

Appendix N

Air Monitoring Data

Appendix N

Air Monitoring Data

Contents

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 (ug/m ³) | Exposure Time (hour) |
|---------------------|---------------------------------|--------------------------------|----------------------------|--------------------------------|----------------------------|-------------------|--|---------------------|---------------------------|--------------------------------|--|----------------------------|--|---|---|----------------------|
| PARTICULATES | | | | | | | | | | | | | | | | |
| PM-10 | PARTICULATE MATTER < 10 MICRONS | 4.16E+00 | | 7.67E+01 | | µg/m ³ | AIK-02-TEOM | 78 / 78 | - | 2.03E+01 | | | 1.50E+02 | | | |
| TSP | TOTAL SUSPENDED PARTICULATE | 4.16E+00 | | 1.35E+02 | | µg/m ³ | AIK-01 | 52 / 52 | - | 2.76E+01 | | | 1.50E+02 | | | |
| METALS | | | | | | | | | | | | | | | | |
| 7429-90-5 | ALUMINUM | 8.73E-02 | J | 1.01E+00 | J | µg/m ³ | AIK-01 | 11 / 87 | 0.1073 - 4.6128 | 6.20E-01 | 5.20E+00 | | | | 1.00E+04 | 0.25 ¹ |
| 7440-36-0 | ANTIMONY | 1.57E-02 | J | 2.07E-02 | J | µg/m ³ | 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 ³ | AIK-01 | 28 / 87 | 0.0001 - 0.0476 | 6.90E-03 | 5.70E-04 | 6.20E+01 | | | 1.90E-01 | 4 ² |
| 7440-39-3 | BARIUM | 1.08E-03 | J | 6.02E-02 | J | µg/m ³ | AIK-01 | 6 / 87 | 0 - 0.1835 | 2.96E-02 | 5.20E-01 | | | | 5.00E+02 | 0.25 ¹ |
| 7440-43-9 | CADMIUM | 6.65E-05 | J | 3.56E-03 | J | µg/m ³ | AIK-02 | 11 / 87 | 0 - 0.0036 | 1.39E-03 | 1.40E-03 | 2.54E+00 | | | 5.00E+00 | 0.25 ¹ |
| 7440-70-2 | CALCIUM | 2.01E-01 | J | 2.83E+00 | J | µg/m ³ | AIK-01A | 13 / 87 | 0.0052 - 4.0432 | 8.88E-01 | | | | | 1.00E+04 | 0.25 ¹ |
| 7440-47-3 | CHROMIUM | 3.66E-03 | J | 1.29E-01 | J | µg/m ³ | AIK-02 | 7 / 87 | 0.0022 - 0.0745 | 4.82E-02 | 2.00E-04 | 6.45E+02 | | | 1.00E+03 | 0.25 ¹ |
| 7440-50-8 | COPPER | 4.93E-04 | J | 1.83E-01 | J | µg/m ³ | AIK-02 | 40 / 87 | 0.0008 - 0.0199 | 1.70E-02 | | | | | 1.00E+02 | 1 ² |
| 7439-89-6 | IRON | 1.32E-01 | J | 6.14E+00 | J | µg/m ³ | AIK-01 | 39 / 87 | 0.0956 - 1.5851 | 9.57E-01 | | | | | 1.50E+03 | 0.25 ¹ |
| 7439-92-1 | LEAD | 1.56E-03 | J | 4.47E-02 | J | µg/m ³ | AIK-01 | 31 / 87 | 0.0002 - 0.096 | 8.33E-03 | | | 1.50E-01 | | 5.00E+01 | 0.25 ¹ |
| 7439-97-6 | MERCURY | 5.80E-04 | J | 1.12E-03 | J | µg/m ³ | AIK-01 | 2 / 63 | 0.0002 - 0.0007 | 8.50E-04 | 3.10E-01 | | | | 1.80E+00 | 1 ² |
| 7440-02-0 | NICKEL | 1.54E-04 | J | 1.37E-01 | J | µg/m ³ | AIK-02 | 14 / 87 | 0 - 0.0431 | 1.75E-02 | 5.10E-03 | 2.69E+01 | | | 6.00E+00 | 1 ² |
| 7782-49-2 | SELENIUM | 2.45E-04 | J | 2.22E-02 | J | µg/m ³ | AIK-02 | 14 / 87 | 0.0001 - 0.0354 | 5.30E-03 | | | | | 2.00E+02 | 0.25 ¹ |
| 7440-22-4 | SILVER | 5.82E-05 | J | 7.31E-03 | J | µg/m ³ | AIK-02 | 4 / 87 | 0 - 0.0104 | 2.54E-03 | | | | | 1.00E+01 | 0.25 ¹ |
| 7440-23-5 | SODIUM | 7.79E-02 | J | 3.66E+00 | J | µg/m ³ | AIK-01 | 22 / 87 | 0.0129 - 1.997 | 7.35E-01 | | | | | 5.00E+02 | 0.25 ¹ |
| 7440-66-6 | ZINC | 3.30E-03 | J | 9.15E-02 | J | µg/m ³ | AIK-02 | 13 / 87 | 0.0001 - 0.2862 | 3.57E-02 | | | | | 1.00E+04 | 0.25 ¹ |

Notes:

EPA = Environmental Protection Agency.

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

µg/m³ = Micrograms per cubic meter.

The EPA Industrial Regional Screening Level is 0.0029 µg/m³ for arsenic.

¹ 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.

² 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/m³) | Exposure Time (hour) |
|---------------------|---------------------------------|--------------------------------|----------------------------|--------------------------------|----------------------------|-------|--|---------------------|---------------------------|--------------------------------|--|----------------------------|--|---|--|----------------------|
| PARTICULATES | | | | | | | | | | | | | | | | |
| PM-10 | PARTICULATE MATTER < 10 MICRONS | 4.16E+00 | | 3.74E+01 | | µg/m³ | ABG-01 | 35 / 35 | - | 1.82E+01 | | | 1.50E+02 | | | |
| TSP | TOTAL SUSPENDED PARTICULATE | 4.16E+00 | | 3.82E+01 | | µg/m³ | AHS-01 | 32 / 32 | - | 1.80E+01 | | | 1.50E+02 | | | |
| METALS | | | | | | | | | | | | | | | | |
| 7429-90-5 | ALUMINUM | 9.57E-02 | J | 6.39E+01 | | µg/m³ | AHS-01 | 9 / 42 | 0.1206 - 3.3961 | 6.72E+00 | 5.20E+00 | 1.23E+01 | | | 1.00E+04 | 0.25 ¹ |
| 7440-36-0 | ANTIMONY | 3.37E-03 | J | 4.54E-02 | J | µg/m³ | 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/m³ | ABG-01 | 8 / 42 | 0.0001 - 0.042 | 3.47E-03 | 5.70E-04 | 2.04E+01 | | | 1.90E-01 | 4 ² |
| 7440-39-3 | BARIUM | 1.37E-03 | J | 1.14E-01 | J | µg/m³ | AHS-01 | 5 / 42 | 0.0071 - 0.0797 | 5.02E-02 | 5.20E-01 | | | | 5.00E+02 | 0.25 ¹ |
| 7440-41-7 | BERYLLIUM | 8.73E-04 | J | 1.84E-03 | J | µg/m³ | AHS-01 | 2 / 42 | 0 - 0.0037 | 1.36E-03 | 1.00E-03 | 1.84E+00 | | | 2.50E+01 | 1 ³ |
| 7440-43-9 | CADMIUM | 1.16E-04 | J | 1.41E-03 | J | µg/m³ | ABG-01 | 3 / 42 | 0.0001 - 0.0037 | 4.63E-04 | 1.40E-03 | 1.01E+00 | | | 5.00E+00 | 0.25 ¹ |
| 7440-70-2 | CALCIUM | 3.58E-02 | J | 1.19E+00 | J | µg/m³ | ABG-01 | 5 / 42 | 0.01 - 66.2722 | 5.78E-01 | | | | | 1.00E+04 | 0.25 ¹ |
| 7440-47-3 | CHROMIUM | 2.83E-03 | J | 9.97E-02 | J | µg/m³ | AHS-01 | 4 / 42 | 0.0026 - 0.2105 | 2.76E-02 | 2.00E-04 | 4.99E+02 | | | 1.00E+03 | 0.25 ¹ |
| 7440-50-8 | COPPER | 7.07E-04 | J | 2.50E-02 | J | µg/m³ | AHS-01 | 15 / 42 | 0.0003 - 0.1321 | 5.60E-03 | | | | | 1.00E+02 | 1 ² |
| 7439-89-6 | IRON | 1.29E-01 | J | 2.57E+01 | | µg/m³ | AHS-01 | 21 / 42 | 0.0598 - 1.0104 | 1.53E+00 | | | | | 1.50E+03 | 0.25 ¹ |
| 7439-92-1 | LEAD | 6.24E-04 | J | 1.25E-02 | J | µg/m³ | ABG-01 | 10 / 42 | 0.0009 - 0.019 | 4.98E-03 | | | 1.50E-01 | | 5.00E+01 | 0.25 ¹ |
| 7440-02-0 | NICKEL | 3.49E-04 | J | 2.77E-02 | J | µg/m³ | AHS-01 | 7 / 42 | 0 - 0.0444 | 8.25E-03 | 5.10E-03 | 5.44E+00 | | | 6.00E+00 | 1 ² |
| 7782-49-2 | SELENIUM | 6.66E-04 | J | 1.25E-02 | J | µg/m³ | ABG-01 | 4 / 42 | 0.0001 - 0.0607 | 5.32E-03 | | | | | 2.00E+02 | 0.25 ¹ |
| 7440-22-4 | SILVER | 4.99E-04 | J | 2.00E-02 | | µg/m³ | ABG-01 | 2 / 42 | 0 - 0.0131 | 1.02E-02 | | | | | 1.00E+01 | 0.25 ¹ |
| 7440-23-5 | SODIUM | 3.66E-02 | J | 1.90E+00 | J | µg/m³ | AHS-01 | 13 / 42 | 0.0129 - 0.9911 | 4.02E-01 | | | | | 5.00E+02 | 0.25 ¹ |
| 7440-66-6 | ZINC | 2.49E-03 | J | 2.04E-02 | J | µg/m³ | ABG-01 | 3 / 42 | 0.0001 - 0.1754 | 1.08E-02 | | | | | 1.00E+04 | 0.25 ¹ |

