Legend

Sample Location/ Concentration Range Color Key

- 1 - 3,100 mg/kg
- 3,101 - 8,699 mg/kg
- 8,700 - 17,100 mg/kg*
- > 17,100 mg/kg*

Road

Parcel Zones

- Category 1
- Category 2

Notes:

[1] Cu = Copper
[2] J- = Estimated value, biased low
[3] mg/kg = milligrams per kilogram
[4] R-SRL = Residential Soil Remediation Level

[5] All concentrations are in mg/kg
[6] Soil concentrations in **RED** exceed Arizona-R-SRLs
[7] Arizona R-SRL for Cu = 3,100 mg/kg
[8] If a duplicate sample was collected, the higher concentration of the two is posted.
[9] * = Copper concentrations do not exceed 8,699 mg/kg

[10] Aerial Source: ESRI I3 Imagery Prime World 2D dataset, April 26, 1992; October 12, 1992; June 17, 2005.

N W E S

0 0.25 0.5 1 Miles

FIGURE 4-10
NON-RESIDENTIAL SOIL LABORATORY RESULTS FOR COPPER
TAILINGS IMPOUNDMENT, UPGRADIENT, AND STATE ROUTE 77 AREAS
ASARCO, LLC Hayden Plant Site
Hayden, Arizona
The data on this figure are derived from tables 4-5, 4-6, 4-7, and D-1.

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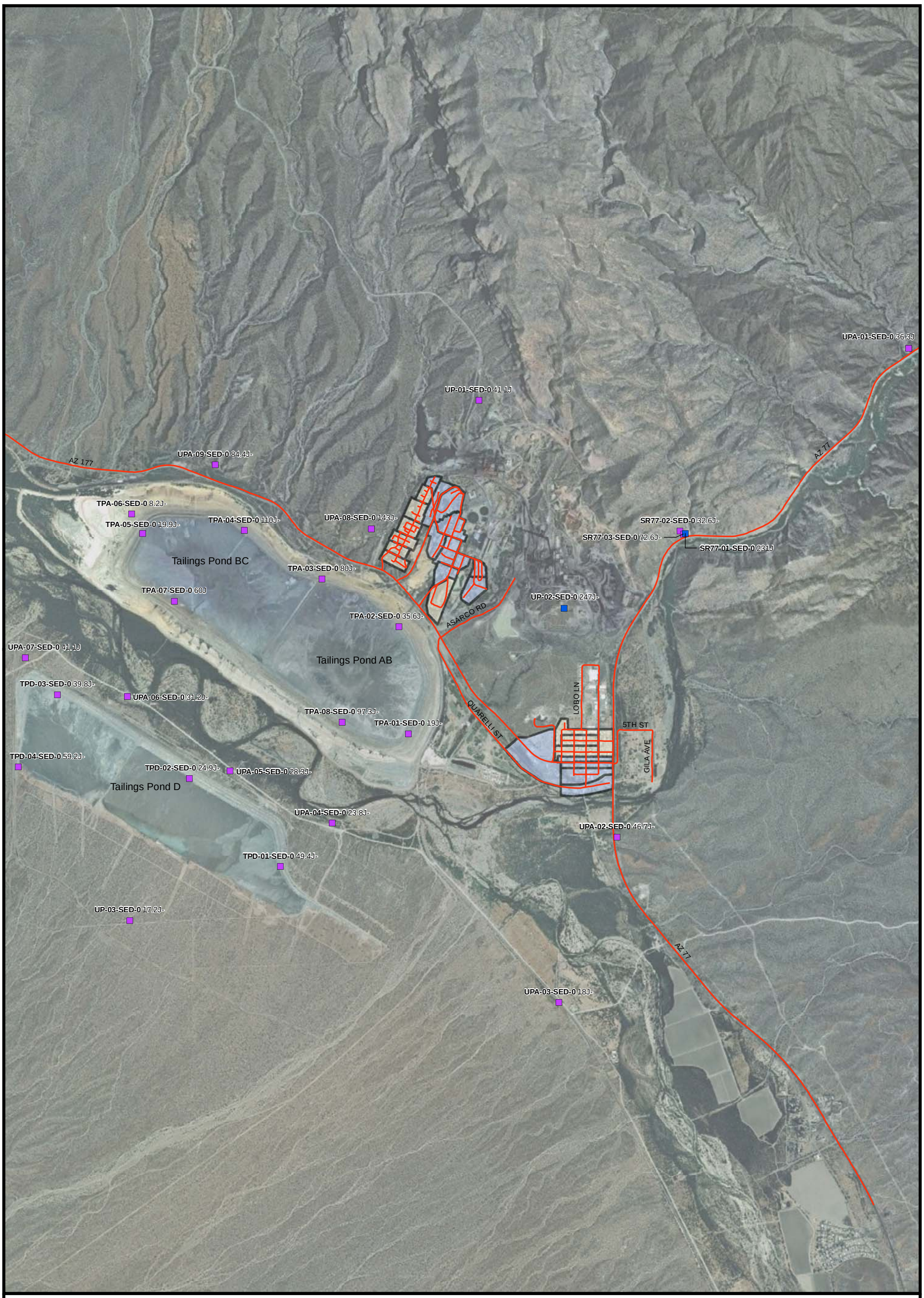
CH2MHILL

