10-082708	X			
Background Sample	BG	8/27/2008	AHS-01-TSP-082708		X		
Background Sample	BG	8/28/2008	AHS-01-PM10-082808	X			
Background Sample	BG	8/28/2008	AHS-01-TSP-082808		X		
Background Sample	BG	8/29/2008	AHS-01-PM10-082908	X		X	
Background Sample	BG	8/29/2008	AHS-01-TSP-082908		X		X
Background Sample	BG	8/30/2008	AHS-01-PM10-083008	X			
Background Sample	BG	8/30/2008	AHS-01-TSP-083008		X		
Background Sample	BG	1/9/2009	ABG01-TSP-1909		X		X
Background Sample	BG	1/9/2009	ABG01-TSP-1909-2		X		X
Background Sample	BG	1/15/2009	ABG01-PM10-11509	X		X	
Background Sample	BG	1/15/2009	ABG01-TSP-11509		X		X
Background Sample	BG	1/21/2009	ABG01-PM10-12109	X		X	
Background Sample	BG	1/21/2009	ABG01-TSP-12109		X		X
Background Sample	BG	1/27/2009	ABG-01-PM10-012709	X			
Background Sample	BG	1/27/2009	ABG-01-TSP-012709		X		
Background Sample	BG	2/27/2009	ABG-01-PM10-022709	X			
Background Sample	BG	2/27/2009	ABG-01-TSP-022709		X		
Background Sample	BG	3/3/2009	ABG-01-TSP-030309		X		X
Background Sample	BG	3/3/2009	ABG-01-TSP-030309-D		X		X
Background Sample	BG	3/13/2009	ABG-01-PM10-030909	X		X	
Background Sample	BG	3/13/2009	ABG-01-TSP-030909		X		X
Background Sample	BG	3/16/2009	ABG-01-PM10-031509	X		X	
Background Sample	BG	3/16/2009	ABG-01-PM10-031509-D	X		X	
Background Sample	BG	3/23/2009	ABG-01-PM10-032109	X		X	
Background Sample	BG	3/23/2009	ABG-01-TSP-032109		X		X
Background Sample	BG	3/30/2009	ABG-01-TSP-032709		X		X
Background Sample	BG	3/30/2009	ABG-01-TSP-032709-D		X		X
Background Sample	BG	4/6/2009	ABG-01-PM10-040209	X		X	
Background Sample	BG	4/6/2009	ABG-01-TSP-040209		X		X
Background Sample	BG	4/13/2009	ABG-01-PM10-040809	X		X	
Background Sample	BG	4/13/2009	ABG-01-PM10-040809-D	X		X	
Background Sample	BG	4/16/2009	ABG-01-PM10-041409	X		X	
Background Sample	BG	4/16/2009	ABG-01-TSP-041409		X		X
Background Sample	BG	4/24/2009	ABG-01-TSP-042009		X		X
Background Sample	BG	4/24/2009	ABG-01-TSP-042009-D		X		X
Background Sample	BG	5/1/2009	ABG-01-PM10-042609	X		X	
Background Sample	BG	5/1/2009	ABG-01-TSP-042609		X		X
Background Sample	BG	5/7/2009	ABG-01-PM10-050209	X		X	
Background Sample	BG	5/7/2009	ABG-01-PM10-050209-D	X		X	
Background Sample	BG	5/12/2009	ABG-01-PM10-050809	X		X	
Background Sample	BG	5/12/2009	ABG-01-TSP-050809		X		X
Background Sample	BG	5/18/2009	ABG-01-TSP-051409		X		X
Background Sample	BG	5/18/2009	ABG-01-TSP-051409-D		X		X
Background Sample	BG	5/25/2009	ABG-01-PM10-052009	X		X	

**Table 2-9  
Ambient Air Sample Data Analyses Summary**

Sample Group	Point ID	Sample Date	Sample ID	Mercury	Metals	PM-10	TSP
Background Sample	BG	5/25/2009	ABG-01-TSP-052009		X		X
Background Sample	BG	5/28/2009	ABG-01-PM10-052609	X		X	
Background Sample	BG	5/28/2009	ABG-01-PM10-052609-D	X		X	
Background Sample	BG	6/5/2009	ABG-01-PM10-060109	X		X	
Background Sample	BG	6/5/2009	ABG-01-TSP-060109		X		X
Background Sample	BG	6/11/2009	ABG-01-TSP-060709		X		
Background Sample	BG	6/11/2009	ABG-01-TSP-060709-D		X		X
Background Sample	BG	6/18/2009	ABG-01-PM10-061309	X		X	
Background Sample	BG	6/18/2009	ABG-01-TSP-061309		X		X
Background Sample	BG	6/22/2009	ABG-01-PM10-061909	X		X	
Background Sample	BG	6/22/2009	ABG-01-PM10-061909-D	X		X	
Background Sample	BG	6/26/2009	ABG-01-PM10-062509	X		X	
Background Sample	BG	6/26/2009	ABG-01-TSP-062509		X		X
Background Sample	BG	7/6/2009	ABG-01-TSP-070109		X		X
Background Sample	BG	7/6/2009	ABG-01-TSP-070109-D		X		X
Background Sample	BG	7/10/2009	ABG-01-PM10-070709	X		X	
Background Sample	BG	7/10/2009	ABG-01-TSP-070709		X		X
Background Sample	BG	7/17/2009	ABG-01-PM10-071309	X		X	
Background Sample	BG	7/17/2009	ABG-01-PM10-071309-D	X		X	
Background Sample	BG	7/21/2009	ABG-01-PM10-071909	X		X	
Background Sample	BG	7/21/2009	ABG-01-TSP-071909		X		X
Background Sample	BG	7/30/2009	ABG-01-TSP-072509		X		X
Background Sample	BG	7/30/2009	ABG-01-TSP-072509-D		X		X
Background Sample	BG	8/4/2009	ABG-01-PM10-073109	X		X	
Background Sample	BG	8/4/2009	ABG-01-TSP-073109		X		X
Background Sample	BG	8/11/2009	ABG-01-PM10-080609	X		X	
Background Sample	BG	8/11/2009	ABG-01-PM10-080609-D	X		X	
Background Sample	BG	8/17/2009	ABG-01-PM10-081209	X		X	
Background Sample	BG	8/17/2009	ABG-01-TSP-081209		X		X
Background Sample	BG	8/19/2009	ABG-01-TSP-081809		X		X
Background Sample	BG	8/19/2009	ABG-01-TSP-081809-D		X		X
Background Sample	BG	8/27/2009	ABG-01-PM10-082409	X		X	
Background Sample	BG	8/27/2009	ABG-01-TSP-082409		X		X
Background Sample	BG	8/31/2009	ABG-01-PM10-083009	X		X	
Background Sample	BG	8/31/2009	ABG-01-PM10-083009-D	X		X	
Background Sample	BG	9/8/2009	ABG-01-PM10-090509	X		X	
Background Sample	BG	9/8/2009	ABG-01-TSP-090509		X		X
Humboldt - In Town	HIT	8/17/2008	AHS-02-PM10-081708	X		X	
Humboldt - In Town	HIT	8/17/2008	AHS-02-TSP-081708		X		
Humboldt - In Town	HIT	8/17/2008	AIK-03-PM10-081708	X		X	
Humboldt - In Town	HIT	8/17/2008	AIK-03-TSP-081708		X		
Humboldt - In Town	HIT	8/18/2008	AHS-02-PM10-081808	X			
Humboldt - In Town	HIT	8/18/2008	AHS-02-TSP-081808		X		X
Humboldt - In Town	HIT	8/18/2008	AIK-03-PM10-081808	X		X	
Humboldt - In Town	HIT	8/18/2008	AIK-03-TSP-081808		X		X
Humboldt - In Town	HIT	8/19/2008	AHS-02-PM10-081908	X		X	
Humboldt - In Town	HIT	8/19/2008	AHS-02-TSP-081908		X		X
Humboldt - In Town	HIT	8/19/2008	AIK-03-PM10-081908	X			
Humboldt - In Town	HIT	8/19/2008	AIK-03-TSP-081908		X		X
Humboldt - In Town	HIT	8/20/2008	AHS-02-PM10-082008	X		X	
Humboldt - In Town	HIT	8/20/2008	AHS-02-TSP-082008		X		X
Humboldt - In Town	HIT	8/20/2008	AIK-03-PM10-082008	X		X	
Humboldt - In Town	HIT	8/20/2008	AIK-03-TSP-082008		X		
Humboldt - In Town	HIT	8/21/2008	AHS-02-PM10-082108	X			
Humboldt - In Town	HIT	8/21/2008	AHS-02-TSP-082108		X		
Humboldt - In Town	HIT	8/21/2008	AIK-03-PM10-082108	X		X	
Humboldt - In Town	HIT	8/21/2008	AIK-03-TSP-082108		X		X
Humboldt - In Town	HIT	8/22/2008	AHS-02-PM10-082208	X		X	
Humboldt - In Town	HIT	8/22/2008	AHS-02-TSP-082208		X		X
Humboldt - In Town	HIT	8/22/2008	AIK-03-PM10-082208	X		X	
Humboldt - In Town	HIT	8/22/2008	AIK-03-TSP-082208		X		X
Humboldt - In Town	HIT	8/23/2008	AHS-02-PM10-082308	X		X	
Humboldt - In Town	HIT	8/23/2008	AHS-02-TSP-082308		X		X
Humboldt - In Town	HIT	8/24/2008	AHS-02-PM10-082408	X		X	
Humboldt - In Town	HIT	8/24/2008	AHS-02-TSP-082408		X		X

**Table 2-9  
Ambient Air Sample Data Analyses Summary**

Sample Group	Point ID	Sample Date	Sample ID	Mercury	Metals	PM-10	TSP
Humboldt - In Town	HIT	8/24/2008	AIK-03-PM10-082408	X		X	
Humboldt - In Town	HIT	8/24/2008	AIK-03-TSP-082408		X		
Humboldt - In Town	HIT	8/25/2008	AIK-03-PM10-082508	X		X	
Humboldt - In Town	HIT	8/25/2008	AIK-03-TSP-082508		X		X
Humboldt - In Town	HIT	8/27/2008	AIK-03-PM10-082708	X		X	
Humboldt - In Town	HIT	8/27/2008	AIK-03-TSP-082708		X		X
Humboldt - In Town	HIT	8/28/2008	AHS-02-PM10-082808	X		X	
Humboldt - In Town	HIT	8/28/2008	AHS-02-TSP-082808		X		
Humboldt - In Town	HIT	8/28/2008	AIK-03-PM10-082808	X		X	
Humboldt - In Town	HIT	8/28/2008	AIK-03-TSP-082808		X		X
Humboldt - In Town	HIT	8/29/2008	AIK-03-PM10-082908	X		X	
Humboldt - In Town	HIT	8/29/2008	AIK-03-TSP-082908		X		
Humboldt - In Town	HIT	8/30/2008	AHS-02-PM10-083008	X		X	
Humboldt - In Town	HIT	8/30/2008	AHS-02-TSP-083008		X		
Humboldt - In Town	HIT	8/30/2008	AIK-03-PM10-083008	X		X	
Humboldt - In Town	HIT	8/30/2008	AIK-03-TSP-083008		X		X
Humboldt - In Town	HIT	1/9/2009	AES01-TSP-1909		X		
Humboldt - In Town	HIT	1/15/2009	AES01-PM10-11509	X		X	
Humboldt - In Town	HIT	1/27/2009	AES-01-PM10-012709	X			
Humboldt - In Town	HIT	1/27/2009	AES-01-TSP-012709		X		X
Humboldt - In Town	HIT	2/27/2009	AES-01-PM10-022709	X		X	
Humboldt - In Town	HIT	2/27/2009	AES-01-TSP-022709		X		X
Humboldt - In Town	HIT	3/3/2009	AES-01-PM10-030309			X	
Humboldt - In Town	HIT	3/3/2009	AES-01-TSP-030309		X		X
Humboldt - In Town	HIT	3/13/2009	AES-01-TSP-030909		X		X
Humboldt - In Town	HIT	3/13/2009	AES-01-TSP-030909-D		X		X
Humboldt - In Town	HIT	3/16/2009	AES-01-PM10-031509	X		X	
Humboldt - In Town	HIT	3/16/2009	AES-01-TSP-031509		X		X
Humboldt - In Town	HIT	3/23/2009	AES-01-PM10-032109	X		X	
Humboldt - In Town	HIT	3/23/2009	AES-01-PM10-032109-D	X		X	
Humboldt - In Town	HIT	3/30/2009	AES-01-PM10-032709	X		X	
Humboldt - In Town	HIT	3/30/2009	AES-01-TSP-032709		X		X
Humboldt - In Town	HIT	3/30/2009	AES-TEOM-033009-1		X	X	
Humboldt - In Town	HIT	3/30/2009	AES-TEOM-033009-2		X		
Humboldt - In Town	HIT	4/6/2009	AES-01-TEOM-040609-1		X	X	
Humboldt - In Town	HIT	4/6/2009	AES-01-TSP-040209		X		X
Humboldt - In Town	HIT	4/6/2009	AES-01-TSP-040209-D		X		X
Humboldt - In Town	HIT	4/13/2009	AES-01-PM10-040809	X		X	
Humboldt - In Town	HIT	4/13/2009	AES-01-TEOM-041309		X	X	
Humboldt - In Town	HIT	4/13/2009	AES-01-TSP-040809		X		X
Humboldt - In Town	HIT	4/16/2009	AES-01-PM10-041409	X		X	
Humboldt - In Town	HIT	4/16/2009	AES-01-PM10-041409-D	X		X	
Humboldt - In Town	HIT	4/16/2009	AES-01-TEOM-041609		X	X	
Humboldt - In Town	HIT	4/24/2009	AES-01-PM10-042009	X		X	
Humboldt - In Town	HIT	4/24/2009	AES-01-TEOM-042409		X	X	
Humboldt - In Town	HIT	4/24/2009	AES-01-TSP-042009		X		X
Humboldt - In Town	HIT	5/1/2009	AES-01-TEOM-050109		X	X	
Humboldt - In Town	HIT	5/1/2009	AES-01-TSP-042609		X		X
Humboldt - In Town	HIT	5/1/2009	AES-01-TSP-042609-D		X		X
Humboldt - In Town	HIT	5/7/2009	AES-01-PM10-050209	X		X	
Humboldt - In Town	HIT	5/7/2009	AES-01-TEOM-050709		X	X	
Humboldt - In Town	HIT	5/7/2009	AES-01-TSP-050209		X		X
Humboldt - In Town	HIT	5/12/2009	AES-01-PM10-050809-D	X		X	
Humboldt - In Town	HIT	5/12/2009	AES-01-TEOM-051209		X	X	
Humboldt - In Town	HIT	5/18/2009	AES-01-PM10-051409	X		X	
Humboldt - In Town	HIT	5/18/2009	AES-01-TEOM-051809		X	X	
Humboldt - In Town	HIT	5/18/2009	AES-01-TSP-051409		X		X
Humboldt - In Town	HIT	5/25/2009	AES-01-TEOM-052509		X	X	
Humboldt - In Town	HIT	5/25/2009	AES-01-TSP-052009		X		X
Humboldt - In Town	HIT	5/25/2009	AES-01-TSP-052009-D		X		X
Humboldt - In Town	HIT	5/28/2009	AES-01-PM10-052609	X		X	
Humboldt - In Town	HIT	5/28/2009	AES-01-TEOM-052809		X	X	
Humboldt - In Town	HIT	5/28/2009	AES-01-TSP-052609		X		X
Humboldt - In Town	HIT	6/5/2009	AES-01-PM10-060109	X		X	
Humboldt - In Town	HIT	6/5/2009	AES-01-PM10-060109-D		X		X
Humboldt - In Town	HIT	6/5/2009	AES-01-TEOM-060509	X		X	