Notes:

EPA = Environmental Protection Agency.

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

µg/m³ = Micrograms per cubic meter.

The EPA Industrial Regional Screening Level is 0.0029 µg/m³ for arsenic.

¹ 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.

² 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.

³ 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 Concentraion | 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 ³) | Exposure Time (hour) |
|---------------------|---------------------------------|--------------------------------|----------------------------|--------------------------------|----------------------------|-------------------|---|---------------------|---------------------------|--------------------------------|--|----------------------------|--|---|---|----------------------|
| PARTICULATES | | | | | | | | | | | | | | | | |
| PM-10 | PARTICULATE MATTER < 10 MICRONS | 4.16E+00 | | 1.55E+02 | | µg/m ³ | 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 ³ | AHS-02 | 43 / 43 | - | 3.88E+01 | | | 1.50E+02 | 3.33E+00 | | |
| METALS | | | | | | | | | | | | | | | | |
| 7429-90-5 | ALUMINUM | 1.22E-01 | J | 1.95E+01 | | µg/m ³ | AHS-02-TEOM | 34 / 73 | 0.1498 - 10.0304 | 2.38E+00 | 5.20E+00 | 3.75E+00 | | | 1.00E+04 | 0.25 ¹ |
| 7440-36-0 | ANTIMONY | 1.62E-02 | J | 2.40E-02 | J | µg/m ³ | 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 ³ | AHS-02 | 19 / 73 | 0.0001 - 0.25 | 1.81E-03 | 5.70E-04 | 1.31E+01 | | | 1.90E-01 | 4 ² |
| 7440-39-3 | BARIUM | 2.37E-03 | J | 1.04E-01 | J | µg/m ³ | AHS-03 | 4 / 73 | 0 - 0.23 | 5.39E-02 | 5.20E-01 | | | | 5.00E+02 | 0.25 ¹ |
| 7440-41-7 | BERYLLIUM | 8.51E-04 | J | 1.60E-02 | J | µg/m ³ | AHS-02 | 2 / 73 | 0 - 0.0047 | 8.43E-03 | 1.00E-03 | 1.60E+01 | | | 2.50E+01 | 1 ³ |
| 7440-43-9 | CADMIUM | 5.32E-05 | J | 2.47E-03 | J | µg/m ³ | AHS-02-TEOM | 9 / 73 | 0 - 0.052 | 9.61E-04 | 1.40E-03 | 1.77E+00 | | | 5.00E+00 | 0.25 ¹ |
| 7440-70-2 | CALCIUM | 1.70E-01 | J | 8.70E+00 | J | µg/m ³ | AHS-02 | 11 / 73 | 0.0032 - 2.6597 | 1.35E+00 | | | | | 1.00E+04 | 0.25 ¹ |
| 7440-47-3 | CHROMIUM | 9.99E-03 | J | 6.70E-02 | J | µg/m ³ | AHS-03 | 3 / 73 | 0.0016 - 0.087 | 3.29E-02 | | 2.00E-04 | 3.35E+02 | | 1.00E+03 | 0.25 ¹ |
| 7440-50-8 | COPPER | 1.25E-03 | J | 8.81E-01 | | µg/m ³ | AHS-02-TEOM | 51 / 73 | 0.0013 - 0.0608 | 4.58E-02 | | | | | 1.00E+02 | 1 ² |
| 7439-89-6 | IRON | 1.35E-01 | J | 2.27E+01 | | µg/m ³ | AHS-02 | 36 / 73 | 0.1235 - 1.1085 | 1.30E+00 | | | | | 1.50E+03 | 0.25 ¹ |
| 7439-92-1 | LEAD | 8.71E-04 | J | 1.80E-01 | J | µg/m ³ | AHS-02 | 30 / 73 | 0.001 - 0.0505 | 1.44E-02 | | | 1.50E-01 | 1.20E+00 | 5.00E+01 | 0.25 ¹ |
| 7440-02-0 | NICKEL | 5.82E-05 | J | 9.90E-02 | J | µg/m ³ | AHS-02-TEOM | 22 / 73 | 0 - 0.2062 | 1.01E-02 | 5.10E-03 | 1.94E+01 | | | 6.00E+00 | 1 ² |
| 7782-49-2 | SELENIUM | 2.93E-04 | J | 1.41E-02 | J | µg/m ³ | AHS-02 | 11 / 73 | 0 - 0.15 | 2.90E-03 | | | | | 2.00E+02 | 0.25 ¹ |
| 7440-22-4 | SILVER | 2.91E-05 | J | 1.10E-02 | J | µg/m ³ | AHS-02-TEOM | 8 / 73 | 0 - 0.044 | 2.27E-03 | | | | | 1.00E+01 | 0.25 ¹ |
| 7440-23-5 | SODIUM | 3.08E-02 | J | 2.31E+00 | J | µg/m ³ | AHS-02-TEOM | 21 / 73 | 0.0129 - 5.6 | 4.02E-01 | | | | | 5.00E+02 | 0.25 ¹ |
| 7440-66-6 | ZINC | 3.88E-03 | J | 5.41E-01 | | µg/m ³ | AHS-02-TEOM | 22 / 73 | 0.0002 - 0.52 | 6.47E-02 | | | | | 1.00E+04 | 0.25 ¹ |

Notes:

EPA = Environmental Protection Agency.

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

µg/m³ = Micrograms per cubic meter.

The EPA Industrial Regional Screening Level is 0.0029 µg/m³ for arsenic.

¹ 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.

² 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.