\\MADISON\GROUPS\EMS\GIS_LIBRARY\ASARCO\MAPFILES\03_FINAL\FIG4-10_NONRES_SURFACESOILLABRESULTS_TAILINGS_COPPER.MXD TJW 7/24/2008 15:29:22



Legend

Sample Location/ Concentration Range Color Key

- 0 - 212 mg/kg
- 213 - 400 mg/kg
- 401 - 1,199 mg/kg*
- 1,200 - 2,400 mg/kg*
- >2,400 mg/kg*

Road

Parcel Zones

- Category 1
- Category 2

Notes:

[1] Pb = Lead
[2] J = Estimated value
[3] J- = Estimated value, biased low
[4] mg/kg = milligrams per kilogram
[5] R-SRL = Residential Soil Remediation Level

[6] All concentrations are in mg/kg
[7] Soil concentrations in **RED** exceed Arizona-R-SRLs
[8] Arizona R-SRL for Pb = 400 mg/kg
[9] If a duplicate sample was collected, the higher concentration of the two is posted.
[10] * = Lead concentrations do not exceed 400 mg/kg

[11] Aerial Source: ESRI I3 Imagery Prime World 2D dataset, April 26, 1992; October 12, 1992; June 17, 2005.

N W E S

0 0.25 0.5 1 Miles

FIGURE 4-11
NON-RESIDENTIAL SOIL LABORATORY RESULTS FOR LEAD
TAILINGS IMPOUNDMENT, UPGRADIENT, AND STATE ROUTE 77 AREAS
ASARCO, LLC Hayden Plant Site
Hayden, Arizona
The data on this figure are derived from tables 4-5, 4-6, 4-7, and D-1.