**Table 2-9  
Ambient Air Sample Data Analyses Summary**

Sample Group	Point ID	Sample Date	Sample ID	Mercury	Metals	PM-10	TSP
Humboldt - In Town	HIT	6/11/2009	AES-01-PM10-060709	X		X	
Humboldt - In Town	HIT	6/11/2009	AES-01-TEOM-061109		X	X	
Humboldt - In Town	HIT	6/11/2009	AES-01-TSP-060709		X		X
Humboldt - In Town	HIT	6/18/2009	AES-01-TEOM-061809	X		X	
Humboldt - In Town	HIT	6/18/2009	AES-01-TSP-061309		X		X
Humboldt - In Town	HIT	6/18/2009	AES-01-TSP-061309-D		X		X
Humboldt - In Town	HIT	6/22/2009	AES-01-PM10-061909	X		X	
Humboldt - In Town	HIT	6/22/2009	AES-01-TEOM-062209		X	X	
Humboldt - In Town	HIT	6/22/2009	AES-01-TSP-061909		X		X
Humboldt - In Town	HIT	6/26/2009	AES-01-PM10-062509	X		X	
Humboldt - In Town	HIT	6/26/2009	AES-01-PM10-062509-D	X		X	
Humboldt - In Town	HIT	6/26/2009	AES-01-TEOM-062609		X	X	
Humboldt - In Town	HIT	7/6/2009	AES-01-PM10-070109	X		X	
Humboldt - In Town	HIT	7/6/2009	AES-01-TEOM-070609		X	X	
Humboldt - In Town	HIT	7/6/2009	AES-01-TSP-070109		X		X
Humboldt - In Town	HIT	7/10/2009	AES-01-TEOM-071009		X	X	
Humboldt - In Town	HIT	7/10/2009	AES-01-TSP-070709		X		X
Humboldt - In Town	HIT	7/10/2009	AES-01-TSP-070709-D		X		X
Humboldt - In Town	HIT	7/17/2009	AES-01-PM10-071309	X		X	
Humboldt - In Town	HIT	7/17/2009	AES-01-TEOM-071709		X	X	
Humboldt - In Town	HIT	7/17/2009	AES-01-TSP-071309		X		X
Humboldt - In Town	HIT	7/21/2009	AES-01-PM10-071909	X		X	
Humboldt - In Town	HIT	7/21/2009	AES-01-PM10-071909-D	X		X	
Humboldt - In Town	HIT	7/21/2009	AES-01-TEOM-072109		X	X	
Humboldt - In Town	HIT	7/30/2009	AES-01-PM10-072509	X		X	
Humboldt - In Town	HIT	7/30/2009	AES-01-TEOM-073009		X	X	
Humboldt - In Town	HIT	7/30/2009	AES-01-TSP-072509		X		X
Humboldt - In Town	HIT	8/4/2009	AES-01-TEOM-080409		X	X	
Humboldt - In Town	HIT	8/4/2009	AES-01-TSP-073109		X		X
Humboldt - In Town	HIT	8/4/2009	AES-01-TSP-073109-D		X		X
Humboldt - In Town	HIT	8/11/2009	AES-01-PM10-080609	X		X	
Humboldt - In Town	HIT	8/11/2009	AES-01-TEOM-081109		X	X	
Humboldt - In Town	HIT	8/11/2009	AES-01-TSP-080609		X		X
Humboldt - In Town	HIT	8/17/2009	AES-01-PM10-081209	X		X	
Humboldt - In Town	HIT	8/17/2009	AES-01-PM10-081209-D	X		X	
Humboldt - In Town	HIT	8/17/2009	AES-09-TEOM-081709		X	X	
Humboldt - In Town	HIT	8/19/2009	AES-01-PM10-081809	X		X	
Humboldt - In Town	HIT	8/19/2009	AES-01-TEOM-081909		X	X	
Humboldt - In Town	HIT	8/19/2009	AES-01-TSP-081809		X		X
Humboldt - In Town	HIT	8/27/2009	AES-01-TEOM-082709		X	X	
Humboldt - In Town	HIT	8/27/2009	AES-01-TSP-082409		X		X
Humboldt - In Town	HIT	8/27/2009	AES-01-TSP-082409-D		X		X
Humboldt - In Town	HIT	8/31/2009	AES-01-PM10-083009	X		X	
Humboldt - In Town	HIT	8/31/2009	AES-01-TEOM-083109		X	X	
Humboldt - In Town	HIT	8/31/2009	AES-01-TSP-083009		X		X
Humboldt - In Town	HIT	9/8/2009	AES-01-PM10-090509	X		X	
Humboldt - In Town	HIT	9/8/2009	AES-01-PM10-090509-D	X		X	
Humboldt - In Town	HIT	9/8/2009	AES-01-TEOM-090809		X	X	
Humboldt - In Town	HIT	9/8/2009	AES-01-TEOM-2-090809		X	X	
Humboldt Smelter	HS	8/17/2008	AHS-03-PM10-081708	X		X	
Humboldt Smelter	HS	8/17/2008	AHS-03-TSP-081708		X		X
Humboldt Smelter	HS	8/18/2008	AHS-03-PM10-081808	X		X	
Humboldt Smelter	HS	8/18/2008	AHS-03-TSP-081808		X		X
Humboldt Smelter	HS	8/19/2008	AHS-03-PM10-081908	X			
Humboldt Smelter	HS	8/19/2008	AHS-03-TSP-081908		X		X
Humboldt Smelter	HS	8/20/2008	AHS-03-PM10-082008	X		X	
Humboldt Smelter	HS	8/20/2008	AHS-03-TSP-082008		X		X
Humboldt Smelter	HS	8/21/2008	AHS-03-PM10-082108	X		X	
Humboldt Smelter	HS	8/21/2008	AHS-03-TSP-082108		X		X
Humboldt Smelter	HS	8/23/2008	AHS-03-PM10-082308	X		X	
Humboldt Smelter	HS	8/23/2008	AHS-03-PM10-082308-CO	X		X	
Humboldt Smelter	HS	8/23/2008	AHS-03-TSP-082308		X		X
Humboldt Smelter	HS	8/23/2008	AHS-03-TSP-082308-CO		X		X
Humboldt Smelter	HS	8/24/2008	AHS-03-PM10-082408	X		X	
Humboldt Smelter	HS	8/24/2008	AHS-03-TSP-082408		X		X

**Table 2-9  
Ambient Air Sample Data Analyses Summary**

Sample Group	Point ID	Sample Date	Sample ID	Mercury	Metals	PM-10	TSP
Humboldt Smelter	HS	8/25/2008	AHS-03-PM10-082508	X			
Humboldt Smelter	HS	8/25/2008	AHS-03-TSP-082508		X		
Humboldt Smelter	HS	8/27/2008	AHS-03-PM10-082708	X			
Humboldt Smelter	HS	8/27/2008	AHS-03-TSP-082708		X		X
Humboldt Smelter	HS	8/28/2008	AHS-03-PM10-082808	X		X	
Humboldt Smelter	HS	8/28/2008	AHS-03-TSP-082808		X		
Humboldt Smelter	HS	8/29/2008	AHS-03-PM10-082908	X		X	
Humboldt Smelter	HS	8/29/2008	AHS-03-TSP-082908		X		X
Humboldt Smelter	HS	8/30/2008	AHS-03-PM10-083008	X		X	
Humboldt Smelter	HS	8/30/2008	AHS-03-TSP-083008		X		X
Humboldt Smelter	HS	8/31/2008	AHS-03-PM10-083108	X			
Humboldt Smelter	HS	8/31/2008	AHS-03-TSP-083108		X		
Humboldt Smelter	HS	1/15/2009	AHS02-PM10-11509	X		X	
Humboldt Smelter	HS	1/15/2009	AHS02-TSP-11509		X		X
Humboldt Smelter	HS	1/21/2009	AHS02-PM10-12109	X		X	
Humboldt Smelter	HS	1/27/2009	AHS-02-TSP-012709		X		
Humboldt Smelter	HS	2/27/2009	AHS-02-PM10-022709	X		X	
Humboldt Smelter	HS	3/3/2009	AHS-02-PM10-030309			X	
Humboldt Smelter	HS	3/3/2009	AHS-02-TSP-030309		X		X
Humboldt Smelter	HS	3/13/2009	AHS-02-PM10-030909	X		X	
Humboldt Smelter	HS	3/13/2009	AHS-02-TSP-030909		X		X
Humboldt Smelter	HS	3/16/2009	AHS-02-PM10-031509	X		X	
Humboldt Smelter	HS	3/16/2009	AHS-02-TSP-031509		X		X
Humboldt Smelter	HS	3/23/2009	AHS-02-PM10-032109	X		X	
Humboldt Smelter	HS	3/23/2009	AHS-02-TSP-032109		X		X
Humboldt Smelter	HS	3/23/2009	AHS-02-TSP-032709				
Humboldt Smelter	HS	3/30/2009	AHS-02-PM10-032709	X		X	
Humboldt Smelter	HS	3/30/2009	AHS-02-TSP-032709		X		X
Humboldt Smelter	HS	3/30/2009	AHS-TEOM-033009-1		X		
Humboldt Smelter	HS	4/6/2009	AHS-02-PM10-040209	X		X	
Humboldt Smelter	HS	4/6/2009	AHS-02-TEOM-040609-1		X		
Humboldt Smelter	HS	4/6/2009	AHS-02-TSP-040209		X		X
Humboldt Smelter	HS	4/13/2009	AHS-02-PM10-040809	X		X	
Humboldt Smelter	HS	4/13/2009	AHS-02-TEOM-041309		X		
Humboldt Smelter	HS	4/13/2009	AHS-02-TSP-040809		X		X
Humboldt Smelter	HS	4/16/2009	AHS-02-PM10-041409	X		X	
Humboldt Smelter	HS	4/16/2009	AHS-02-TEOM-041609		X	X	
Humboldt Smelter	HS	4/16/2009	AHS-02-TSP-041409		X		X
Humboldt Smelter	HS	4/24/2009	AHS-02-PM10-042009	X		X	
Humboldt Smelter	HS	4/24/2009	AHS-02-TEOM-042409		X	X	
Humboldt Smelter	HS	4/24/2009	AHS-02-TSP-042009		X		X
Humboldt Smelter	HS	5/1/2009	AHS-02-PM10-042609	X		X	
Humboldt Smelter	HS	5/1/2009	AHS-02-TEOM-050109		X	X	
Humboldt Smelter	HS	5/1/2009	AHS-02-TSP-042609		X		X
Humboldt Smelter	HS	5/7/2009	AHS-02-PM10-050209	X		X	
Humboldt Smelter	HS	5/7/2009	AHS-02-TEOM-050709		X	X	
Humboldt Smelter	HS	5/7/2009	AHS-02-TSP-050209		X		X
Humboldt Smelter	HS	5/12/2009	AHS-02-PM10-050809	X		X	
Humboldt Smelter	HS	5/12/2009	AHS-02-TEOM-051209		X	X	
Humboldt Smelter	HS	5/12/2009	AHS-02-TSP-050809		X		X
Humboldt Smelter	HS	5/18/2009	AHS-02-PM10-051409	X		X	
Humboldt Smelter	HS	5/18/2009	AHS-02-TEOM-051809		X	X	
Humboldt Smelter	HS	5/18/2009	AHS-02-TSP-051409		X		X
Humboldt Smelter	HS	5/25/2009	AHS-02-PM10-052009	X		X	
Humboldt Smelter	HS	5/25/2009	AHS-02-TEOM-052509		X	X	
Humboldt Smelter	HS	5/25/2009	AHS-02-TSP-052009		X		X
Humboldt Smelter	HS	5/28/2009	AHS-02-PM10-052609	X		X	
Humboldt Smelter	HS	5/28/2009	AHS-02-TEOM-052809		X		
Humboldt Smelter	HS	5/28/2009	AHS-02-TSP-052609		X		X
Humboldt Smelter	HS	6/5/2009	AHS-02-PM10-060109	X		X	
Humboldt Smelter	HS	6/5/2009	AHS-02-TEOM-060509	X		X	
Humboldt Smelter	HS	6/5/2009	AHS-02-TSP-060109		X		X
Humboldt Smelter	HS	6/11/2009	AHS-02-PM10-060709	X		X	
Humboldt Smelter	HS	6/11/2009	AHS-02-TEOM-061109		X	X	
Humboldt Smelter	HS	6/11/2009	AHS-02-TSP-060709		X		X

**Table 2-9  
Ambient Air Sample Data Analyses Summary**

Sample Group	Point ID	Sample Date	Sample ID	Mercury	Metals	PM-10	TSP
Humboldt Smelter	HS	6/18/2009	AHS-02-PM10-061309	X		X	
Humboldt Smelter	HS	6/18/2009	AHS-02-TEOM-061809	X		X	
Humboldt Smelter	HS	6/18/2009	AHS-02-TSP-061309		X		X
Humboldt Smelter	HS	6/22/2009	AHS-02-PM10-061909	X		X	
Humboldt Smelter	HS	6/22/2009	AHS-02-TEOM-062209		X	X	
Humboldt Smelter	HS	6/22/2009	AHS-02-TSP-061909		X		X
Humboldt Smelter	HS	6/26/2009	AHS-02-PM10-062509	X		X	
Humboldt Smelter	HS	6/26/2009	AHS-02-TEOM-062609		X	X	
Humboldt Smelter	HS	6/26/2009	AHS-02-TSP-062509		X		X
Humboldt Smelter	HS	7/6/2009	AHS-02-PM10-070109	X		X	
Humboldt Smelter	HS	7/6/2009	AHS-02-TEOM-070609		X	X	
Humboldt Smelter	HS	7/6/2009	AHS-02-TSP-070109		X		X
Humboldt Smelter	HS	7/10/2009	AHS-02-PM10-070709	X		X	
Humboldt Smelter	HS	7/10/2009	AHS-02-TEOM-071009		X	X	
Humboldt Smelter	HS	7/10/2009	AHS-02-TSP-070709		X		X
Humboldt Smelter	HS	7/17/2009	AHS-02-PM10-071309	X		X	
Humboldt Smelter	HS	7/17/2009	AHS-02-TEOM-071709		X	X	
Humboldt Smelter	HS	7/17/2009	AHS-02-TSP-071309		X		X
Humboldt Smelter	HS	7/21/2009	AHS-02-PM10-071909	X		X	
Humboldt Smelter	HS	7/21/2009	AHS-02-TEOM-072109		X	X	
Humboldt Smelter	HS	7/21/2009	AHS-02-TSP-071909		X		X
Humboldt Smelter	HS	7/30/2009	AHS-02-PM10-072509	X		X	
Humboldt Smelter	HS	7/30/2009	AHS-02-TEOM-073009		X	X	
Humboldt Smelter	HS	7/30/2009	AHS-02-TSP-072509		X		X
Humboldt Smelter	HS	8/4/2009	AHS-02-PM10-073109	X		X	
Humboldt Smelter	HS	8/4/2009	AHS-02-TEOM-080409		X	X	
Humboldt Smelter	HS	8/4/2009	AHS-02-TSP-073109		X		X
Humboldt Smelter	HS	8/11/2009	AHS-02-PM10-080609	X		X	
Humboldt Smelter	HS	8/11/2009	AHS-02-TEOM-081109		X	X	
Humboldt Smelter	HS	8/11/2009	AHS-02-TSP-080609		X		X
Humboldt Smelter	HS	8/17/2009	AHS-02-PM10-081209	X		X	
Humboldt Smelter	HS	8/17/2009	AHS-02-TEOM-081709		X	X	
Humboldt Smelter	HS	8/17/2009	AHS-02-TSP-081209		X		X
Humboldt Smelter	HS	8/19/2009	AHS-02-PM10-081809	X		X	
Humboldt Smelter	HS	8/19/2009	AHS-02-TEOM-081909		X	X	
Humboldt Smelter	HS	8/19/2009	AHS-02-TSP-081809		X		X
Humboldt Smelter	HS	8/27/2009	AHS-02-PM10-082409	X		X	
Humboldt Smelter	HS	8/27/2009	AHS-02-TEOM-082709		X	X	
Humboldt Smelter	HS	8/27/2009	AHS-02-TSP-082409		X		X
Humboldt Smelter	HS	8/31/2009	AHS-02-PM10-083009	X		X	
Humboldt Smelter	HS	8/31/2009	AHS-02-TEOM-083109		X	X	
Humboldt Smelter	HS	8/31/2009	AHS-02-TSP-083009		X		X
Humboldt Smelter	HS	9/8/2009	AHS-02-PM10-090509	X		X	
Humboldt Smelter	HS	9/8/2009	AHS-02-TEOM-090809		X	X	
Humboldt Smelter	HS	9/8/2009	AHS-02-TSP-090509		X		X
Iron King Mine	IKM	8/17/2008	AIK-01-PM10-081708	X		X	
Iron King Mine	IKM	8/17/2008	AIK-01-TSP-081708		X		X
Iron King Mine	IKM	8/17/2008	AIK-02-PM10-081708	X			
Iron King Mine	IKM	8/17/2008	AIK-02-TSP-081708		X		
Iron King Mine	IKM	8/18/2008	AIK-01-PM10-081808	X		X	
Iron King Mine	IKM	8/18/2008	AIK-01-TSP-081808		X		X
Iron King Mine	IKM	8/18/2008	AIK-02-PM10-081808	X			
Iron King Mine	IKM	8/18/2008	AIK-02-TSP-081808		X		X
Iron King Mine	IKM	8/19/2008	AIK-01-PM10-081908	X		X	
Iron King Mine	IKM	8/19/2008	AIK-01-TSP-081908		X		
Iron King Mine	IKM	8/19/2008	AIK-02-PM10-081908	X		X	
Iron King Mine	IKM	8/19/2008	AIK-02-TSP-081908		X		X
Iron King Mine	IKM	8/20/2008	AIK-01-PM10-082008	X			
Iron King Mine	IKM	8/20/2008	AIK-01-TSP-082008		X		X
Iron King Mine	IKM	8/20/2008	AIK-02-PM10-082008	X		X	
Iron King Mine	IKM	8/20/2008	AIK-02-TSP-082008		X		X
Iron King Mine	IKM	8/21/2008	AIK-01-PM10-082108	X		X	
Iron King Mine	IKM	8/21/2008	AIK-01-TSP-082108		X		X
Iron King Mine	IKM	8/21/2008	AIK-02-PM10-082108	X		X	
Iron King Mine	IKM	8/21/2008	AIK-02-TSP-082108		X		