³ 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 Concentraion | 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/m³) | Exposure Time (hour) |
|---------------------|---------------------------------|--------------------------------|----------------------------|--------------------------------|----------------------------|-------|---|---------------------|---------------------------|--------------------------------|--|----------------------------|--|---|--|----------------------|
| PARTICULATES | | | | | | | | | | | | | | | | |
| PM-10 | PARTICULATE MATTER < 10 MICRONS | 6.20E+00 | | 1.29E+02 | | µg/m³ | AES-01 | 72 / 72 | - | 2.09E+01 | | | 1.50E+02 | | | |
| TSP | TOTAL SUSPENDED PARTICULATE | 8.32E+00 | | 7.07E+01 | | µg/m³ | AES-01 | 40 / 40 | - | 3.04E+01 | | | 1.50E+02 | | | |
| METALS | | | | | | | | | | | | | | | | |
| 7429-90-5 | ALUMINUM | 1.07E-01 | J | 1.51E+00 | J | µg/m³ | AES-01 | 26 / 75 | 0.1311 - 1.3978 | 7.59E-01 | 5.20E+00 | | | | 1.00E+04 | 0.25 ¹ |
| 7440-36-0 | ANTIMONY | 2.51E-02 | J | 2.76E-02 | J | µg/m³ | 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/m³ | AES-01 | 17 / 75 | 0.0001 - 0.0423 | 1.81E-03 | 5.70E-04 | 1.97E+01 | | | 1.90E-01 | 4 ² |
| 7440-39-3 | BARIUM | 4.16E-03 | J | 1.04E-01 | J | µg/m³ | AHS-02 | 4 / 75 | 0 - 0.1195 | 5.22E-02 | 5.20E-01 | | | | 5.00E+02 | 0.25 ¹ |
| 7440-41-7 | BERYLLIUM | 4.99E-05 | J | 1.38E-03 | | µg/m³ | AIK-03 | 3 / 75 | 0 - 0.0053 | 7.11E-04 | 1.00E-03 | 1.38E+00 | | | 2.50E+01 | 1 ³ |
| 7440-43-9 | CADMIUM | 5.76E-05 | J | 5.49E-03 | J | µg/m³ | AES-01-TEOM | 8 / 75 | 0 - 0.0066 | 1.74E-03 | 1.40E-03 | 3.92E+00 | | | 5.00E+00 | 0.25 ¹ |
| 7440-70-2 | CALCIUM | 1.67E-01 | J | 2.57E+00 | J | µg/m³ | AES-01 | 13 / 75 | 0.0026 - 2.6192 | 9.06E-01 | | | | | 1.00E+04 | 0.25 ¹ |
| 7440-47-3 | CHROMIUM | 6.24E-03 | J | 6.55E-02 | J | µg/m³ | AIK-03 | 5 / 75 | 0.0015 - 0.0678 | 3.52E-02 | 2.00E-04 | 3.27E+02 | | | 1.00E+03 | 0.25 ¹ |
| 7440-50-8 | COPPER | 1.16E-03 | J | 1.89E-01 | J | µg/m³ | AHS-02 | 44 / 75 | 0.0011 - 0.0244 | 1.14E-02 | | | | | 1.00E+02 | 1 ² |
| 7439-89-6 | IRON | 1.23E-01 | J | 2.25E+00 | J | µg/m³ | AES-01 | 43 / 75 | 0.038 - 1.2809 | 7.63E-01 | | | | | 1.50E+03 | 0.25 ¹ |
| 7439-92-1 | LEAD | 7.73E-04 | J | 8.73E-03 | J | µg/m³ | AES-01 | 18 / 75 | 0.0008 - 0.0236 | 3.03E-03 | | | 1.50E-01 | | 5.00E+01 | 0.25 ¹ |
| 7439-97-6 | MERCURY | 1.11E-03 | J | 1.11E-03 | J | µg/m³ | AHS-02 | 1 / 49 | 0.0001 - 0.0047 | 1.11E-03 | 3.10E-01 | | | | 1.80E+00 | 1 ² |
| 7440-02-0 | NICKEL | 9.67E-05 | J | 2.03E-02 | J | µg/m³ | AHS-02 | 21 / 75 | 0 - 0.0339 | 3.41E-03 | 5.10E-03 | 3.97E+00 | | | 6.00E+00 | 1 ² |
| 7782-49-2 | SELENIUM | 2.32E-04 | J | 1.33E-02 | J | µg/m³ | AES-01 | 9 / 75 | 0 - 0.0533 | 3.52E-03 | | | | | 2.00E+02 | 0.25 ¹ |
| 7440-22-4 | SILVER | 4.11E-06 | J | 2.13E-02 | J | µg/m³ | AES-01-TEOM | 6 / 75 | 0 - 0.0113 | 1.03E-02 | | | | | 1.00E+01 | 0.25 ¹ |
| 7440-23-5 | SODIUM | 1.83E-02 | J | 2.46E+00 | J | µg/m³ | AIK-03 | 22 / 75 | 0.0129 - 2.1182 | 3.86E-01 | | | | | 5.00E+02 | 0.25 ¹ |
| 7440-66-6 | ZINC | 5.29E-03 | J | 3.26E-02 | J | µg/m³ | AES-01-TEOM | 15 / 75 | 0.0001 - 0.054 | 1.30E-02 | | | | | 1.00E+04 | 0.25 ² |

Notes:

EPA = Environmental Protection Agency.

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

µg/m³ = Micrograms per cubic meter.

The EPA Industrial Regional Screening Level is 0.0029 µg/m³ for arsenic.

¹ 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.

² 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.

³ 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 Concentraion | 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/m³) | Exposure Time (hour) |
|---------------------|---------------------------------|--------------------------------|----------------------------|--------------------------------|----------------------------|-------|---|---------------------|---------------------------|--------------------------------|--|----------------------------|--|---|--|----------------------|
| PARTICULATES | | | | | | | | | | | | | | | | |
| PM-10 | PARTICULATE MATTER < 10 MICRONS | 4.16E+00 | | 1.55E+02 | | µg/m³ | 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/m³ | AHS-02 | 167 / 167 | - | 2.89E+01 | | | 1.50E+02 | 3.33E+00 | | |
| METALS | | | | | | | | | | | | | | | | |
| 7429-90-5 | ALUMINUM | 8.73E-02 | J | 6.39E+01 | | µg/m³ | AHS-01 | 80 / 277 | 0.1073 - 10.0304 | 2.12E+00 | 5.20E+00 | 1.23E+01 | | | 1.00E+04 | 0.25 ¹ |
| 7440-36-0 | ANTIMONY | 3.37E-03 | J | 4.54E-02 | J | µg/m³ | 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/m³ | AIK-01 | 72 / 277 | 0.0001 - 0.25 | 3.87E-03 | 5.70E-04 | 6.20E+01 | | | 1.90E-01 | 4 ² |
| 7440-39-3 | BARIUM | 1.08E-03 | J | 1.14E-01 | J | µg/m³ | AHS-01 | 19 / 277 | 0 - 0.23 | 4.53E-02 | 5.20E-01 | | | | 5.00E+02 | 0.25 ¹ |
| 7440-41-7 | BERYLLIUM | 4.99E-05 | J | 1.60E-02 | J | µg/m³ | AHS-02 | 7 / 277 | 0 - 0.0061 | 3.10E-03 | 1.00E-03 | 1.60E+01 | | | 2.50E+01 | 1 ³ |
| 7440-43-9 | CADMIUM | 5.32E-05 | J | 5.49E-03 | J | µg/m³ | AES-01-TEOM | 31 / 277 | 0 - 0.052 | 1.26E-03 | 1.40E-03 | 3.92E+00 | | | 5.00E+00 | 0.25 ¹ |
| 7440-70-2 | CALCIUM | 3.58E-02 | J | 8.70E+00 | J | µg/m³ | AHS-02 | 42 / 277 | 0.0026 - 66.2722 | 9.54E-01 | | | | | 1.00E+04 | 0.25 ¹ |
| 7440-47-3 | CHROMIUM | 2.83E-03 | J | 1.29E-01 | | µg/m³ | AIK-02 | 19 / 277 | 0.0015 - 0.2105 | 3.80E-02 | 2.00E-04 | 6.45E+02 | | | 1.00E+03 | 0.25 ¹ |
| 7440-50-8 | COPPER | 4.93E-04 | J | 8.81E-01 | | µg/m³ | AHS-02-TEOM | 150 / 277 | 0.0003 - 0.1321 | 2.34E-02 | | | | | 1.00E+02 | 1 ² |
| 7439-89-6 | IRON | 1.23E-01 | J | 2.57E+01 | | µg/m³ | AHS-01 | 139 / 277 | 0.038 - 1.5851 | 1.07E+00 | | | | | 1.50E+03 | 0.25 ¹ |
| 7439-92-1 | LEAD | 6.24E-04 | J | 1.80E-01 | J | µg/m³ | AHS-02 | 89 / 277 | 0.0002 - 0.096 | 8.62E-03 | | | 1.50E-01 | 1.20E+00 | 5.00E+01 | 0.25 ¹ |
| 7439-97-6 | MERCURY | 5.80E-04 | J | 1.12E-03 | J | µg/m³ | AIK-01 | 3 / 202 | 0.0001 - 0.0047 | 9.36E-04 | 3.10E-01 | | | | 1.80E+00 | 1 ² |
| 7440-02-0 | NICKEL | 5.82E-05 | J | 1.37E-01 | | µg/m³ | AIK-02 | 64 / 277 | 0 - 0.2062 | 8.95E-03 | 5.10E-03 | 2.69E+01 | | | 6.00E+00 | 1 ² |
| 7782-49-2 | SELENIUM | 2.32E-04 | J | 2.22E-02 | J | µg/m³ | AIK-02 | 38 / 277 | 0 - 0.15 | 4.18E-03 | | | | | 2.00E+02 | 0.25 ¹ |
| 7440-22-4 | SILVER | 4.11E-06 | J | 2.13E-02 | J | µg/m³ | AES-01-TEOM | 20 / 277 | 0 - 0.044 | 5.76E-03 | | | | | 1.00E+01 | 0.25 ¹ |
| 7440-23-5 | SODIUM | 1.83E-02 | J | 3.66E+00 | J | µg/m³ | AIK-01 | 78 / 277 | 0.0129 - 5.6 | 4.85E-01 | | | | | 5.00E+02 | 0.25 ¹ |
| 7440-66-6 | ZINC | 2.49E-03 | J | 5.41E-01 | | µg/m³ | AHS-02-TEOM | 53 / 277 | 0.0001 - 0.52 | 3.89E-02 | | | | | 1.00E+04 | 0.25 ² |