DRAFT

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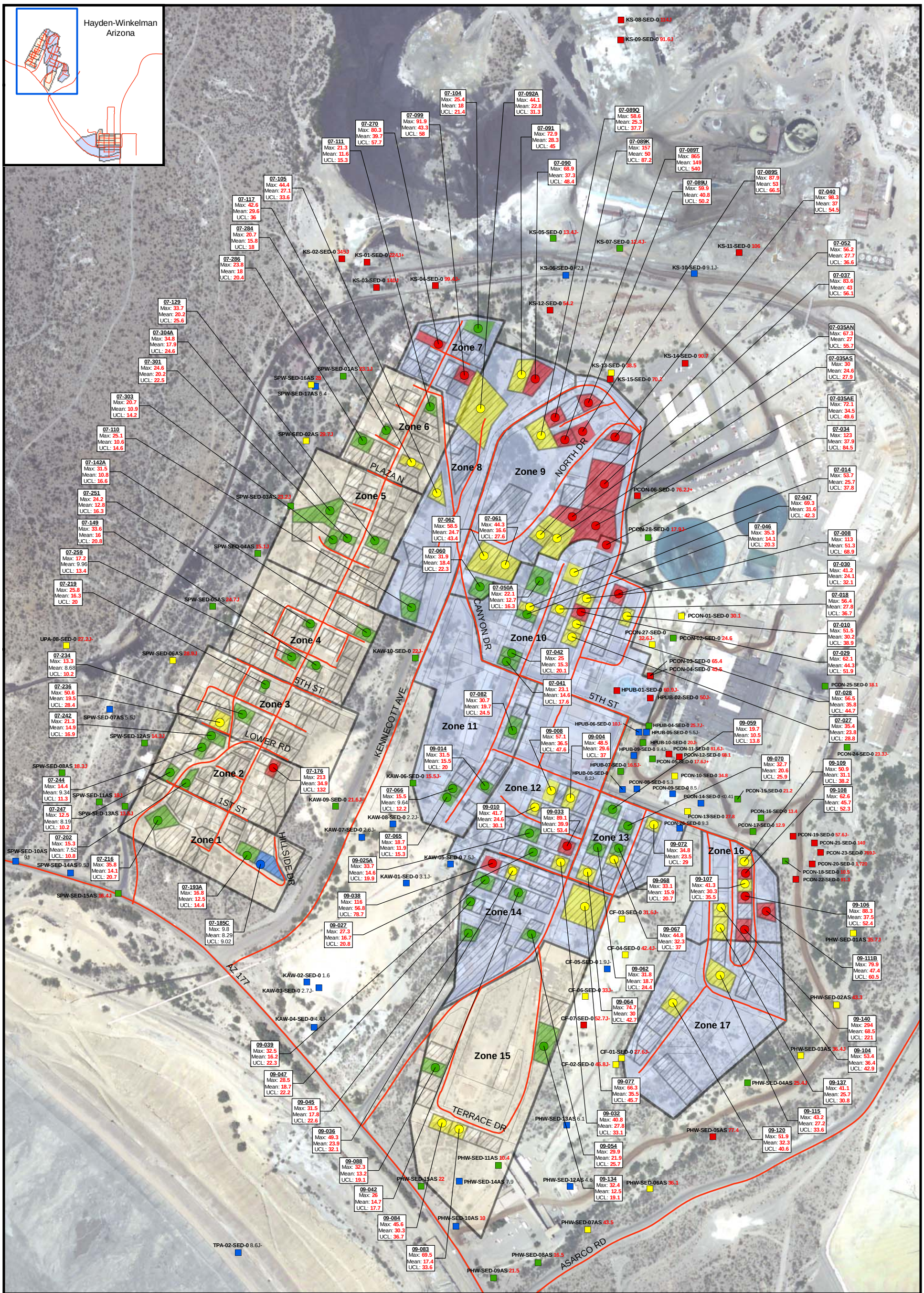
\\MADISON\GROUPS\EMS\GIS_LIBRARY\ASARCO\MAPFILES\03_FINAL\FIG4-11_NONRES_SURFACESOILLABRESULTS_TAILINGS_LEAD.MXD TJW 7/24/2008 15:29:22



Legend

Sample Location/ Concentration Range Color Key

- 1 - 10 mg/kg
- 10.1 - 25.9 mg/kg
- 26 - 47.9 mg/kg
- > 48 mg/kg

Shape Key

- Residential Sample
- Non-residential Sample

- Parcel with Habitable Housing
- Parcel Boundary
- Approximate Parcel Subdivision for Sampling
- Road

Parcel Zones

- Category 1
- Category 2

Notes:

[1] 09-084 = Parcel ID
[2] All Parcel IDs consist of a '101-' prefix
[3] Max = Maximum Concentration
[4] Mean = Arithmetic Mean Concentration
[5] UCL = 95% Upper Confidence Limit
[6] 95% UCL was used for color key designation
[7] As = Arsenic
[8] J = Estimated value
[9] J- = Estimated value, biased low
[10] J+ = Estimated value, biased high
[11] mg/kg = milligrams per kilogram
[12] R-SRL = Residential Soil Remediation Level
[13] All concentrations are in mg/kg
[14] Soil concentrations in **RED** exceed Arizona-R-SRLs
[15] Arizona R-SRL for As = 10 mg/kg
[16] If a duplicate sample was collected, the higher concentration of the two is posted.
[17] For Arithmetic Mean and 95% UCL, values based on 9 samples per parcel.
[18] Aerial Source: Environmental Protection Agency, 2004.

N W E S

0 212.5 425 850 Feet

FIGURE 4-12
RESIDENTIAL AND NON-RESIDENTIAL SURFACE SOIL LABORATORY RESULTS FOR ARSENIC
HAYDEN, ARIZONA

ASARCO, LLC Hayden Plant Site
Hayden, Arizona

The data on this figure are derived from tables 4-4, 4-5, 4-6, 4-7, 4-8, and D-1.

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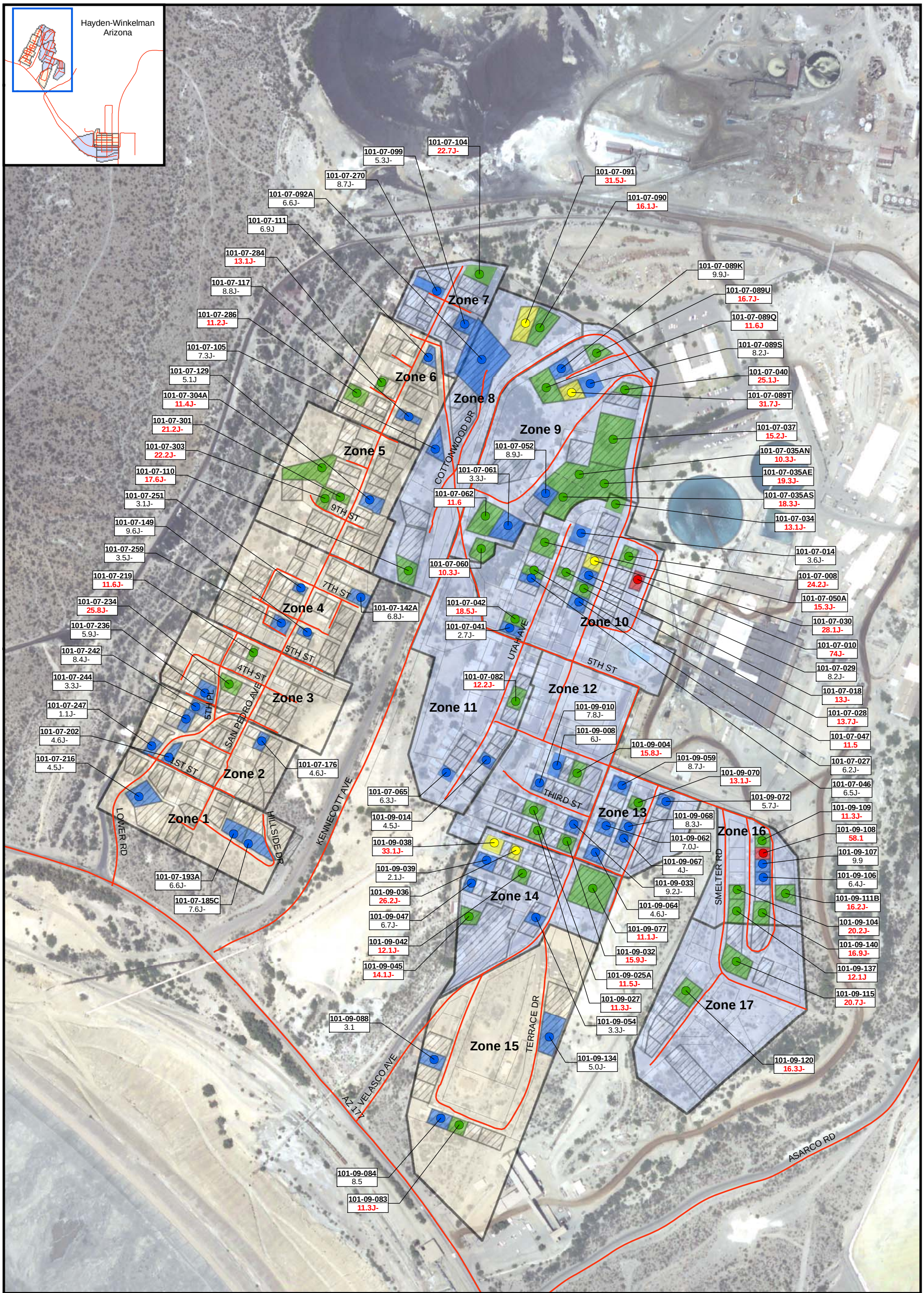
\\MADISON\GROUPS\EMS\GIS_LIBRARY\ASARCO\MAPFILES\03_FINAL\FIG4-12_RES_SURFACESOILLABRESULTS_HAYDEN_ARSENIC_NONRES.MXD TJW 7/25/2008 13:25:41