**Table 2-9  
Ambient Air Sample Data Analyses Summary**

Sample Group	Point ID	Sample Date	Sample ID	Mercury	Metals	PM-10	TSP
Iron King Mine	IKM	8/22/2008	AIK-01-PM10-082208	X		X	
Iron King Mine	IKM	8/22/2008	AIK-01-TSP-082208		X		
Iron King Mine	IKM	8/22/2008	AIK-02-PM10-082208	X		X	
Iron King Mine	IKM	8/22/2008	AIK-02-PM10-082208-CO	X			
Iron King Mine	IKM	8/22/2008	AIK-02-TSP-082208		X		X
Iron King Mine	IKM	8/22/2008	AIK-02-TSP-082208-CO		X		X
Iron King Mine	IKM	8/23/2008	AIK-01-PM10-082308	X		X	
Iron King Mine	IKM	8/23/2008	AIK-01-TSP-082308		X		X
Iron King Mine	IKM	8/23/2008	AIK-02-PM10-082308	X		X	
Iron King Mine	IKM	8/23/2008	AIK-02-TSP-082308		X		
Iron King Mine	IKM	8/24/2008	AIK-01A-PM10-082408	X		X	
Iron King Mine	IKM	8/24/2008	AIK-01A-TSP-082408		X		
Iron King Mine	IKM	8/24/2008	AIK-02-PM10-082408	X		X	
Iron King Mine	IKM	8/24/2008	AIK-02-TSP-082408		X		
Iron King Mine	IKM	8/25/2008	AIK-01A-PM10-082508	X		X	
Iron King Mine	IKM	8/25/2008	AIK-01A-TSP-082508		X		X
Iron King Mine	IKM	8/25/2008	AIK-02-PM10-082508	X		X	
Iron King Mine	IKM	8/25/2008	AIK-02-TSP-082508		X		X
Iron King Mine	IKM	8/27/2008	AIK-01A-PM10-082708	X			
Iron King Mine	IKM	8/27/2008	AIK-01A-TSP-082708		X		
Iron King Mine	IKM	8/27/2008	AIK-02-PM10-082708	X			
Iron King Mine	IKM	8/27/2008	AIK-02-PM10-082708-CO	X			
Iron King Mine	IKM	8/27/2008	AIK-02-TSP-082708		X		X
Iron King Mine	IKM	8/27/2008	AIK-02-TSP-082708-CO		X		X
Iron King Mine	IKM	8/28/2008	AIK-01A-PM10-082808	X		X	
Iron King Mine	IKM	8/28/2008	AIK-01A-TSP-082808		X		X
Iron King Mine	IKM	8/28/2008	AIK-02-PM10-082808	X			
Iron King Mine	IKM	8/28/2008	AIK-02-TSP-082808		X		X
Iron King Mine	IKM	8/29/2008	AIK-01A-PM10-082908	X		X	
Iron King Mine	IKM	8/29/2008	AIK-01A-TSP-082908		X		X
Iron King Mine	IKM	8/29/2008	AIK-02-PM10-082908	X			
Iron King Mine	IKM	8/29/2008	AIK-02-PM10-082908-CO	X		X	
Iron King Mine	IKM	8/29/2008	AIK-02-TSP-082908		X		X
Iron King Mine	IKM	8/29/2008	AIK-02-TSP-082908-CO		X		X
Iron King Mine	IKM	8/30/2008	AIK-01A-PM10-083008	X		X	
Iron King Mine	IKM	8/30/2008	AIK-01A-TSP-083008		X		X
Iron King Mine	IKM	8/30/2008	AIK-02-PM10-083008	X		X	
Iron King Mine	IKM	8/30/2008	AIK-02-TSP-083008		X		X
Iron King Mine	IKM	8/31/2008	AIK-01A-PM10-083108	X		X	
Iron King Mine	IKM	8/31/2008	AIK-01A-TSP-083108		X		X
Iron King Mine	IKM	8/31/2008	AIK-02-PM10-083108	X			
Iron King Mine	IKM	8/31/2008	AIK-02-TSP-083108		X		X
Iron King Mine	IKM	1/9/2009	AIK02-PM10-1909			X	
Iron King Mine	IKM	1/15/2009	AIK02-PM10-11509	X		X	
Iron King Mine	IKM	1/15/2009	AIK02-TSP-11509		X		X
Iron King Mine	IKM	1/21/2009	AIK02-PM10-12109	X		X	
Iron King Mine	IKM	1/21/2009	AIK02-TSP-12109		X		X
Iron King Mine	IKM	1/27/2009	AIK-02-PM10-012709	X			
Iron King Mine	IKM	1/27/2009	AIK-02-TSP-012709		X		
Iron King Mine	IKM	2/27/2009	AIK-02-PM10-022709	X			
Iron King Mine	IKM	2/27/2009	AIK-02-TSP-022709		X		X
Iron King Mine	IKM	3/3/2009	AIK-02-PM10-030309			X	
Iron King Mine	IKM	3/3/2009	AIK-02-TSP-030309		X		X
Iron King Mine	IKM	3/13/2009	AIK-02-PM10-030909	X		X	
Iron King Mine	IKM	3/13/2009	AIK-02-TSP-030909		X		X
Iron King Mine	IKM	3/16/2009	AIK-02-PM10-031509	X		X	
Iron King Mine	IKM	3/16/2009	AIK-02-TSP-031509		X		X
Iron King Mine	IKM	3/23/2009	AIK-02-PM10-032109	X		X	
Iron King Mine	IKM	3/23/2009	AIK-02-TSP-032109		X		X
Iron King Mine	IKM	3/30/2009	AIK-02-PM10-032709	X		X	
Iron King Mine	IKM	3/30/2009	AIK-02-TSP-032709		X		X
Iron King Mine	IKM	4/6/2009	AIK-02-PM10-040209	X		X	
Iron King Mine	IKM	4/6/2009	AIK-02-TEOM-040609-1		X		
Iron King Mine	IKM	4/6/2009	AIK-02-TSP-040209		X		X
Iron King Mine	IKM	4/13/2009	AIK-02-PM10-040809	X		X	
Iron King Mine	IKM	4/13/2009	AIK-02-TEOM-041309		X	X	

**Table 2-9  
Ambient Air Sample Data Analyses Summary**

Sample Group	Point ID	Sample Date	Sample ID	Mercury	Metals	PM-10	TSP
Iron King Mine	IKM	4/13/2009	AIK-02-TSP-040809		X		X
Iron King Mine	IKM	4/16/2009	AIK-02-TEOM-041609		X	X	
Iron King Mine	IKM	4/16/2009	IKM-02-PM10-041409	X		X	
Iron King Mine	IKM	4/16/2009	IKM-02-TSP-041409		X		X
Iron King Mine	IKM	4/24/2009	AIK-02-PM10-042009	X		X	
Iron King Mine	IKM	4/24/2009	AIK-02-TEOM-042409		X	X	
Iron King Mine	IKM	4/24/2009	AIK-02-TSP-042009		X		X
Iron King Mine	IKM	5/1/2009	AIK-02-PM10-042609	X		X	
Iron King Mine	IKM	5/1/2009	AIK-02-TEOM-050109		X	X	
Iron King Mine	IKM	5/1/2009	AIK-02-TSP-042609		X		X
Iron King Mine	IKM	5/7/2009	AIK-02-PM10-050209	X		X	
Iron King Mine	IKM	5/7/2009	AIK-02-TEOM-050709		X	X	
Iron King Mine	IKM	5/7/2009	AIK-02-TSP-050209		X		X
Iron King Mine	IKM	5/12/2009	AIK-02-PM10-050809	X		X	
Iron King Mine	IKM	5/12/2009	AIK-02-TEOM-051209		X	X	
Iron King Mine	IKM	5/12/2009	AIK-02-TSP-050809		X		X
Iron King Mine	IKM	5/18/2009	AIK-02-PM10-051409	X		X	
Iron King Mine	IKM	5/18/2009	AIK-02-TEOM-051809		X	X	
Iron King Mine	IKM	5/18/2009	AIK-02-TSP-051409		X		X
Iron King Mine	IKM	5/25/2009	AIK-02-PM10-052009	X		X	
Iron King Mine	IKM	5/25/2009	AIK-02-TEOM-052509		X	X	
Iron King Mine	IKM	5/25/2009	AIK-02-TSP-052009		X		X
Iron King Mine	IKM	5/28/2009	AIK-02-PM10-052609	X		X	
Iron King Mine	IKM	5/28/2009	AIK-02-TEOM-052809		X	X	
Iron King Mine	IKM	5/28/2009	AIK-02-TSP-052609		X		X
Iron King Mine	IKM	6/5/2009	AIK-02-PM10-060109	X		X	
Iron King Mine	IKM	6/5/2009	AIK-02-TEOM-060509	X		X	
Iron King Mine	IKM	6/5/2009	AIK-02-TSP-060109		X		X
Iron King Mine	IKM	6/11/2009	AIK-02-PM10-060709	X		X	
Iron King Mine	IKM	6/11/2009	AIK-02-TEOM-061109		X	X	
Iron King Mine	IKM	6/11/2009	AIK-02-TSP-060709		X		X
Iron King Mine	IKM	6/18/2009	AIK-02-TEOM-061809	X		X	
Iron King Mine	IKM	6/18/2009	AIK-02-TSP-061309		X		X
Iron King Mine	IKM	6/22/2009	AIK-02-PM10-061909	X		X	
Iron King Mine	IKM	6/22/2009	AIK-02-TEOM-062209		X	X	
Iron King Mine	IKM	6/22/2009	AIK-02-TSP-061909		X		X
Iron King Mine	IKM	6/26/2009	AIK-02-PM10-062509	X		X	
Iron King Mine	IKM	6/26/2009	AIK-02-TEOM-062609		X	X	
Iron King Mine	IKM	6/26/2009	AIK-02-TSP-062509		X		X
Iron King Mine	IKM	7/6/2009	AIK-02-PM10-070109	X		X	
Iron King Mine	IKM	7/6/2009	AIK-02-TEOM-070609		X	X	
Iron King Mine	IKM	7/6/2009	AIK-02-TSP-070109		X		X
Iron King Mine	IKM	7/10/2009	AIK-02-PM10-070709	X		X	
Iron King Mine	IKM	7/10/2009	AIK-02-TEOM-071009		X	X	
Iron King Mine	IKM	7/10/2009	AIK-02-TSP-070709		X		X
Iron King Mine	IKM	7/17/2009	AIK-02-PM10-071309	X		X	
Iron King Mine	IKM	7/17/2009	AIK-02-TEOM-071709		X	X	
Iron King Mine	IKM	7/17/2009	AIK-02-TSP-071309		X		X
Iron King Mine	IKM	7/21/2009	AIK-02-PM10-071909	X		X	
Iron King Mine	IKM	7/21/2009	AIK-02-TEOM-072109		X	X	
Iron King Mine	IKM	7/21/2009	AIK-02-TSP-071909		X		X
Iron King Mine	IKM	7/30/2009	AIK-02-PM10-072509	X		X	
Iron King Mine	IKM	7/30/2009	AIK-02-TSP-072509		X		
Iron King Mine	IKM	8/4/2009	AIK-02-PM10-073109	X		X	
Iron King Mine	IKM	8/4/2009	AIK-02-TEOM-080409		X	X	
Iron King Mine	IKM	8/4/2009	AIK-02-TSP-073109		X		X
Iron King Mine	IKM	8/11/2009	AIK-02-PM10-080609	X		X	
Iron King Mine	IKM	8/11/2009	AIK-02-TEOM-081109		X	X	
Iron King Mine	IKM	8/11/2009	AIK-02-TSP-080609		X		X
Iron King Mine	IKM	8/17/2009	AIK-02-TEOM-081709		X	X	
Iron King Mine	IKM	8/17/2009	AIK-02-TSP-081209		X		X
Iron King Mine	IKM	8/19/2009	AIK-02-PM10-081809	X		X	
Iron King Mine	IKM	8/19/2009	AIK-02-TEOM-081909		X		
Iron King Mine	IKM	8/19/2009	AIK-02-TSP-081809		X		X
Iron King Mine	IKM	8/27/2009	AIK-02-PM10-082409	X		X	
Iron King Mine	IKM	8/27/2009	AIK-02-TEOM-082709		X	X	

**Table 2-9  
Ambient Air Sample Data Analyses Summary**

Sample Group	Point ID	Sample Date	Sample ID	Mercury	Metals	PM-10	TSP
Iron King Mine	IKM	8/27/2009	AIK-02-TSP-082409		X		X
Iron King Mine	IKM	8/31/2009	AIK-02-PM10-083009	X		X	
Iron King Mine	IKM	8/31/2009	AIK-02-TEOM-083109		X	X	
Iron King Mine	IKM	9/8/2009	AIK-02-PM10-090509	X		X	
Iron King Mine	IKM	9/8/2009	AIK-02-TEOM-090809		X	X	
Iron King Mine	IKM	9/8/2009	AIK-02-TEOM-2-090809		X	X	
Iron King Mine	IKM	9/8/2009	AIK-02-TSP-090509		X		