Notes:

EPA = Environmental Protection Agency.

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

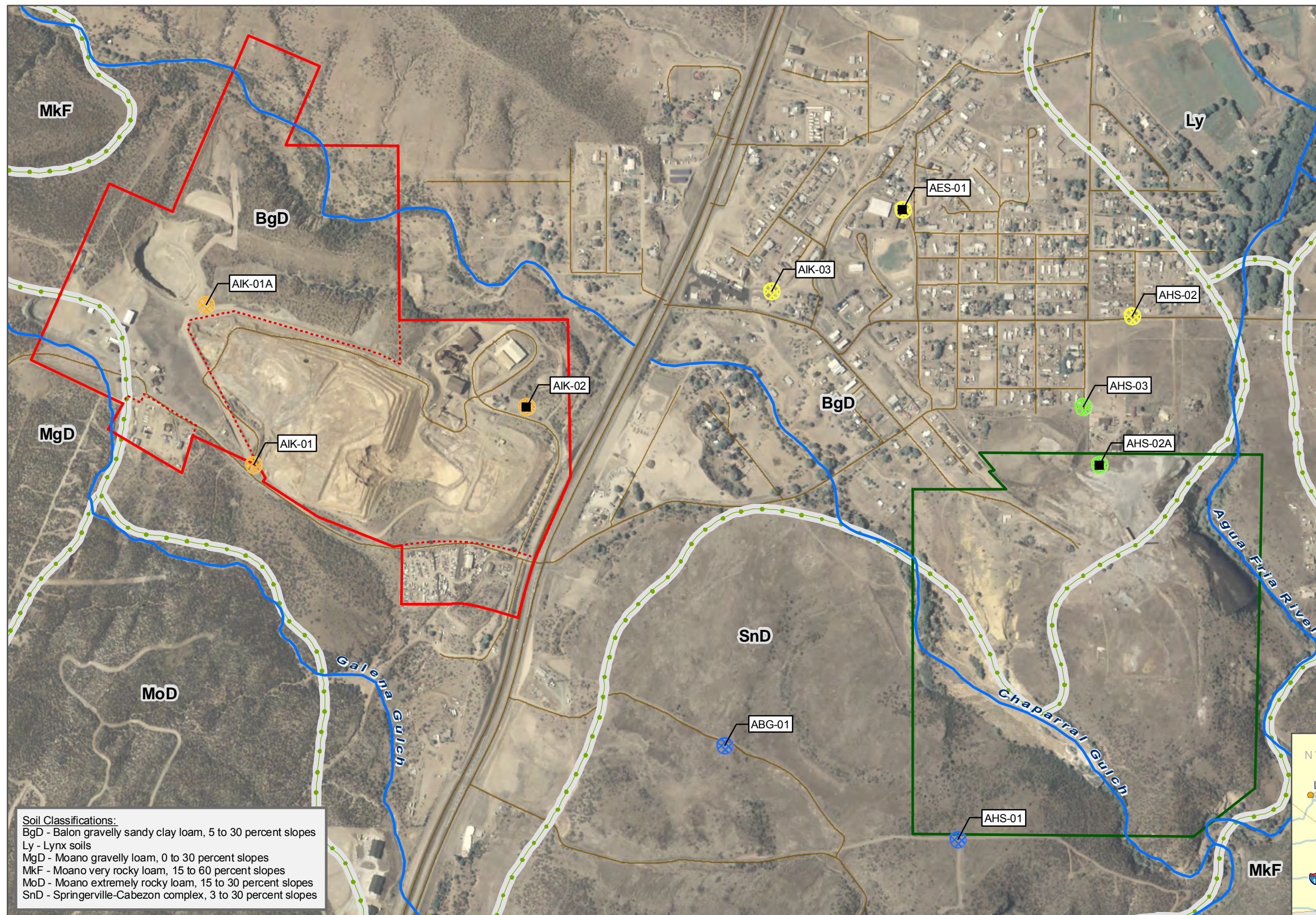
µg/m³ = Micrograms per cubic meter.

The EPA Industrial Regional Screening Level is 0.0029 µg/m³ for arsenic.

¹ 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.

² 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.

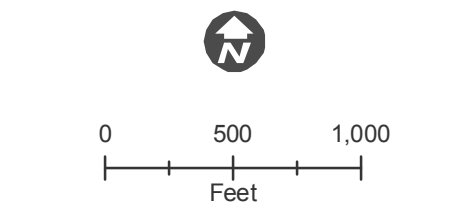
³ Emergency Response Planning Guidelines (ERPG): 1-hour exposure developed by by American Industrial Hygiene Association