Legend

Sample Location/ Concentration Range Color Key

- 1 - 10 mg/kg
- 10.1 - 25.9 mg/kg
- 26 - 47.9 mg/kg
- > 48 mg/kg

Shape Key

- Residential Sample

- Parcel with Habitable Housing
- Parcel Boundary
- Approximate Parcel Subdivision for Sampling
- Road

Parcel Zones

- Category 1
- Category 2

Notes:

[1] 101-09-084 = Parcel ID
[2] As = Arsenic
[3] J = Estimated value
[4] J- = Estimated value, biased low
[5] mg/kg = milligrams per kilogram
[6] R-SRL = Residential Soil Remediation Level

[7] All concentrations are in mg/kg
[8] Soil concentrations in **RED** exceed Arizona-R-SRLs
[9] Arizona R-SRL for As = 10 mg/kg
[10] If a duplicate sample was collected, the higher concentration of the two is posted.

[11] Aerial Source: Environmental Protection Agency, 2004.

N W E S

0 200 400 800 Feet

FIGURE 4-13
RESIDENTIAL SUBSURFACE SOIL LABORATORY RESULTS FOR ARSENIC
HAYDEN, ARIZONA

ASARCO, LLC Hayden Plant Site
Hayden, Arizona

The data on this figure are derived from tables 4-9 and E-1.

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\\MADISON\GROUPS\EMS\GIS_LIBRARY\ASARCO\MAPFILES\03_FINAL\FIG4-13_RES_SUBSURFACESOILLABRESULTS_HAYDEN_ARSENIC.MXD TJW 7/25/2008 14:08:34

Legend

Sample Location/ Concentration Range Color Key

- 1 - 3,100 mg/kg
- 3,101 - 8,699 mg/kg
- 8,700 - 17,100 mg/kg
- > 17,100 mg/kg

Parcel Boundary

Road

Parcel Zones

Category 1

Category 2

Notes:

[1] Cu = Copper
[2] J = Estimated value
[3] J- = Estimated value, biased low
[4] mg/kg = milligrams per kilogram
[5] R-SRL = Residential Soil Remediation Level

[6] All concentrations are in mg/kg
[7] Soil concentrations in **RED** exceed Arizona-R-SRLs
[8] Arizona R-SRL for Cu = 3,100 mg/kg
[9] If a duplicate sample was collected, the higher concentration of the two is posted.

[10] Aerial Source: Environmental Protection Agency, 2004.