**Notes:**

PM-10 = Particulate Matter < 10 microns

TSP = Total Suspended Particulates

**TABLE 5-138  
OCCURRENCE AND DISTRIBUTION OF CHEMICALS IN AMBIENT AIR  
IRON KING MINE**

CAS Number	Chemical	Minimum Detected Concentration	Minimum Detected Qualifier	Maximum Detected Concentration	Maximum Detected Qualifier	Units	Location of Maximum Detected Concentration	Detection Frequency	Range of Detection Limits	Average Detected Concentration	EPA Residential Regional Screening Level	EPA Residential Air Exceed	National Ambient Air Quality Standards (ug/m3)	National Ambient Air Quality Standards Exceed	Health-Based Guidelines for Acute Exposure (µg/m <sup>3</sup> )	Exposure Time (hour)
<b>PARTICULATES</b>																
PM-10	PARTICULATE MATTER < 10 MICRONS	4.16E+00		7.67E+01		µg/m <sup>3</sup>	AIK-02-TEOM	78 / 78	-	2.03E+01			1.50E+02			
TSP	TOTAL SUSPENDED PARTICULATE	4.16E+00		1.35E+02		µg/m <sup>3</sup>	AIK-01	52 / 52	-	2.76E+01			1.50E+02			
<b>METALS</b>																
7429-90-5	ALUMINUM	8.73E-02	J	1.01E+00	J	µg/m <sup>3</sup>	AIK-01	11 / 87	0.1073 - 4.6128	6.20E-01	5.20E+00			1.00E+04	0.25 <sup>1</sup>	
7440-36-0	ANTIMONY	1.57E-02	J	2.07E-02	J	µg/m <sup>3</sup>	AIK-01A	2 / 87	0.0014 - 0.0707	1.82E-02	2.10E-01			--	--	
7440-38-2	ARSENIC	5.03E-04	J	3.54E-02	J	µg/m <sup>3</sup>	AIK-01	28 / 87	0.0001 - 0.0476	6.90E-03	5.70E-04	6.20E+01		1.90E-01	4 <sup>2</sup>	
7440-39-3	BARIUM	1.08E-03	J	6.02E-02	J	µg/m <sup>3</sup>	AIK-01	6 / 87	0 - 0.1835	2.96E-02	5.20E-01			5.00E+02	0.25 <sup>1</sup>	
7440-43-9	CADMIUM	6.65E-05	J	3.56E-03	J	µg/m <sup>3</sup>	AIK-02	11 / 87	0 - 0.0036	1.39E-03	1.40E-03	2.54E+00		5.00E+00	0.25 <sup>1</sup>	
7440-70-2	CALCIUM	2.01E-01	J	2.83E+00	J	µg/m <sup>3</sup>	AIK-01A	13 / 87	0.0052 - 4.0432	8.88E-01				1.00E+04	0.25 <sup>1</sup>	
7440-47-3	CHROMIUM	3.66E-03	J	1.29E-01	J	µg/m <sup>3</sup>	AIK-02	7 / 87	0.0022 - 0.0745	4.82E-02	2.00E-04	6.45E+02		1.00E+03	0.25 <sup>1</sup>	
7440-50-8	COPPER	4.93E-04	J	1.83E-01	J	µg/m <sup>3</sup>	AIK-02	40 / 87	0.0008 - 0.0199	1.70E-02				1.00E+02	1 <sup>2</sup>	
7439-89-6	IRON	1.32E-01	J	6.14E+00	J	µg/m <sup>3</sup>	AIK-01	39 / 87	0.0956 - 1.5851	9.57E-01				1.50E+03	0.25 <sup>1</sup>	
7439-92-1	LEAD	1.56E-03	J	4.47E-02	J	µg/m <sup>3</sup>	AIK-01	31 / 87	0.0002 - 0.096	8.33E-03			1.50E-01	5.00E+01	0.25 <sup>1</sup>	
7439-97-6	MERCURY	5.80E-04	J	1.12E-03	J	µg/m <sup>3</sup>	AIK-01	2 / 63	0.0002 - 0.0007	8.50E-04	3.10E-01			1.80E+00	1 <sup>2</sup>	
7440-02-0	NICKEL	1.54E-04	J	1.37E-01	J	µg/m <sup>3</sup>	AIK-02	14 / 87	0 - 0.0431	1.75E-02	5.10E-03	2.69E+01		6.00E+00	1 <sup>2</sup>	
7782-49-2	SELENIUM	2.45E-04	J	2.22E-02	J	µg/m <sup>3</sup>	AIK-02	14 / 87	0.0001 - 0.0354	5.30E-03				2.00E+02	0.25 <sup>1</sup>	
7440-22-4	SILVER	5.82E-05	J	7.31E-03	J	µg/m <sup>3</sup>	AIK-02	4 / 87	0 - 0.0104	2.54E-03				1.00E+01	0.25 <sup>1</sup>	
7440-23-5	SODIUM	7.79E-02	J	3.66E+00	J	µg/m <sup>3</sup>	AIK-01	22 / 87	0.0129 - 1.997	7.35E-01				5.00E+02	0.25 <sup>1</sup>	
7440-66-6	ZINC	3.30E-03	J	9.15E-02	J	µg/m <sup>3</sup>	AIK-02	13 / 87	0.0001 - 0.2862	3.57E-02				1.00E+04	0.25 <sup>1</sup>	

**Notes:**

EPA = Environmental Protection Agency.

J = The analyte was positively identified; the quantitation is estimated.

µg/m<sup>3</sup> = Micrograms per cubic meter.

The EPA Industrial Regional Screening Level is 0.0029 µg/m<sup>3</sup> for arsenic.

<sup>1</sup> Temporary Emergency Exposure Limits (TEEL-0); intended for use until ERPGs are adopted. TEEL-0 is the concentration below which most people will experience no adverse health effects. Concentrations are peak, 15-min time-weighted averages.

<sup>2</sup> California EPA Reference Exposure Levels (CalEPA REL) for 1 or 4 hr maximum concentration, intermittent exposure lasts less than 24 hr and occurs no more than 1 time per month, or no more frequently than every two weeks in a given year.

**TABLE 5-139  
OCCURRENCE AND DISTRIBUTION OF CHEMICALS IN AMBIENT AIR  
BACKGROUND**

CAS Number	Chemical	Minimum Detected Concentration	Minimum Detected Qualifier	Maximum Detected Concentration	Maximum Detected Qualifier	Units	Location of Maximum Detected Concentration	Detection Frequency	Range of Detection Limits	Average Detected Concentration	EPA Residential Regional Screening Level	EPA Residential Air Exceed	National Ambient Air Quality Standards (ug/m3)	National Ambient Air Quality Standards Exceed	Health-Based Guidelines for Acute Exposure (µg/m <sup>3</sup> )	Exposure Time (hour)
<b>PARTICULATES</b>																
PM-10	PARTICULATE MATTER < 10 MICRONS	4.16E+00		3.74E+01		µg/m <sup>3</sup>	ABG-01	35 / 35	-	1.82E+01			1.50E+02			
TSP	TOTAL SUSPENDED PARTICULATE	4.16E+00		3.82E+01		µg/m <sup>3</sup>	AHS-01	32 / 32	-	1.80E+01			1.50E+02			
<b>METALS</b>																
7429-90-5	ALUMINUM	9.57E-02	J	6.39E+01		µg/m <sup>3</sup>	AHS-01	9 / 42	0.1206 - 3.3961	6.72E+00	5.20E+00	1.23E+01			1.00E+04	0.25 <sup>1</sup>
7440-36-0	ANTIMONY	3.37E-03	J	4.54E-02	J	µg/m <sup>3</sup>	AHS-01	2 / 42	0.0014 - 0.0947	2.44E-02	2.10E-01				--	--
7440-38-2	ARSENIC	2.70E-04	J	1.16E-02	J	µg/m <sup>3</sup>	ABG-01	8 / 42	0.0001 - 0.042	3.47E-03	5.70E-04	2.04E+01			1.90E-01	4 <sup>2</sup>
7440-39-3	BARIUM	1.37E-03	J	1.14E-01	J	µg/m <sup>3</sup>	AHS-01	5 / 42	0.0071 - 0.0797	5.02E-02	5.20E-01				5.00E+02	0.25 <sup>1</sup>
7440-41-7	BERYLLIUM	8.73E-04	J	1.84E-03	J	µg/m <sup>3</sup>	AHS-01	2 / 42	0 - 0.0037	1.36E-03	1.00E-03	1.84E+00			2.50E+01	1 <sup>3</sup>
7440-43-9	CADMIUM	1.16E-04	J	1.41E-03	J	µg/m <sup>3</sup>	ABG-01	3 / 42	0.0001 - 0.0037	4.63E-04	1.40E-03	1.01E+00			5.00E+00	0.25 <sup>1</sup>
7440-70-2	CALCIUM	3.58E-02	J	1.19E+00	J	µg/m <sup>3</sup>	ABG-01	5 / 42	0.01 - 66.2722	5.78E-01					1.00E+04	0.25 <sup>1</sup>
7440-47-3	CHROMIUM	2.83E-03	J	9.97E-02	J	µg/m <sup>3</sup>	AHS-01	4 / 42	0.0026 - 0.2105	2.76E-02	2.00E-04	4.99E+02			1.00E+03	0.25 <sup>1</sup>
7440-50-8	COPPER	7.07E-04	J	2.50E-02	J	µg/m <sup>3</sup>	AHS-01	15 / 42	0.0003 - 0.1321	5.60E-03					1.00E+02	1 <sup>2</sup>
7439-89-6	IRON	1.29E-01	J	2.57E+01		µg/m <sup>3</sup>	AHS-01	21 / 42	0.0598 - 1.0104	1.53E+00			1.50E-01		1.50E+03	0.25 <sup>1</sup>
7439-92-1	LEAD	6.24E-04	J	1.25E-02	J	µg/m <sup>3</sup>	ABG-01	10 / 42	0.0009 - 0.019	4.98E-03					5.00E+01	0.25 <sup>1</sup>
7440-02-0	NICKEL	3.49E-04	J	2.77E-02	J	µg/m <sup>3</sup>	AHS-01	7 / 42	0 - 0.0444	8.25E-03	5.10E-03	5.44E+00			6.00E+00	1 <sup>2</sup>
7782-49-2	SELENIUM	6.66E-04	J	1.25E-02	J	µg/m <sup>3</sup>	ABG-01	4 / 42	0.0001 - 0.0607	5.32E-03					2.00E+02	0.25 <sup>1</sup>
7440-22-4	SILVER	4.99E-04	J	2.00E-02		µg/m <sup>3</sup>	ABG-01	2 / 42	0 - 0.0131	1.02E-02					1.00E+01	0.25 <sup>1</sup>
7440-23-5	SODIUM	3.66E-02	J	1.90E+00	J	µg/m <sup>3</sup>	AHS-01	13 / 42	0.0129 - 0.9911	4.02E-01					5.00E+02	0.25 <sup>1</sup>
7440-66-6	ZINC	2.49E-03	J	2.04E-02	J	µg/m <sup>3</sup>	ABG-01	3 / 42	0.0001 - 0.1754	1.08E-02					1.00E+04	0.25 <sup>1</sup>

**Notes:**

EPA = Environmental Protection Agency.

J = The analyte was positively identified; the quantitation is estimated.

µg/m<sup>3</sup> = Micrograms per cubic meter.

The EPA Industrial Regional Screening Level is 0.0029 µg/m<sup>3</sup> for arsenic.

<sup>1</sup> Temporary Emergency Exposure Limits (TEEL-0); intended for use until ERPGs are adopted. TEEL-0 is the concentration below which most people will experience no adverse health effects. Concentrations are peak, 15-min time-weighted averages.

<sup>2</sup> California EPA Reference Exposure Levels (CalEPA REL) for 1 or 4 hr maximum concentration, intermittent exposure lasts less than 24 hr and occurs no more than 1 time per month, or no more frequently than every two weeks in a given year.

<sup>3</sup> Emergency Response Planning Guidelines (ERPG): 1-hour exposure developed by by American Industrial Hygiene Association

**TABLE 5-140  
OCCURRENCE AND DISTRIBUTION OF CHEMICALS IN AMBIENT AIR  
HUMBOLDT SMELTER**

CAS Number	Chemical	Minimum Detected Concentration	Minimum Detected Qualifier	Maximum Detected Concentration	Maximum Detected Qualifier	Units	Location of Maximum Detected Concentration	Detection Frequency	Range of Detection Limits	Average Detected Concentration	EPA Residential Regional Screening Level	EPA Residential Air Exceed	National Ambient Air Quality Standards (ug/m3)	National Ambient Air Quality Standards Exceed	Health-Based Guidelines for Acute Exposure (µg/m <sup>3</sup> )	Exposure Time (hour)
<b>PARTICULATES</b>																
PM-10	PARTICULATE MATTER < 10 MICRONS	4.16E+00		1.55E+02		µg/m <sup>3</sup>	AHS-02-TEOM	68 / 68	-	2.29E+01			1.50E+02	1.03E+00		
TSP	TOTAL SUSPENDED PARTICULATE	8.32E+00		5.00E+02		µg/m <sup>3</sup>	AHS-02	43 / 43	-	3.88E+01			1.50E+02	3.33E+00		
<b>METALS</b>																
7429-90-5	ALUMINUM	1.22E-01	J	1.95E+01		µg/m <sup>3</sup>	AHS-02-TEOM	34 / 73	0.1498 - 10.0304	2.38E+00	5.20E+00	3.75E+00			1.00E+04	0.25 <sup>1</sup>
7440-36-0	ANTIMONY	1.62E-02	J	2.40E-02	J	µg/m <sup>3</sup>	AHS-03	2 / 73	0.0011 - 0.2614	2.01E-02	2.10E-01				--	--
7440-38-2	ARSENIC	1.18E-04	J	7.49E-03	J	µg/m <sup>3</sup>	AHS-02	19 / 73	0.0001 - 0.25	1.81E-03	5.70E-04	1.31E+01			1.90E-01	4 <sup>2</sup>
7440-39-3	BARIIUM	2.37E-03	J	1.04E-01	J	µg/m <sup>3</sup>	AHS-03	4 / 73	0 - 0.23	5.39E-02	5.20E-01				5.00E+02	0.25 <sup>1</sup>
7440-41-7	BERYLLIUM	8.51E-04	J	1.60E-02	J	µg/m <sup>3</sup>	AHS-02	2 / 73	0 - 0.0047	8.43E-03	1.00E-03	1.60E+01			2.50E+01	1 <sup>3</sup>
7440-43-9	CADMIUM	5.32E-05	J	2.47E-03	J	µg/m <sup>3</sup>	AHS-02-TEOM	9 / 73	0 - 0.052	9.61E-04	1.40E-03	1.77E+00			5.00E+00	0.25 <sup>1</sup>
7440-70-2	CALCIUM	1.70E-01	J	8.70E+00	J	µg/m <sup>3</sup>	AHS-02	11 / 73	0.0032 - 2.6597	1.35E+00					1.00E+04	0.25 <sup>1</sup>
7440-47-3	CHROMIUM	9.99E-03	J	6.70E-02	J	µg/m <sup>3</sup>	AHS-03	3 / 73	0.0016 - 0.087	3.29E-02	2.00E-04	3.35E+02			1.00E+03	0.25 <sup>1</sup>
7440-50-8	COPPER	1.25E-03	J	8.81E-01	J	µg/m <sup>3</sup>	AHS-02-TEOM	51 / 73	0.0013 - 0.0608	4.58E-02					1.00E+02	1 <sup>2</sup>
7439-89-6	IRON	1.35E-01	J	2.27E+01	J	µg/m <sup>3</sup>	AHS-02	36 / 73	0.1235 - 1.1085	1.30E+00			1.50E-01	1.20E+00	1.50E+03	0.25 <sup>1</sup>
7439-92-1	LEAD	8.71E-04	J	1.80E-01	J	µg/m <sup>3</sup>	AHS-02	30 / 73	0.001 - 0.0505	1.44E-02			1.50E-01	1.20E+00	5.00E+01	0.25 <sup>1</sup>
7440-02-0	NICKEL	5.82E-05	J	9.90E-02	J	µg/m <sup>3</sup>	AHS-02-TEOM	22 / 73	0 - 0.2062	1.01E-02	5.10E-03	1.94E+01			6.00E+00	1 <sup>2</sup>
7782-49-2	SELENIUM	2.93E-04	J	1.41E-02	J	µg/m <sup>3</sup>	AHS-02	11 / 73	0 - 0.15	2.90E-03					2.00E+02	0.25 <sup>1</sup>
7440-22-4	SILVER	2.91E-05	J	1.10E-02	J	µg/m <sup>3</sup>	AHS-02-TEOM	8 / 73	0 - 0.044	2.27E-03					1.00E+01	0.25 <sup>1</sup>
7440-23-5	SODIUM	3.08E-02	J	2.31E+00	J	µg/m <sup>3</sup>	AHS-02-TEOM	21 / 73	0.0129 - 5.6	4.02E-01					5.00E+02	0.25 <sup>1</sup>
7440-66-6	ZINC	3.88E-03	J	5.41E-01	J	µg/m <sup>3</sup>	AHS-02-TEOM	22 / 73	0.0002 - 0.52	6.47E-02					1.00E+04	0.25 <sup>1</sup>

**Notes:**

EPA = Environmental Protection Agency.