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



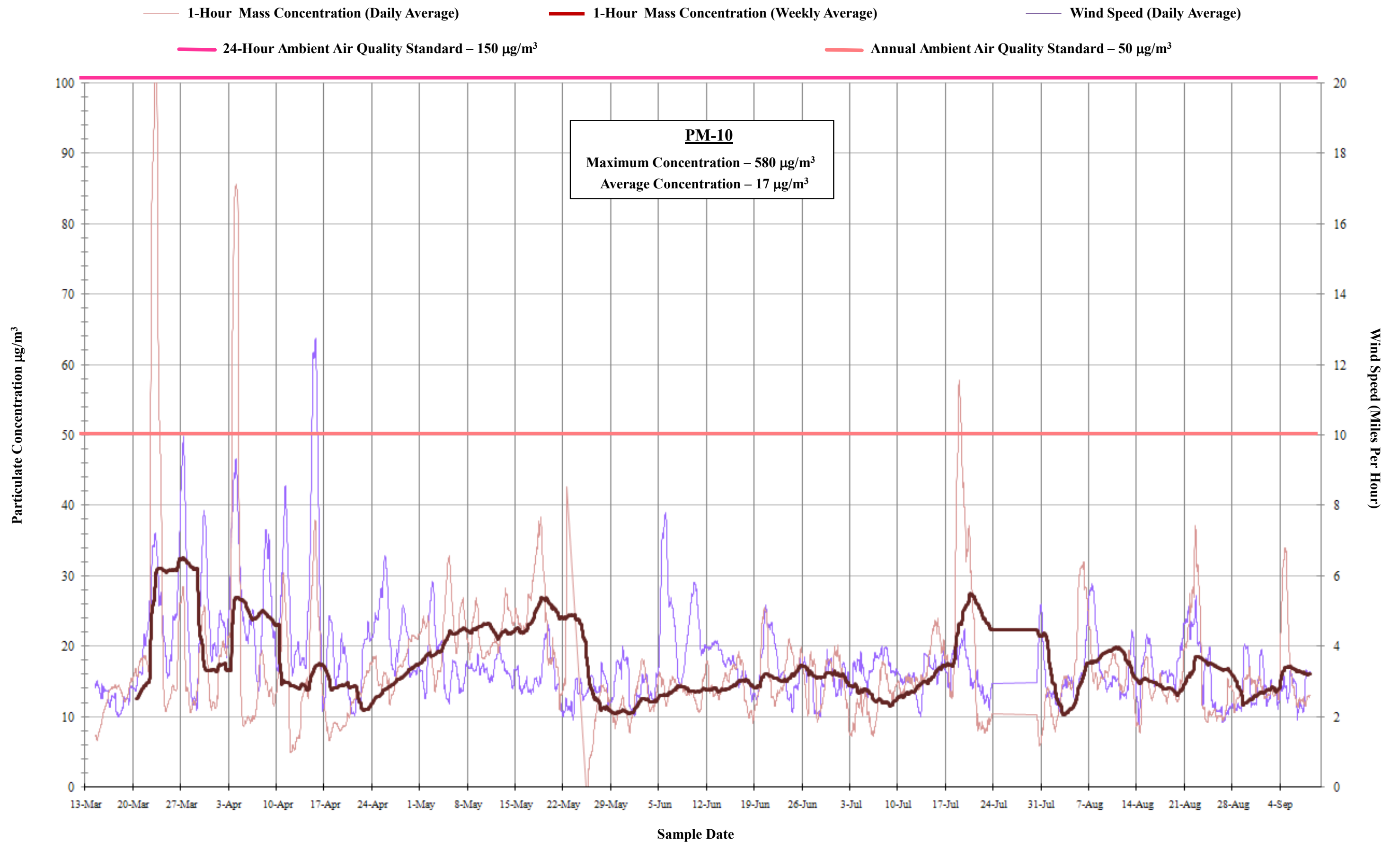


Figure 5-61 – Iron King Mine TEOM PM-10 Data
Remedial Investigation Report

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

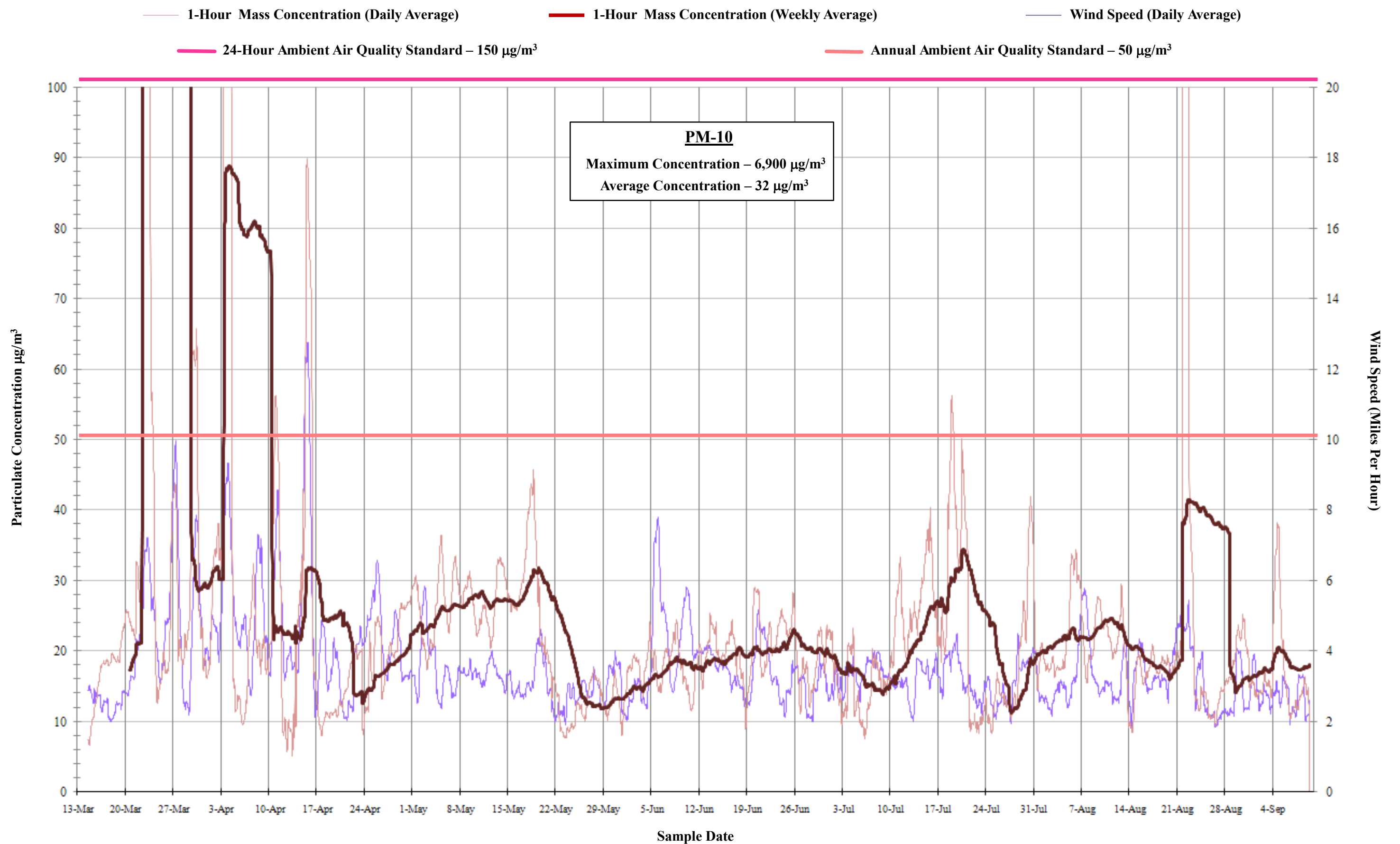


Figure 5-62 – Humboldt Smelter TEOM PM-10 Data
Remedial Investigation Report

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

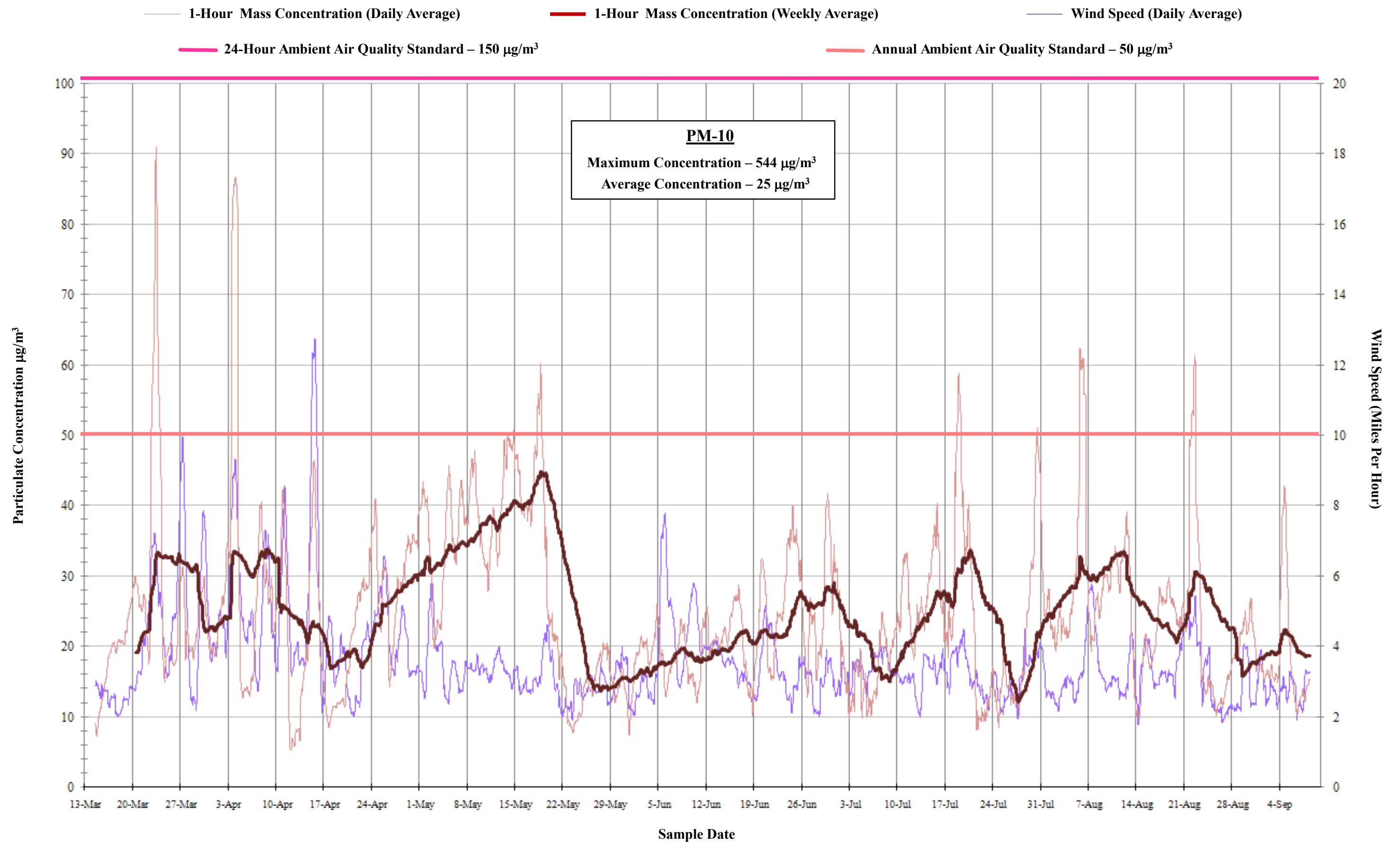


Figure 5-63 – Humboldt In-Town TEOM PM-10 Data