N W E S

0 300 600 1,200 Feet

FIGURE 4-7
NON-RESIDENTIAL SOIL LABORATORY RESULTS FOR COPPER SMELTER AND VICINITY

ASARCO, LLC Hayden Plant Site
Hayden, Arizona

The data on this figure are derived from tables 4-4, 4-6, 4-7, and D-1.

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\\MADISON\GROUPS\EMS\GIS_LIBRARY\ASARCO\MAPFILES\03_FINAL\FIG4-7_NONRES_SURFACESOILLABRESULTS_SMELTERAREA_COPPER.MXD TJW 7/24/2008 15:29:22

Legend

Sample Location/ Concentration Range Color Key

- 0 - 212 mg/kg
- 213 - 400 mg/kg
- 401 - 1,199 mg/kg
- 1,200 - 2,400 mg/kg
- >2,400 mg/kg*

Parcel Boundary

Road

Parcel Zones

- Category 1
- Category 2

Notes:

[1] Pb = Lead
[2] J = Estimated value
[3] J- = Estimated value, biased low
[4] mg/kg = milligrams per kilogram
[5] R-SRL = Residential Soil Remediation Level

[6] All concentrations are in mg/kg
[7] Soil concentrations in **RED** exceed Arizona-R-SRLs
[8] Arizona R-SRL for Pb = 400 mg/kg
[9] If a duplicate sample was collected, the higher concentration of the two is posted.
[10] * = Lead concentrations do not exceed 2,400 mg/kg

[11] Aerial Source: Environmental Protection Agency, 2004.

N W E S

0 300 600 1,200 Feet

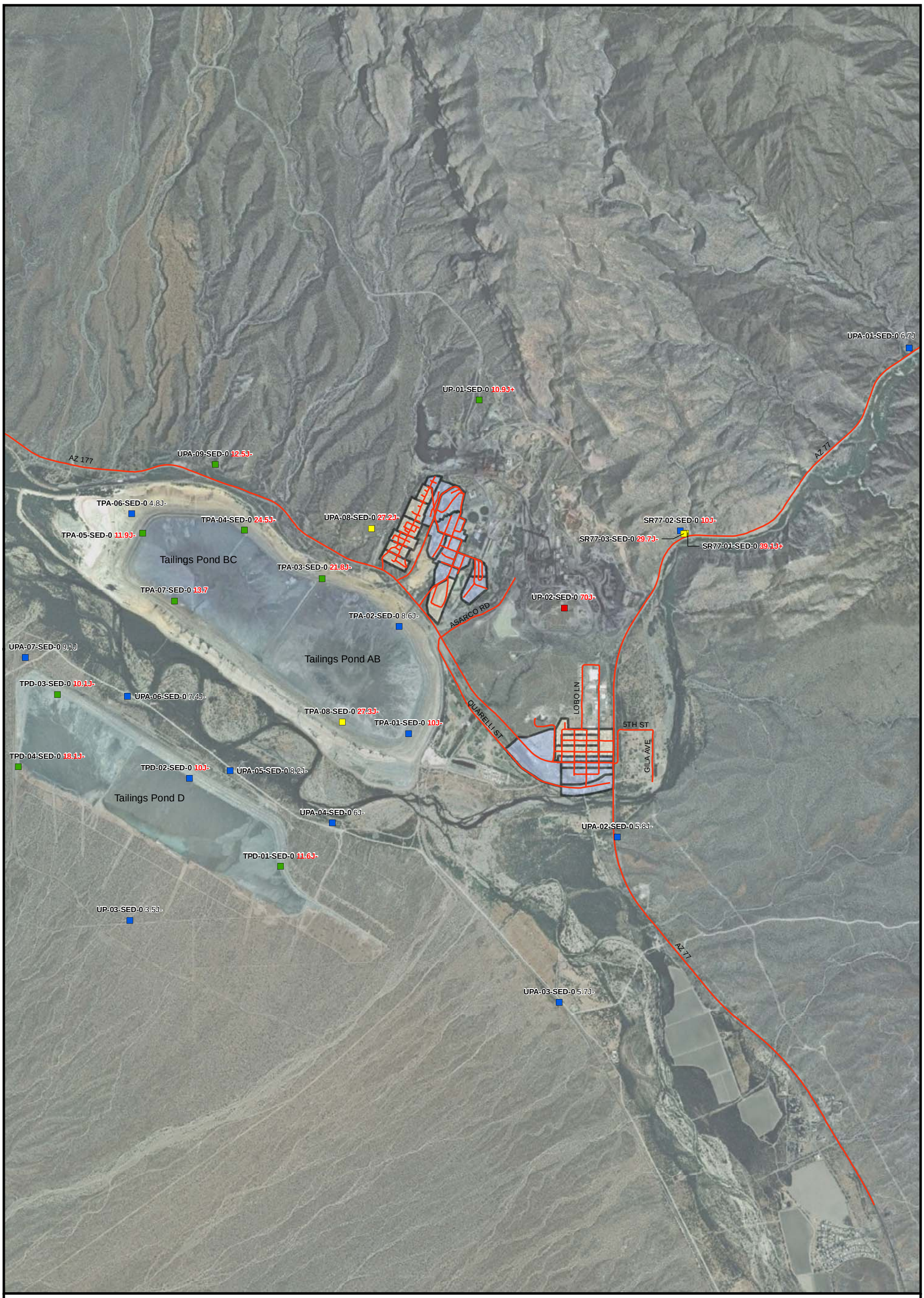
FIGURE 4-8
NON-RESIDENTIAL SOIL LABORATORY RESULTS FOR LEAD SMELTER AND VICINITY
ASARCO, LLC Hayden Plant Site
Hayden, Arizona