J = The analyte was positively identified; the quantitation is estimated.

µg/m<sup>3</sup> = Micrograms per cubic meter.

The EPA Industrial Regional Screening Level is 0.0029 µg/m<sup>3</sup> for arsenic.

<sup>1</sup> Temporary Emergency Exposure Limits (TEEL-0); intended for use until ERPGs are adopted. TEEL-0 is the concentration below which most people will experience no adverse health effects. Concentrations are peak, 15-min time-weighted averages.

<sup>2</sup> California EPA Reference Exposure Levels (CalEPA REL) for 1 or 4 hr maximum concentration, intermittent exposure lasts less than 24 hr and occurs no more than 1 time per month, or no more frequently than every two weeks in a given year.

<sup>3</sup> Emergency Response Planning Guidelines (ERPG): 1-hour exposure developed by by American Industrial Hygiene Association

**TABLE 5-141  
OCCURRENCE AND DISTRIBUTION OF CHEMICALS IN AMBIENT AIR  
HUMBOLDT - IN-TOWN**

CAS Number	Chemical	Minimum Detected Concentration	Minimum Detected Qualifier	Maximum Detected Concentration	Maximum Detected Qualifier	Units	Location of Maximum Detected Concentration	Detection Frequency	Range of Detection Limits	Average Detected Concentration	EPA Residential Regional Screening Level	EPA Residential Air Exceed	National Ambient Air Quality Standards (ug/m3)	National Ambient Air Quality Standards Exceed	Health-Based Guidelines for Acute Exposure (µg/m <sup>3</sup> )	Exposure Time (hour)
<b>PARTICULATES</b>																
PM-10	PARTICULATE MATTER < 10 MICRONS	6.20E+00		1.29E+02		µg/m <sup>3</sup>	AES-01	72 / 72	-	2.09E+01			1.50E+02			
TSP	TOTAL SUSPENDED PARTICULATE	8.32E+00		7.07E+01		µg/m <sup>3</sup>	AES-01	40 / 40	-	3.04E+01			1.50E+02			
<b>METALS</b>																
7429-90-5	ALUMINUM	1.07E-01	J	1.51E+00	J	µg/m <sup>3</sup>	AES-01	26 / 75	0.1311 - 1.3978	7.59E-01	5.20E+00			1.00E+04	0.25 <sup>1</sup>	
7440-36-0	ANTIMONY	2.51E-02	J	2.76E-02	J	µg/m <sup>3</sup>	AIK-03	3 / 75	0.0009 - 0.0793	2.61E-02	2.10E-01			--	--	
7440-38-2	ARSENIC	1.44E-04	J	1.12E-02		µg/m <sup>3</sup>	AES-01	17 / 75	0.0001 - 0.0423	1.81E-03	5.70E-04	1.97E+01		1.90E-01	4 <sup>2</sup>	
7440-39-3	BARIUM	4.16E-03	J	1.04E-01	J	µg/m <sup>3</sup>	AHS-02	4 / 75	0 - 0.1195	5.22E-02	5.20E-01			5.00E+02	0.25 <sup>1</sup>	
7440-41-7	BERYLLIUM	4.99E-05	J	1.38E-03	J	µg/m <sup>3</sup>	AIK-03	3 / 75	0 - 0.0053	7.11E-04	1.00E-03	1.38E+00		2.50E+01	1 <sup>3</sup>	
7440-43-9	CADMIUM	5.76E-05	J	5.49E-03	J	µg/m <sup>3</sup>	AES-01-TEOM	8 / 75	0 - 0.0066	1.74E-03	1.40E-03	3.92E+00		5.00E+00	0.25 <sup>1</sup>	
7440-70-2	CALCIUM	1.67E-01	J	2.57E+00	J	µg/m <sup>3</sup>	AES-01	13 / 75	0.0026 - 2.6192	9.06E-01				1.00E+04	0.25 <sup>1</sup>	
7440-47-3	CHROMIUM	6.24E-03	J	6.55E-02	J	µg/m <sup>3</sup>	AIK-03	5 / 75	0.0015 - 0.0678	3.52E-02	2.00E-04	3.27E+02		1.00E+03	0.25 <sup>1</sup>	
7440-50-8	COPPER	1.16E-03	J	1.89E-01	J	µg/m <sup>3</sup>	AHS-02	44 / 75	0.0011 - 0.0244	1.14E-02				1.00E+02	1 <sup>2</sup>	
7439-89-6	IRON	1.23E-01	J	2.25E+00	J	µg/m <sup>3</sup>	AES-01	43 / 75	0.038 - 1.2809	7.63E-01				1.50E+03	0.25 <sup>1</sup>	
7439-92-1	LEAD	7.73E-04	J	8.73E-03	J	µg/m <sup>3</sup>	AES-01	18 / 75	0.0008 - 0.0236	3.03E-03			1.50E-01	5.00E+01	0.25 <sup>1</sup>	
7439-97-6	MERCURY	1.11E-03	J	1.11E-03	J	µg/m <sup>3</sup>	AHS-02	1 / 49	0.0001 - 0.0047	1.11E-03	3.10E-01			1.80E+00	1 <sup>2</sup>	
7440-02-0	NICKEL	9.67E-05	J	2.03E-02	J	µg/m <sup>3</sup>	AHS-02	21 / 75	0 - 0.0339	3.41E-03	5.10E-03	3.97E+00		6.00E+00	1 <sup>2</sup>	
7782-49-2	SELENIUM	2.32E-04	J	1.33E-02	J	µg/m <sup>3</sup>	AES-01	9 / 75	0 - 0.0533	3.52E-03				2.00E+02	0.25 <sup>1</sup>	
7440-22-4	SILVER	4.11E-06	J	2.13E-02	J	µg/m <sup>3</sup>	AES-01-TEOM	6 / 75	0 - 0.0113	1.03E-02				1.00E+01	0.25 <sup>1</sup>	
7440-23-5	SODIUM	1.83E-02	J	2.46E+00	J	µg/m <sup>3</sup>	AIK-03	22 / 75	0.0129 - 2.1182	3.86E-01				5.00E+02	0.25 <sup>1</sup>	
7440-66-6	ZINC	5.29E-03	J	3.26E-02	J	µg/m <sup>3</sup>	AES-01-TEOM	15 / 75	0.0001 - 0.054	1.30E-02				1.00E+04	0.25 <sup>2</sup>	

**Notes:**

EPA = Environmental Protection Agency.

J = The analyte was positively identified; the quantitation is estimated.

µg/m<sup>3</sup> = Micrograms per cubic meter.

The EPA Industrial Regional Screening Level is 0.0029 µg/m<sup>3</sup> for arsenic.

<sup>1</sup> Temporary Emergency Exposure Limits (TEEL-0); intended for use until ERPGs are adopted. TEEL-0 is the concentration below which most people will experience no adverse health effects. Concentrations are peak, 15-min time-weighted averages.

<sup>2</sup> California EPA Reference Exposure Levels (CalEPA REL) for 1 or 4 hr maximum concentration, intermittent exposure lasts less than 24 hr and occurs no more than 1 time per month, or no more frequently than every two weeks in a given year.

<sup>3</sup> Emergency Response Planning Guidelines (ERPG): 1-hour exposure developed by by American Industrial Hygiene Association

**TABLE 5-142  
OCCURRENCE AND DISTRIBUTION OF CHEMICALS IN AMBIENT AIR  
SITE**

CAS Number	Chemical	Minimum Detected Concentration	Minimum Detected Qualifier	Maximum Detected Concentration	Maximum Detected Qualifier	Units	Location of Maximum Detected Concentration	Detection Frequency	Range of Detection Limits	Average Detected Concentration	EPA Residential Regional Screening Level	EPA Residential Air Exceed	National Ambient Air Quality Standards (ug/m3)	National Ambient Air Quality Standards Exceed	Health-Based Guidelines for Acute Exposure (µg/m <sup>3</sup> )	Exposure Time (hour)
<b>PARTICULATES</b>																
PM-10	PARTICULATE MATTER < 10 MICRONS	4.16E+00		1.55E+02		µg/m <sup>3</sup>	AHS-02-TEOM	253 / 253	-	2.08E+01			1.50E+02	1.03E+00		
TSP	TOTAL SUSPENDED PARTICULATE	4.16E+00		5.00E+02		µg/m <sup>3</sup>	AHS-02	167 / 167	-	2.89E+01			1.50E+02	3.33E+00		
<b>METALS</b>																
7429-90-5	ALUMINUM	8.73E-02	J	6.39E+01		µg/m <sup>3</sup>	AHS-01	80 / 277	0.1073 - 10.0304	2.12E+00	5.20E+00	1.23E+01		1.00E+04		0.25 <sup>1</sup>
7440-36-0	ANTIMONY	3.37E-03	J	4.54E-02	J	µg/m <sup>3</sup>	AHS-01	9 / 277	0.0009 - 0.2614	2.26E-02	2.10E-01			--		--
7440-38-2	ARSENIC	1.18E-04	J	3.54E-02	J	µg/m <sup>3</sup>	AIK-01	72 / 277	0.0001 - 0.25	3.87E-03	5.70E-04	6.20E+01		1.90E-01		4 <sup>2</sup>
7440-39-3	BARIUM	1.08E-03	J	1.14E-01	J	µg/m <sup>3</sup>	AHS-01	19 / 277	0 - 0.23	4.53E-02	5.20E-01			5.00E+02		0.25 <sup>1</sup>
7440-41-7	BERYLLIUM	4.99E-05	J	1.60E-02	J	µg/m <sup>3</sup>	AHS-02	7 / 277	0 - 0.0061	3.10E-03	1.00E-03	1.60E+01		2.50E+01		1 <sup>3</sup>
7440-43-9	CADMIUM	5.32E-05	J	5.49E-03	J	µg/m <sup>3</sup>	AES-01-TEOM	31 / 277	0 - 0.052	1.26E-03	1.40E-03	3.92E+00		5.00E+00		0.25 <sup>1</sup>
7440-70-2	CALCIUM	3.58E-02	J	8.70E+00	J	µg/m <sup>3</sup>	AHS-02	42 / 277	0.0026 - 66.2722	9.54E-01				1.00E+04		0.25 <sup>1</sup>
7440-47-3	CHROMIUM	2.83E-03	J	1.29E-01	J	µg/m <sup>3</sup>	AIK-02	19 / 277	0.0015 - 0.2105	3.80E-02	2.00E-04	6.45E+02		1.00E+03		0.25 <sup>1</sup>
7440-50-8	COPPER	4.93E-04	J	8.81E-01	J	µg/m <sup>3</sup>	AHS-02-TEOM	150 / 277	0.0003 - 0.1321	2.34E-02				1.00E+02		1 <sup>2</sup>
7439-89-6	IRON	1.23E-01	J	2.57E+01	J	µg/m <sup>3</sup>	AHS-01	139 / 277	0.038 - 1.5851	1.07E+00				1.50E+03		0.25 <sup>1</sup>
7439-92-1	LEAD	6.24E-04	J	1.80E-01	J	µg/m <sup>3</sup>	AHS-02	89 / 277	0.0002 - 0.096	8.62E-03			1.50E-01	1.20E+00		0.25 <sup>1</sup>
7439-97-6	MERCURY	5.80E-04	J	1.12E-03	J	µg/m <sup>3</sup>	AIK-01	3 / 202	0.0001 - 0.0047	9.36E-04	3.10E-01			1.80E+00		1 <sup>2</sup>
7440-02-0	NICKEL	5.82E-05	J	1.37E-01	J	µg/m <sup>3</sup>	AIK-02	64 / 277	0 - 0.2062	8.95E-03	5.10E-03	2.69E+01		6.00E+00		1 <sup>2</sup>
7782-49-2	SELENIUM	2.32E-04	J	2.22E-02	J	µg/m <sup>3</sup>	AIK-02	38 / 277	0 - 0.15	4.18E-03				2.00E+02		0.25 <sup>1</sup>
7440-22-4	SILVER	4.11E-06	J	2.13E-02	J	µg/m <sup>3</sup>	AES-01-TEOM	20 / 277	0 - 0.044	5.76E-03				1.00E+01		0.25 <sup>1</sup>
7440-23-5	SODIUM	1.83E-02	J	3.66E+00	J	µg/m <sup>3</sup>	AIK-01	78 / 277	0.0129 - 5.6	4.85E-01				5.00E+02		0.25 <sup>1</sup>
7440-66-6	ZINC	2.49E-03	J	5.41E-01	J	µg/m <sup>3</sup>	AHS-02-TEOM	53 / 277	0.0001 - 0.52	3.89E-02				1.00E+04		0.25 <sup>2</sup>

**Notes:**

EPA = Environmental Protection Agency.

J = The analyte was positively identified; the quantitation is estimated.

µg/m<sup>3</sup> = Micrograms per cubic meter.