Remedial Investigation Report

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

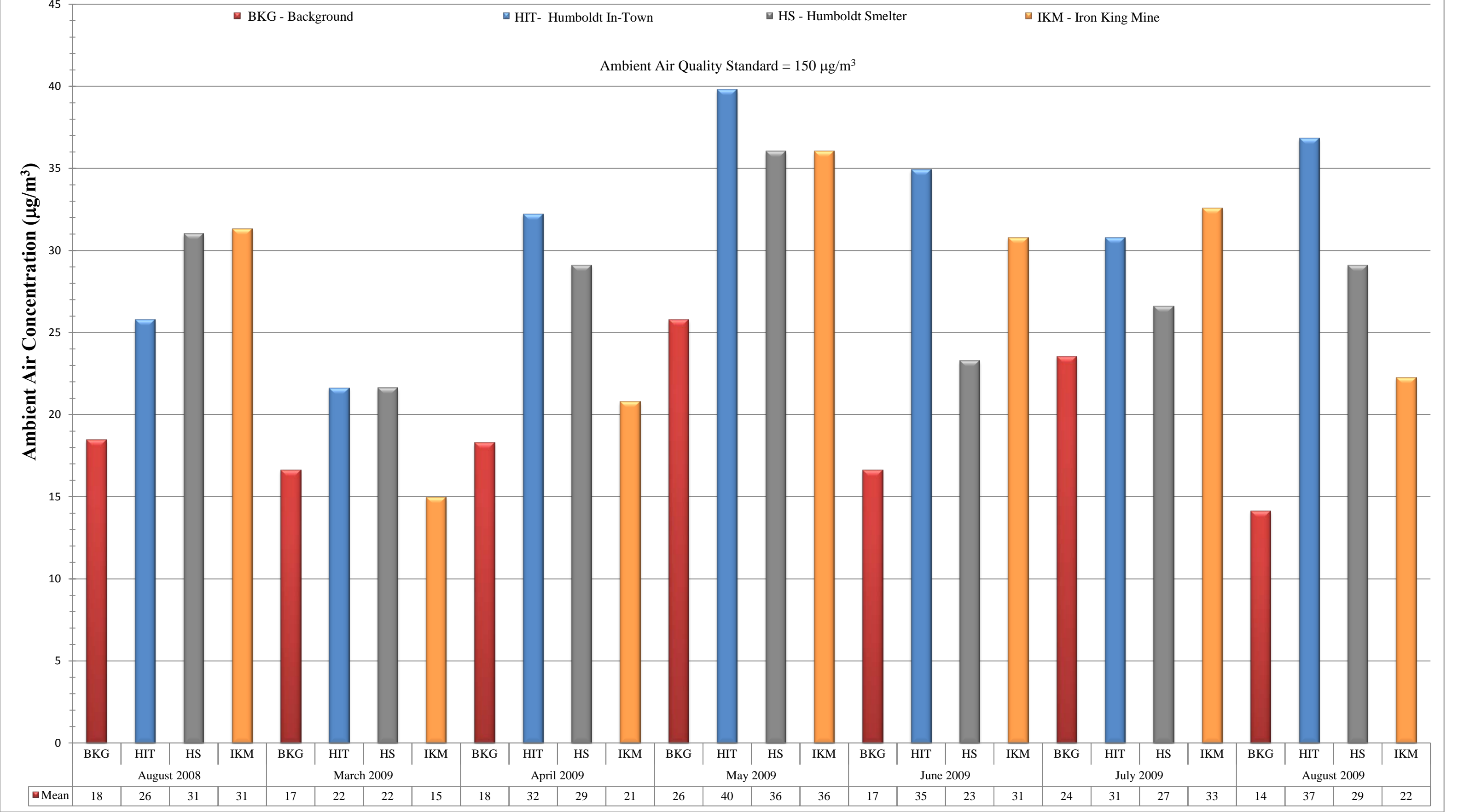


Figure 5-65 - Ambient Air Concentrations
Particulate Matter < 10 Microns

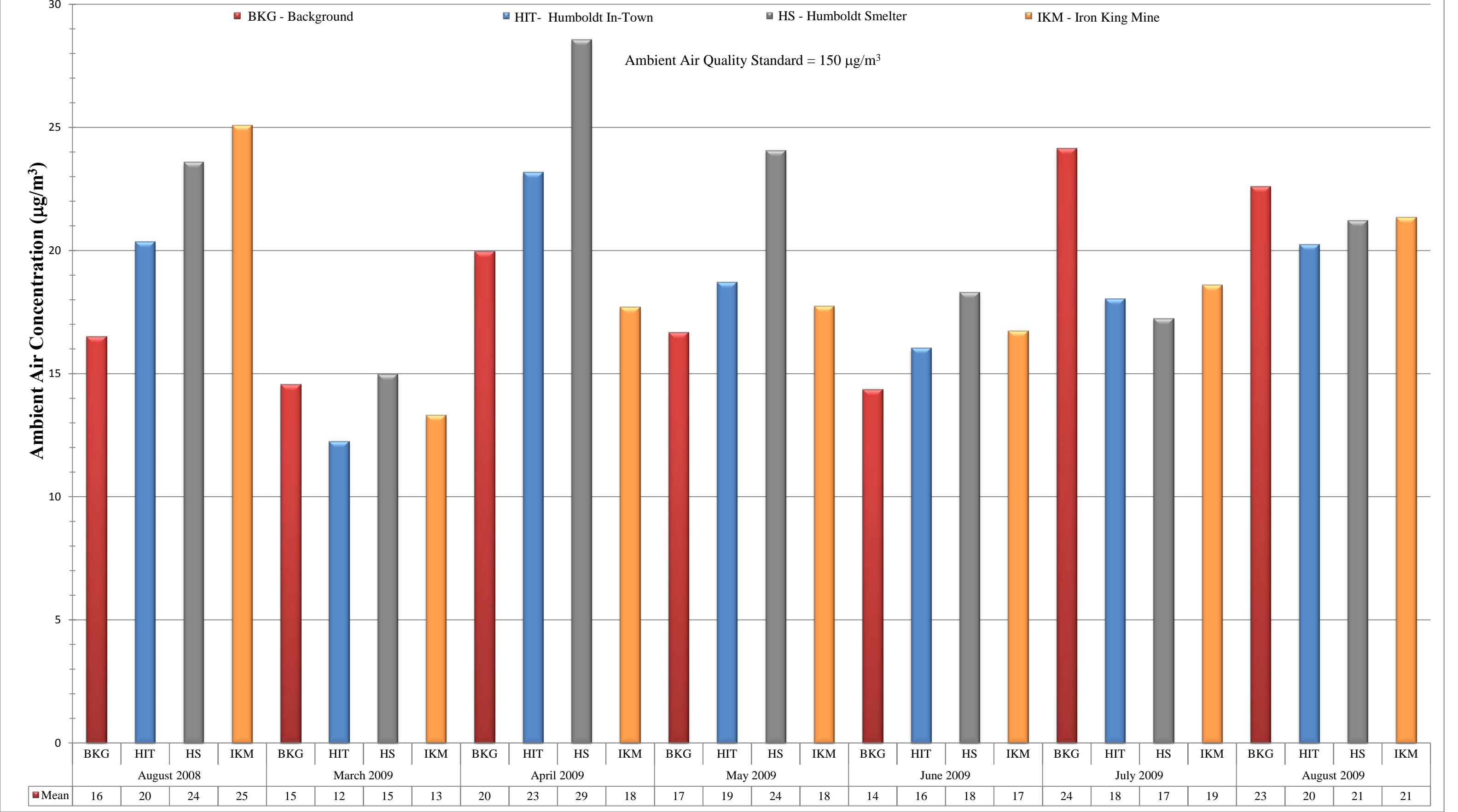


Figure 5-66 - Particulate Ambient Air Concentrations

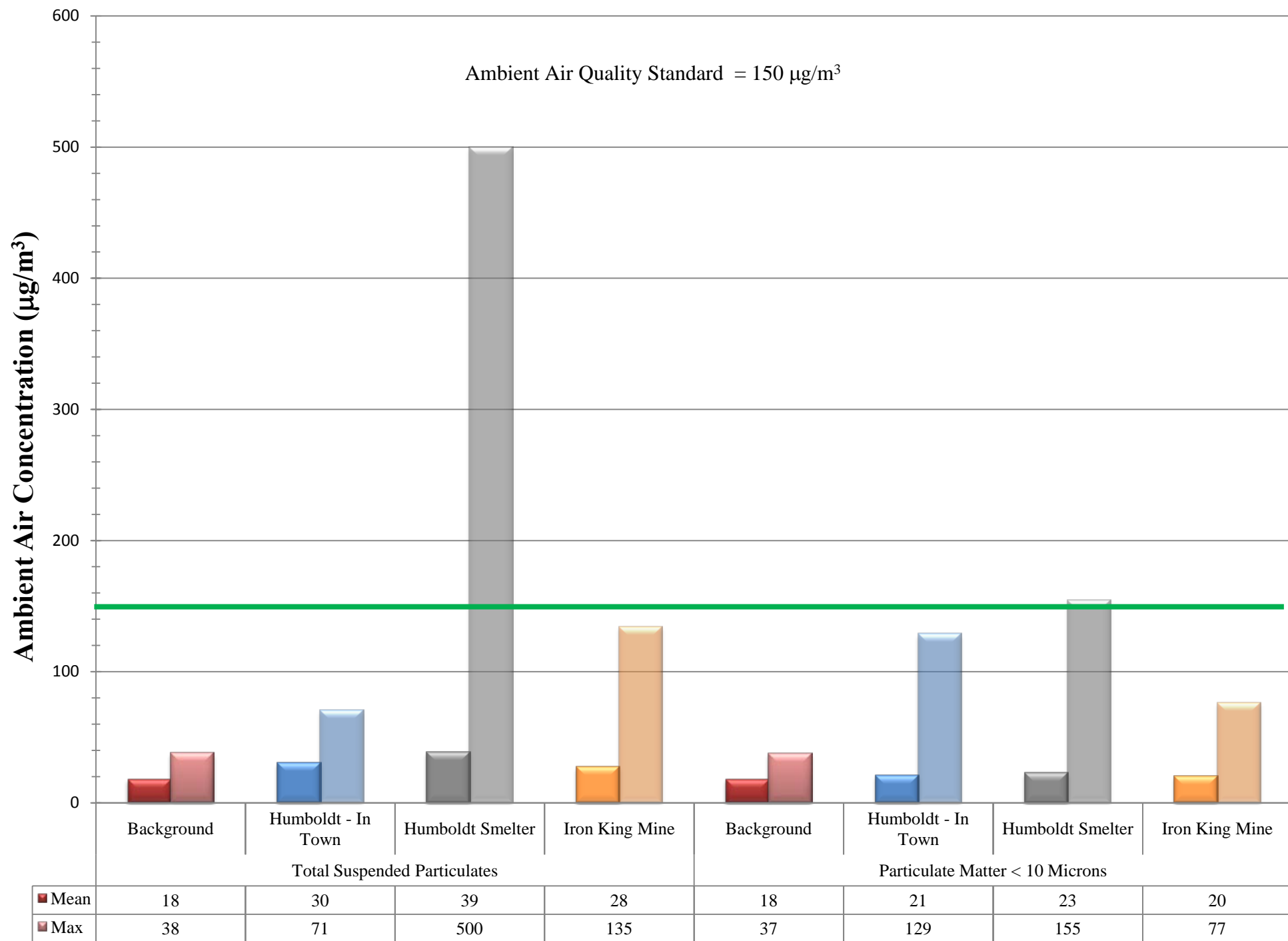


Figure 5-67 - Arsenic and Lead Ambient Air Concentrations

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 $\mu\text{g}/\text{m}^3$

Ambient Air Concentration ($\mu\text{g}/\text{m}^3$)