The data on this figure are derived from tables 4-4, 4-6, 4-7, and D-1.

DRAFT

CH2MHILL

\\MADISON\GROUPS\EMS\GIS_LIBRARY\ASARCO\MAPFILES\03_FINAL\FIG4-8_NONRES_SURFACESOILLABRESULTS_SMELTERAREA_LEAD.MXD TJW 7/24/2008 15:29:22



Legend

Sample Location/ Concentration Range Color Key

- 1 - 10 mg/kg
- 10.1 - 25.9 mg/kg
- 26 - 47.9 mg/kg
- > 48 mg/kg*

Road

Parcel Zones

- Category 1
- Category 2

Notes:

[1] As = Arsenic
[2] J = Estimated value
[3] J- = Estimated value, biased low
[4] J+ = Estimated value, biased high
[5] mg/kg = milligrams per kilogram
[6] R-SRL = Residential Soil Remediation Level

[7] All concentrations are in mg/kg
[8] Soil concentrations in **RED** exceed Arizona-R-SRLs
[9] Arizona R-SRL for As = 10 mg/kg
[10] If a duplicate sample was collected, the higher concentration of the two is posted.
[11] * = Arsenic concentrations do not exceed 47.9 mg/kg

[12] Aerial Source: ESRI I3 Imagery Prime World 2D dataset, April 26, 1992; October 12, 1992; June 17, 2005.

N W E S

0 0.25 0.5 1 Miles

FIGURE 4-9
NON-RESIDENTIAL SOIL LABORATORY RESULTS FOR ARSENIC
TAILINGS IMPOUNDMENT, UPGRADIENT, AND STATE ROUTE 77 AREAS
ASARCO, LLC Hayden Plant Site
Hayden, Arizona
The data on this figure are derived from tables 4-5, 4-6, 4-7, and D-1.

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\\MADISON\GROUPS\EMS\GIS_LIBRARY\ASARCO\MAPFILES\03_FINAL\FIG4-9_NONRES_SURFACESOILLABRESULTS_TAILINGS_ARSENIC.MXD TJW 7/24/2008 15:29:22