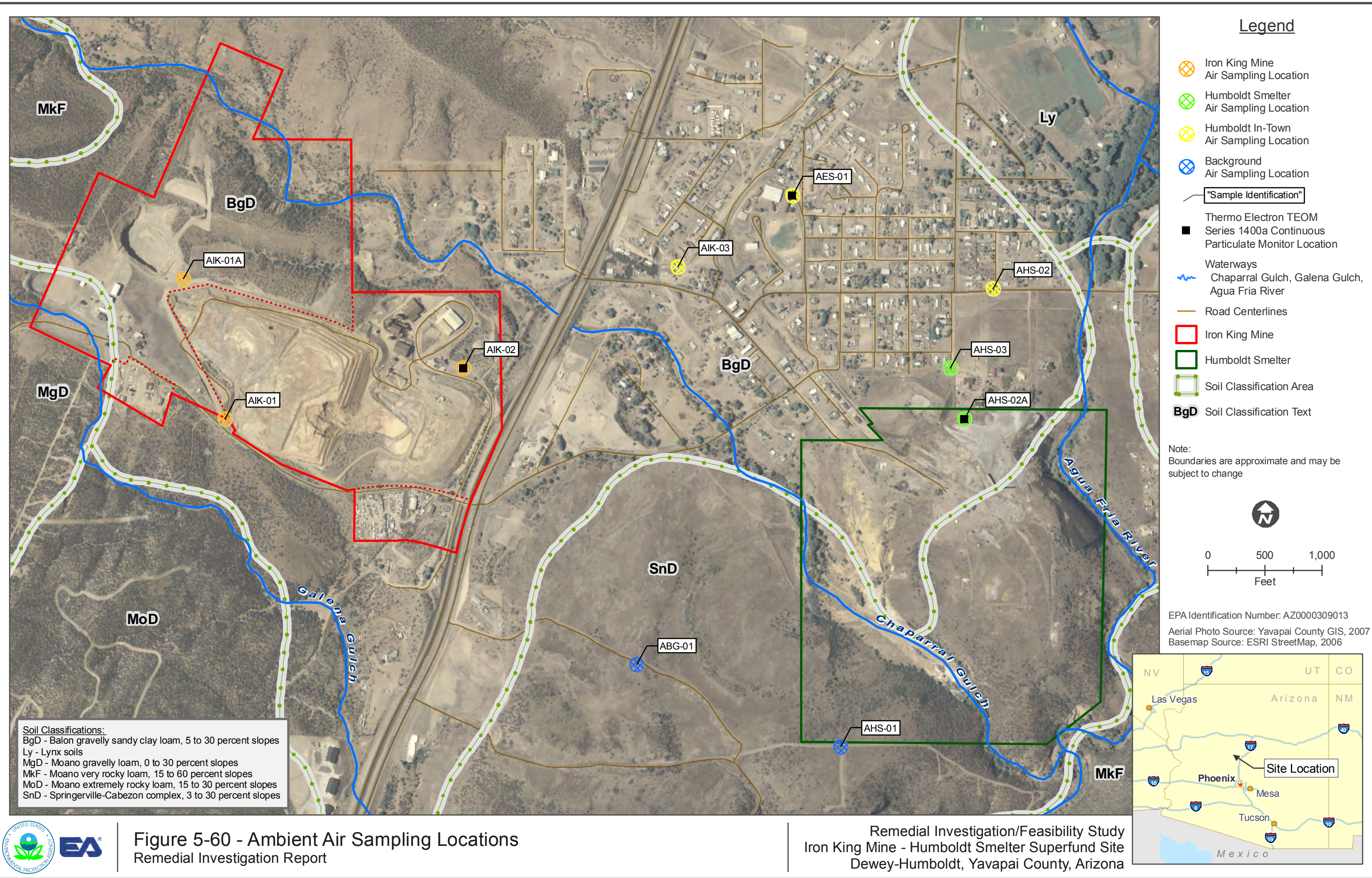
The EPA Industrial Regional Screening Level is 0.0029 µg/m<sup>3</sup> for arsenic.

<sup>1</sup> Temporary Emergency Exposure Limits (TEEL-0); intended for use until ERPGs are adopted. TEEL-0 is the concentration below which most people will experience no adverse health effects. Concentrations are peak, 15-min time-weighted averages.

<sup>2</sup> California EPA Reference Exposure Levels (CalEPA REL) for 1 or 4 hr maximum concentration, intermittent exposure lasts less than 24 hr and occurs no more than 1 time per month, or no more frequently than every two weeks in a given year.

<sup>3</sup> Emergency Response Planning Guidelines (ERPG): 1-hour exposure developed by by American Industrial Hygiene Association

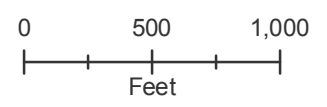




**Legend**

- Iron King Mine Air Sampling Location
- Humboldt Smelter Air Sampling Location
- Humboldt In-Town Air Sampling Location
- Background Air Sampling Location
- "Sample Identification"
- Thermo Electron TEOM Series 1400a Continuous Particulate Monitor Location
- Waterways**  
 Chaparral Gulch, Galena Gulch, Agua Fria River
- Road Centerlines
- Iron King Mine
- Humboldt Smelter
- Soil Classification Area
- BgD** Soil Classification Text

Note:  
Boundaries are approximate and may be subject to change



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



**Soil Classifications:**  
 BgD - Balon gravelly sandy clay loam, 5 to 30 percent slopes  
 Ly - Lynx soils  
 MgD - Moano gravelly loam, 0 to 30 percent slopes  
 MkF - Moano very rocky loam, 15 to 60 percent slopes  
 MoD - Moano extremely rocky loam, 15 to 30 percent slopes  
 SnD - Springerville-Cabezon complex, 3 to 30 percent slopes