0.200
0.180
0.160
0.140
0.120
0.100
0.080
0.060
0.040
0.020
0.000

Background

Humboldt - In
Town

Humboldt Smelter

Iron King Mine

Background

Humboldt - In
Town

Humboldt Smelter

Iron King Mine

Arsenic

Lead

■ 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

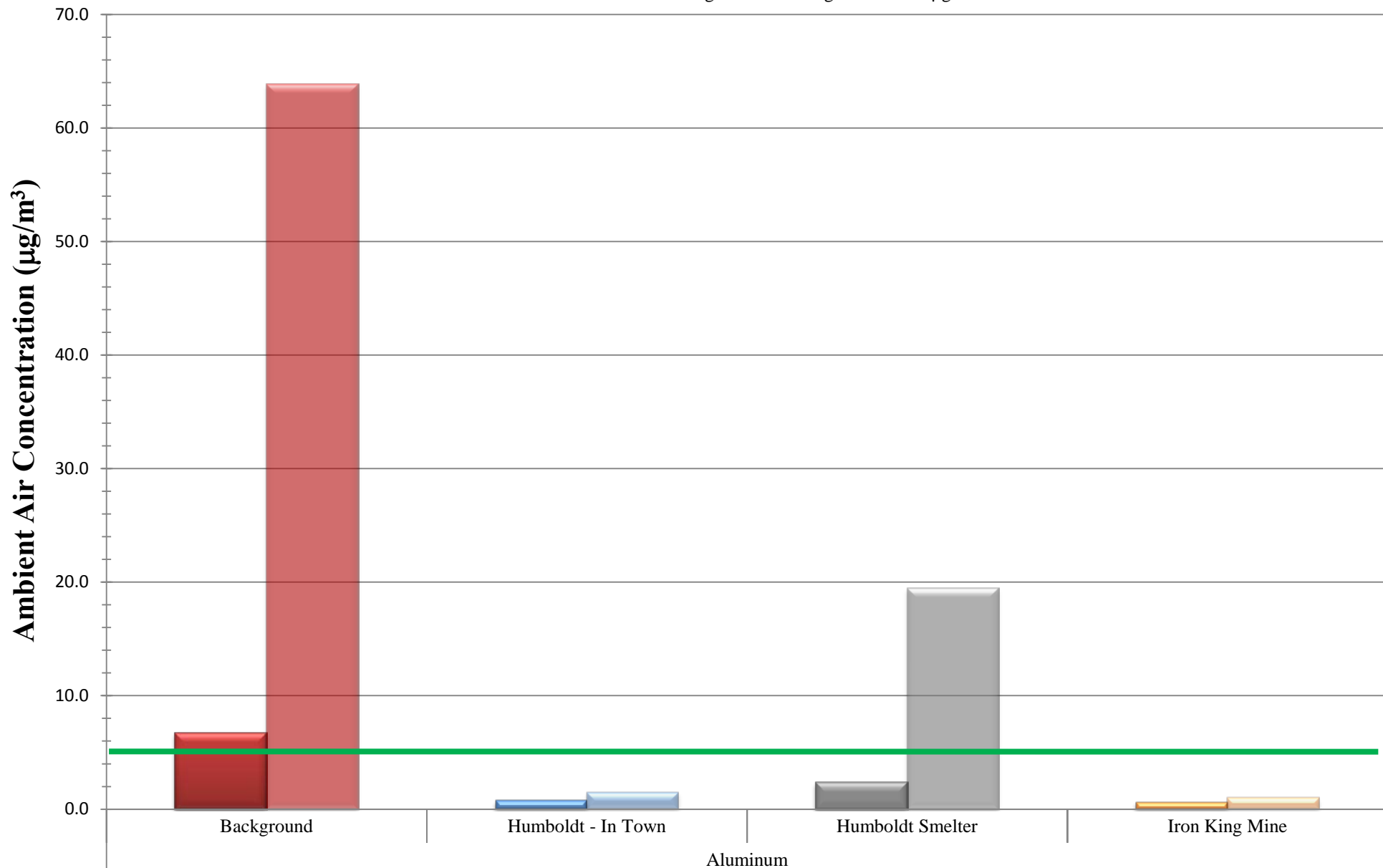
0.18

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 $\mu\text{g}/\text{m}^3$



| | | | | |
|------|-----|------|-----|------|
| 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