**Figure 5-60 - Ambient Air Sampling Locations**  
 Remedial Investigation Report

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

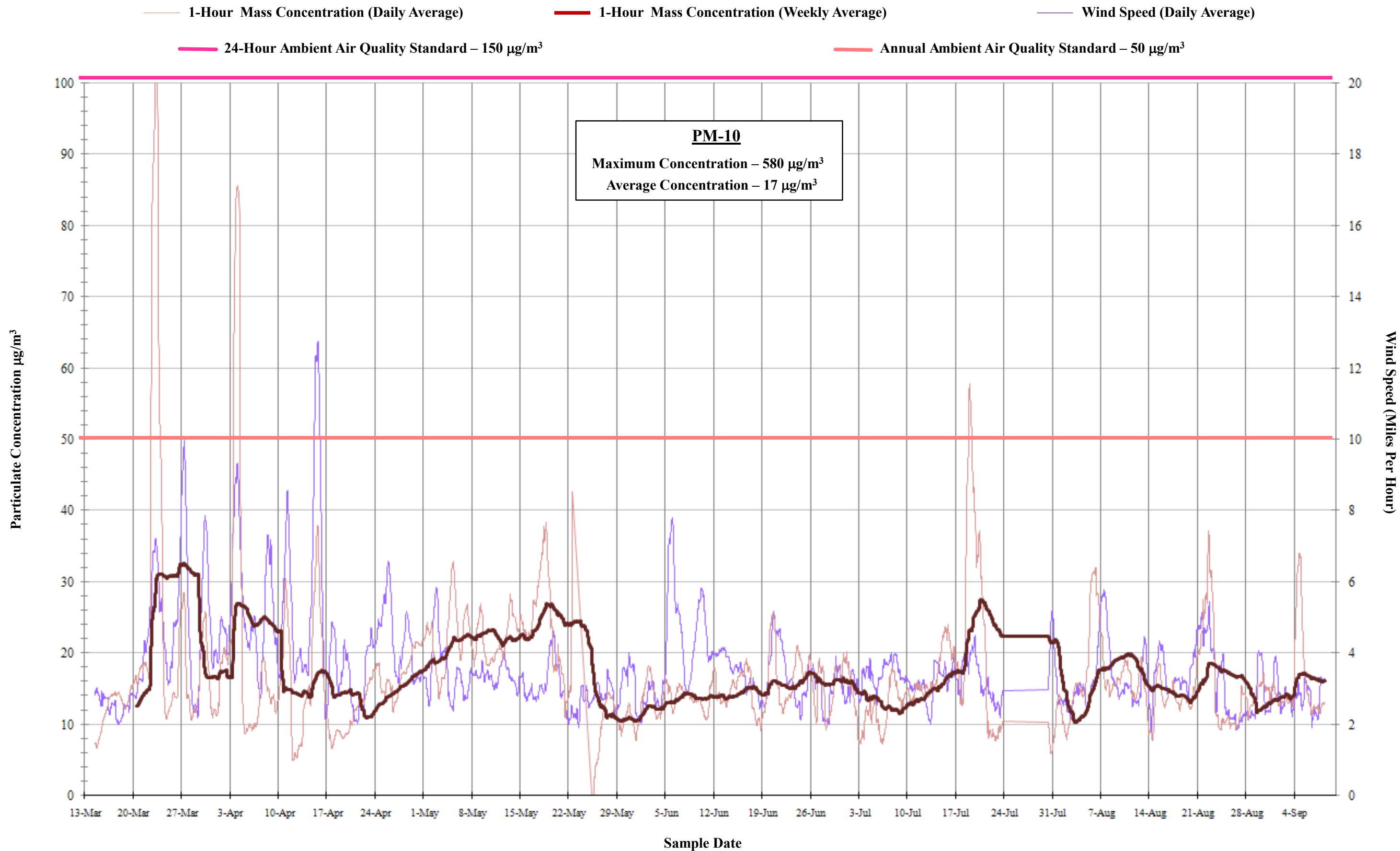


Figure 5-61 – Iron King Mine TEOM PM-10 Data  
Remedial Investigation Report

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

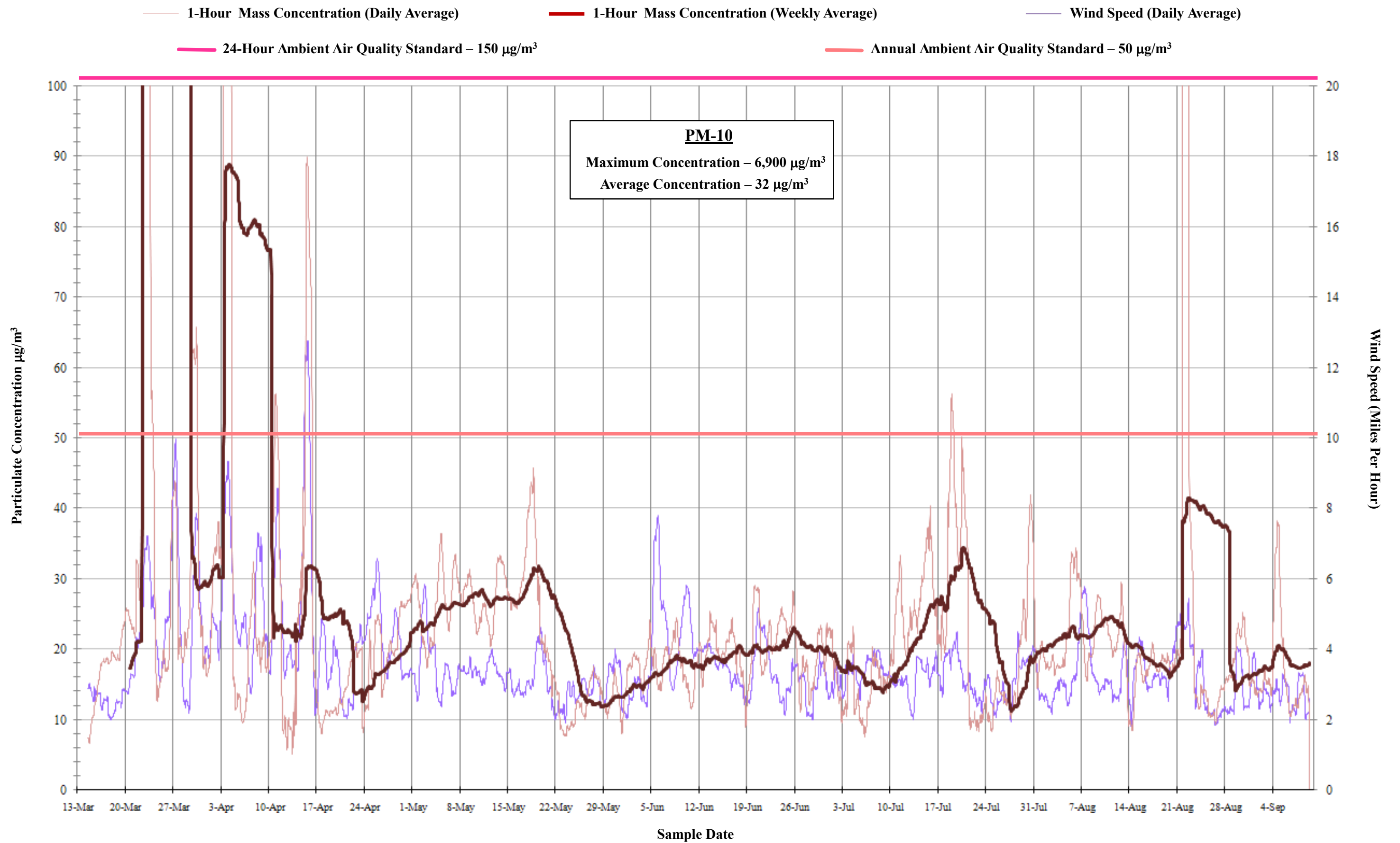


Figure 5-62 – Humboldt Smelter TEOM PM-10 Data  
 Remedial Investigation Report

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

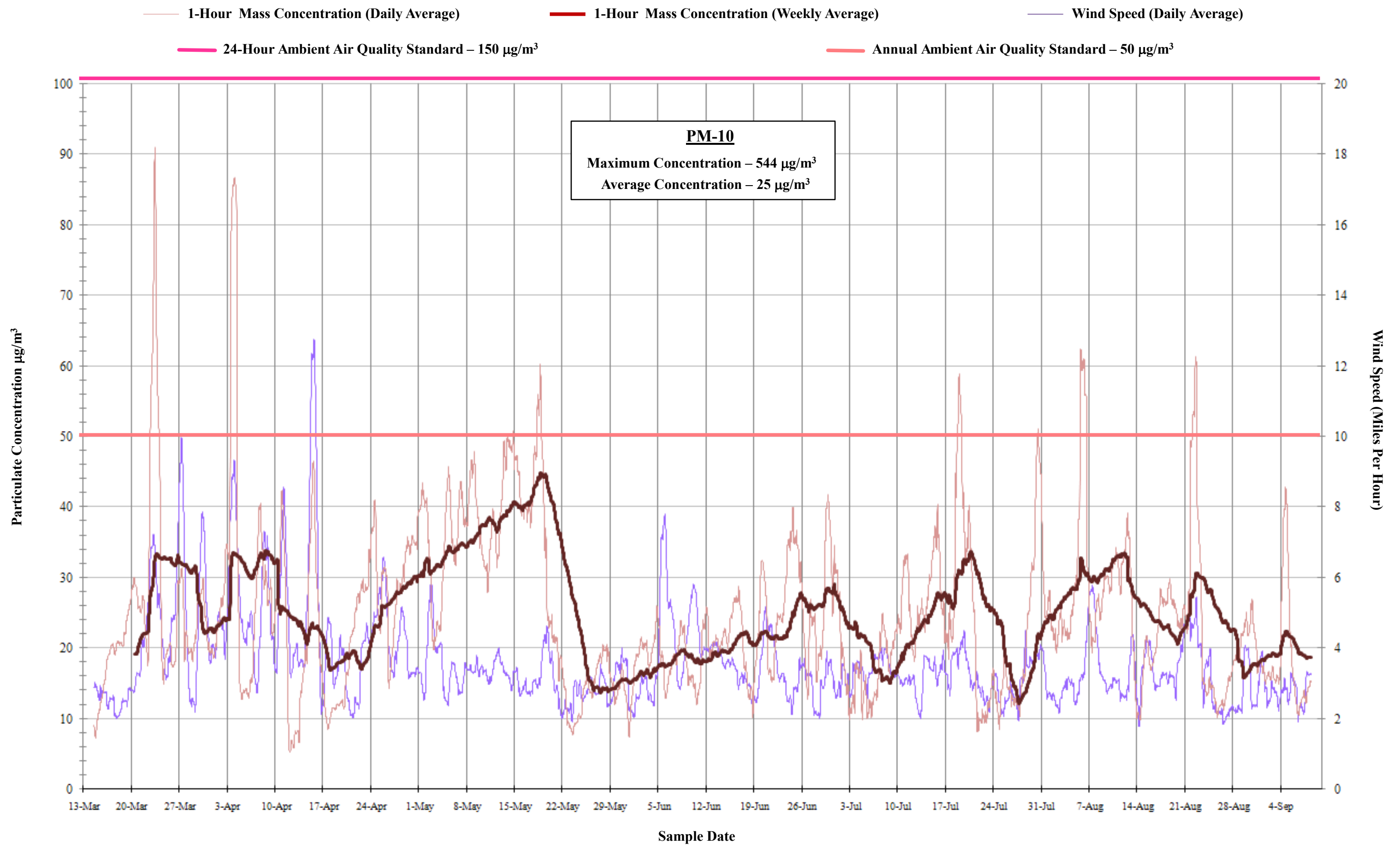
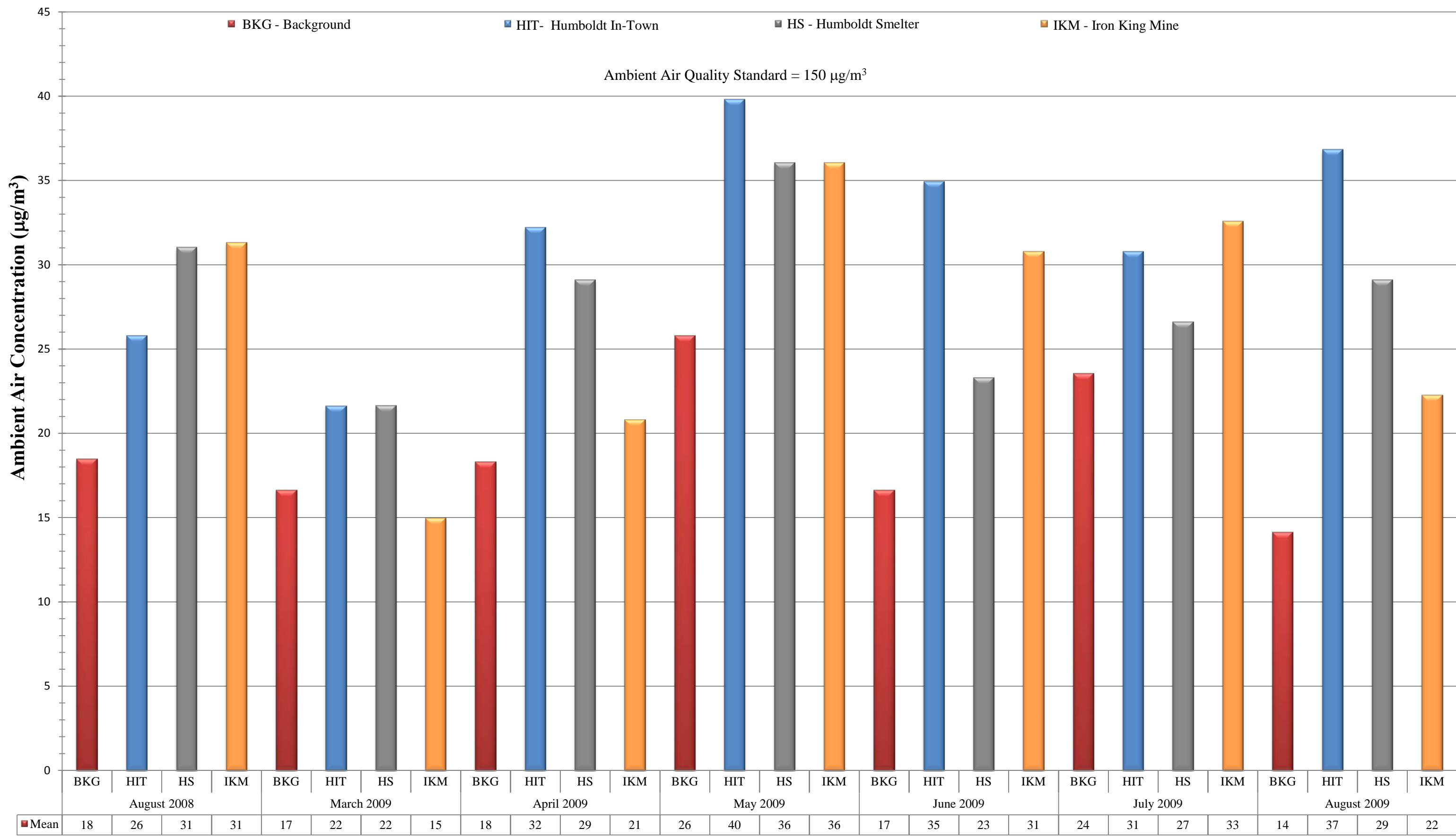


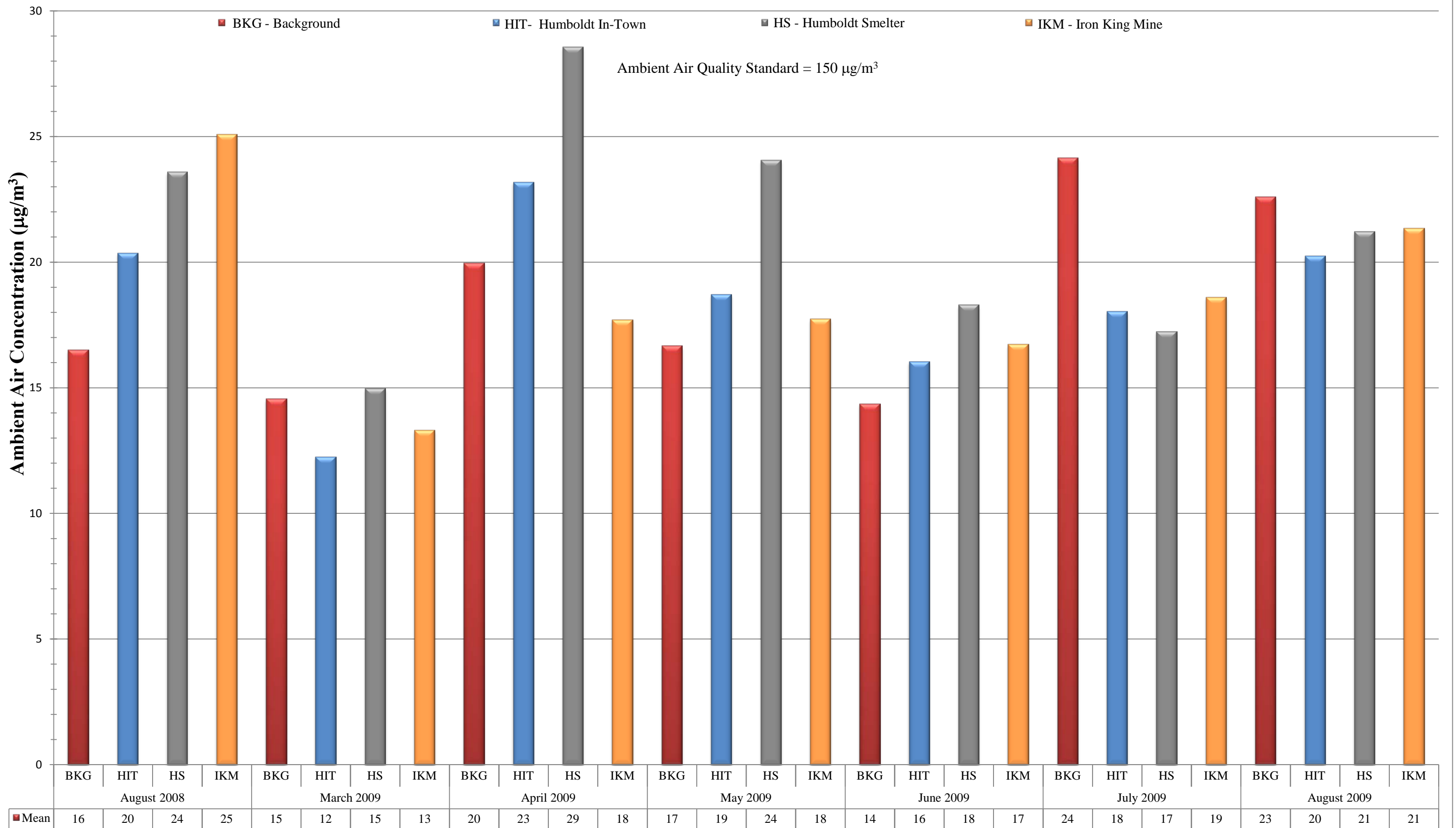
Figure 5-63 – Humboldt In-Town TEOM PM-10 Data  
 Remedial Investigation Report

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

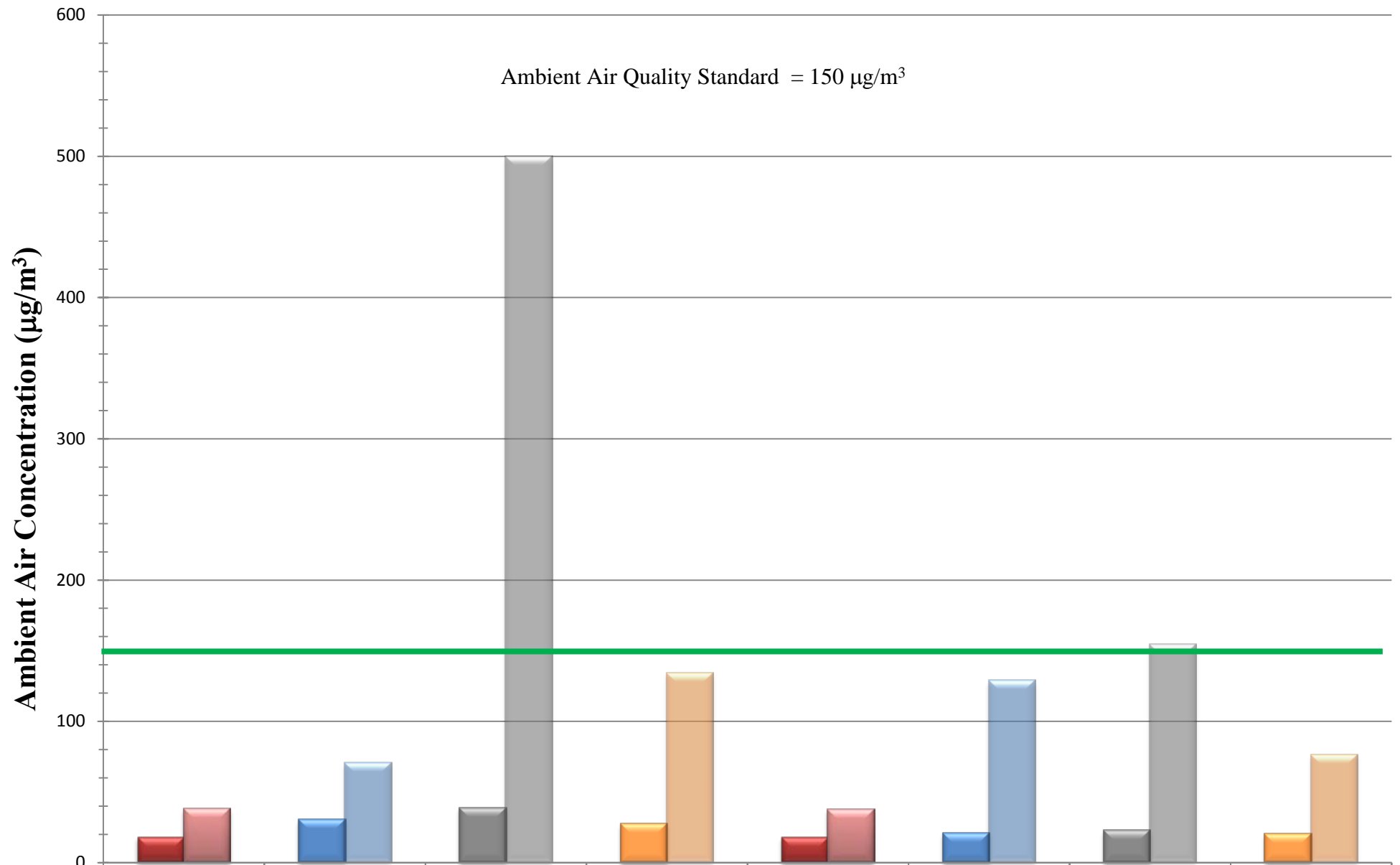
**Figure 5-64 - Ambient Air Concentrations  
Total Suspended Particulates**



**Figure 5-65 - Ambient Air Concentrations  
Particulate Matter < 10 Microns**



# Figure 5-66 - Particulate Ambient Air Concentrations

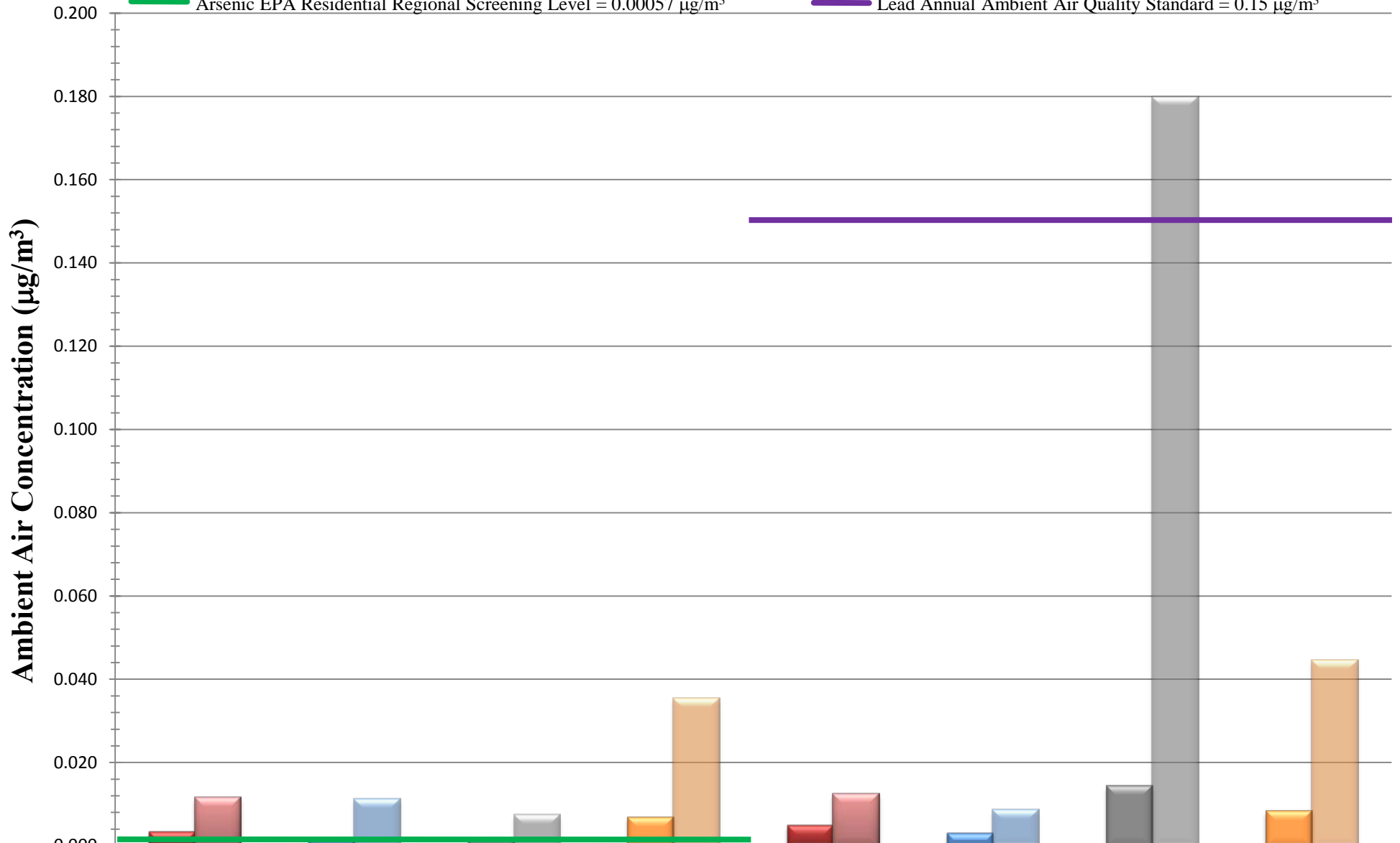


	Total Suspended Particulates				Particulate Matter < 10 Microns			
	Background	Humboldt - In Town	Humboldt Smelter	Iron King Mine	Background	Humboldt - In Town	Humboldt Smelter	Iron King Mine
■ Mean	18	30	39	28	18	21	23	20
■ Max	38	71	500	135	37	129	155	77

# Figure 5-67 - Arsenic and Lead Ambient Air Concentrations

Arsenic California EPA Reference Exposure Level = 0.19  $\mu\text{g}/\text{m}^3$   
 Arsenic EPA Residential Regional Screening Level = 0.00057  $\mu\text{g}/\text{m}^3$

Lead Temporary Emergency Exposure Limit = 50  $\mu\text{g}/\text{m}^3$   
 Lead Annual Ambient Air Quality Standard = 0.15  $\mu\text{g}/\text{m}^3$



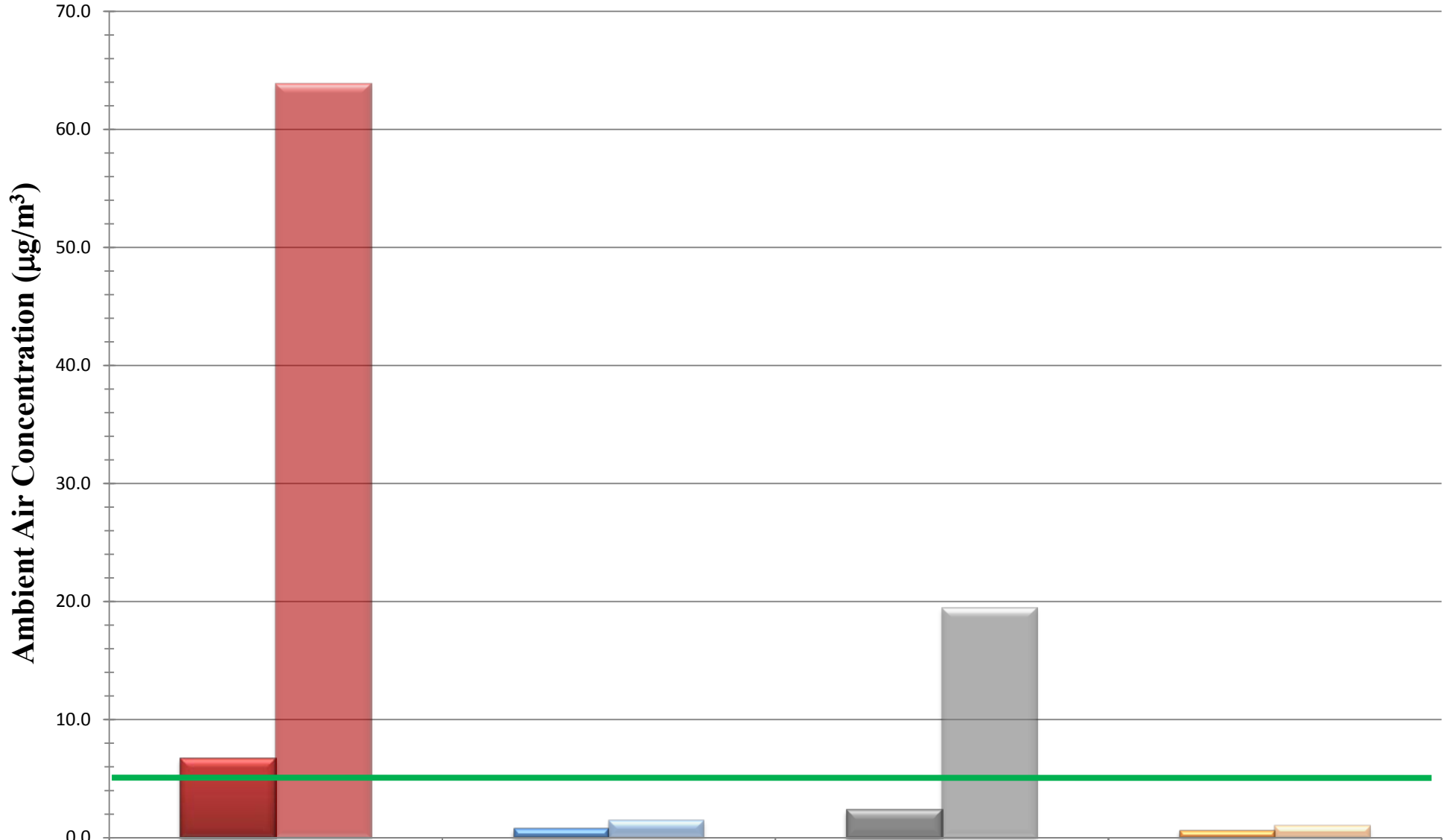
	Arsenic				Lead			
	Background	Humboldt - In Town	Humboldt Smelter	Iron King Mine	Background	Humboldt - In Town	Humboldt Smelter	Iron King Mine
■ Mean	0.0035	0.0018	0.0018	0.0069	0.0050	0.0030	0.014	0.008
■ Max	0.012	0.011	0.0075	0.035	0.012	0.0087	0.18	0.045



# Figure 5-68 - Aluminum Ambient Air Concentrations

Aluminum Temporary Emergency Exposure Limit = 10,000  $\mu\text{g}/\text{m}^3$

Aluminum EPA Residential Regional Screening Level = 5.2  $\mu\text{g}/\text{m}^3$



	Aluminum			
	Background	Humboldt - In Town	Humboldt Smelter	Iron King Mine
■ Mean	6.7	0.76	2.4	0.62
■ Max	64	1.5	19	1.0

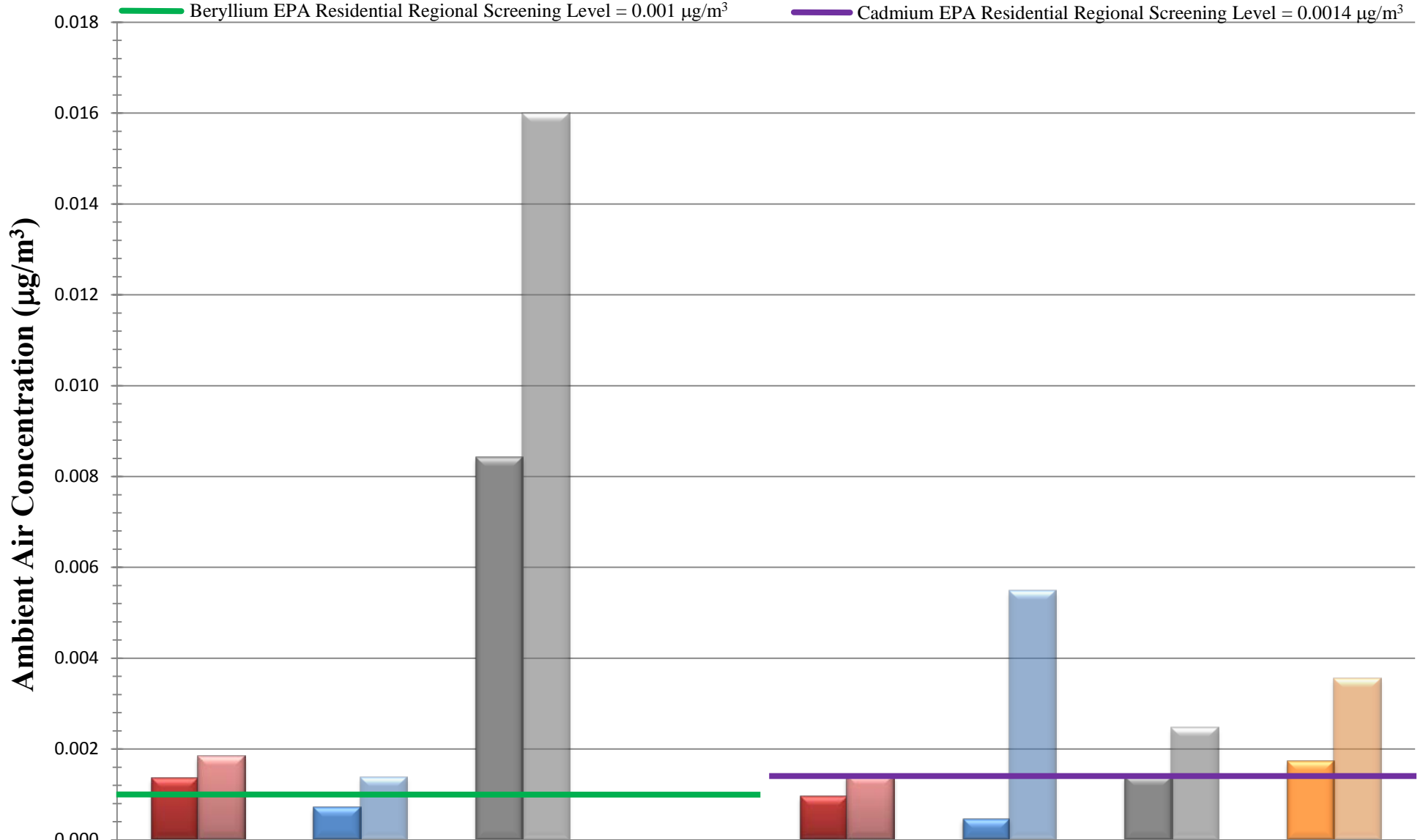
# Figure 5-69 - Beryllium and Cadmium Ambient Air Concentrations

Beryllium Emergency Response Planning Guidelines = 25  $\mu\text{g}/\text{m}^3$

Cadmium Temporary Emergency Exposure Limit = 5  $\mu\text{g}/\text{m}^3$

Beryllium EPA Residential Regional Screening Level = 0.001  $\mu\text{g}/\text{m}^3$

Cadmium EPA Residential Regional Screening Level = 0.0014  $\mu\text{g}/\text{m}^3$

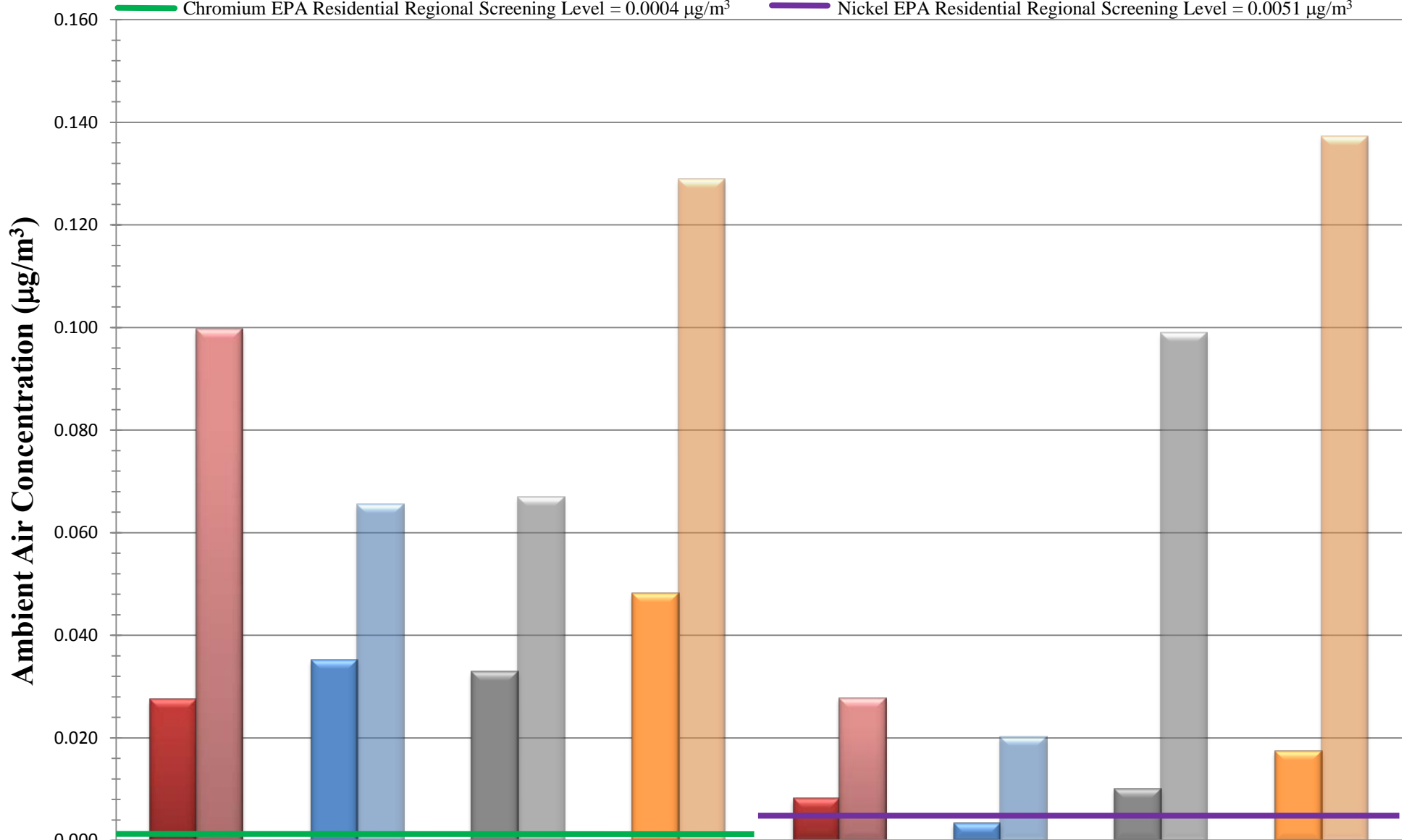


	Beryllium				Cadmium			
	Background	Humboldt - In Town	Humboldt Smelter	Iron King Mine	Background	Humboldt - In Town	Humboldt Smelter	Iron King Mine
Mean	0.0014	0.00071	0.0084		0.0010	0.00046	0.0014	0.0017
Max	0.0018	0.0014	0.0160		0.0014	0.0055	0.0025	0.0036

# Figure 5-70 - Chromium and Nickel Ambient Air Concentrations

Chromium Temporary Emergency Exposure Limit = 1,000  $\mu\text{g}/\text{m}^3$   
 Chromium EPA Residential Regional Screening Level = 0.0004  $\mu\text{g}/\text{m}^3$

Nickel California EPA Reference Exposure Level = 6  $\mu\text{g}/\text{m}^3$   
 Nickel EPA Residential Regional Screening Level = 0.0051  $\mu\text{g}/\text{m}^3$



	Chromium				Nickel			
	Background	Humboldt - In Town	Humboldt Smelter	Iron King Mine	Background	Humboldt - In Town	Humboldt Smelter	Iron King Mine
Mean	0.028	0.035	0.033	0.048	0.0082	0.0034	0.010	0.017
Max	0.10	0.065	0.067	0.13	0.028	0.020	0.10	0.14