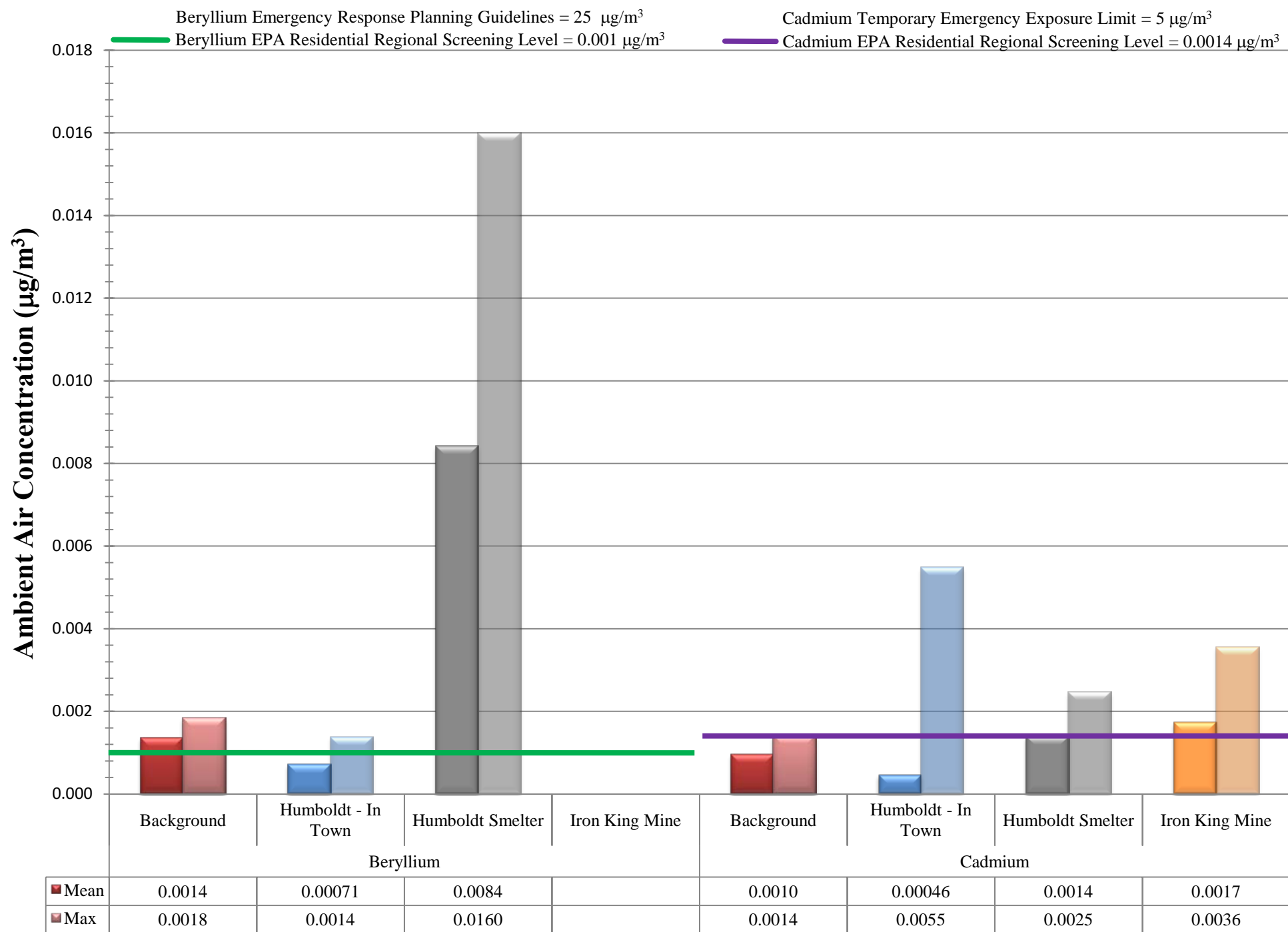
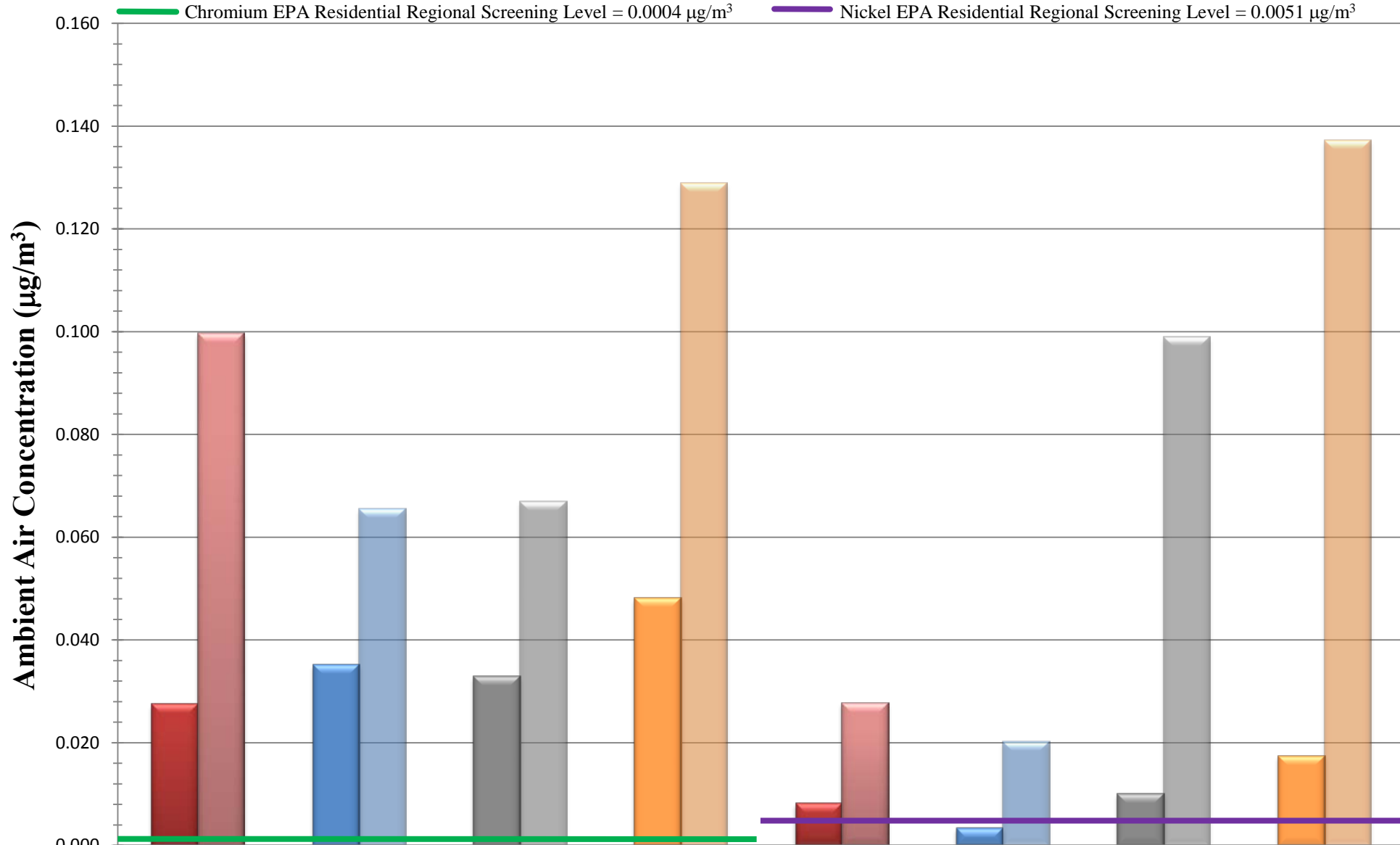


Figure 5-70 - Chromium and Nickel Ambient Air Concentrations

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 | | | |
|------|----------|-------|-------|-------|--------|--------|-------|-------|
| 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 |