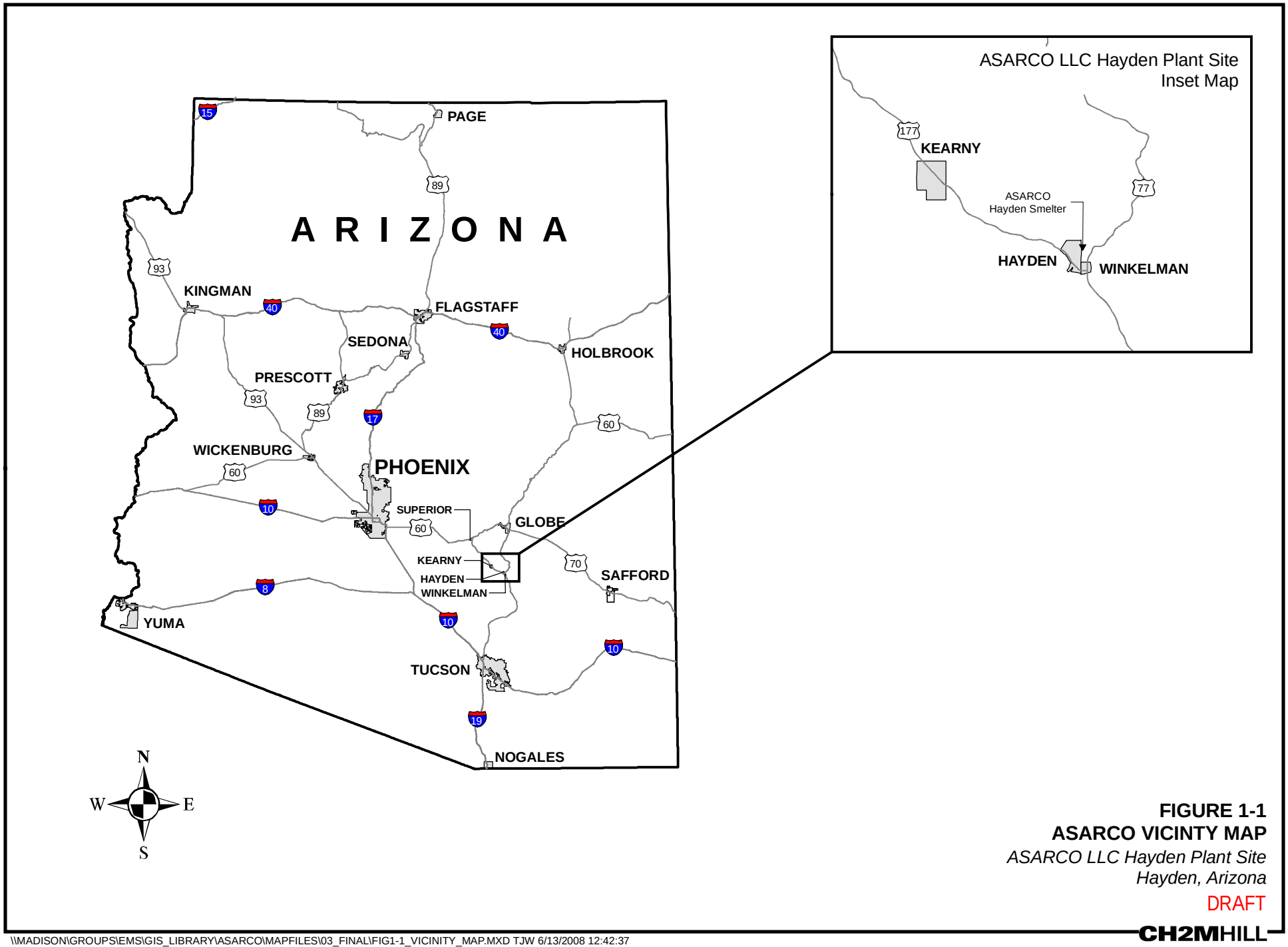

FIGURE 1-1
ASARCO VICINTY MAP
ASARCO LLC Hayden Plant Site
Hayden, Arizona
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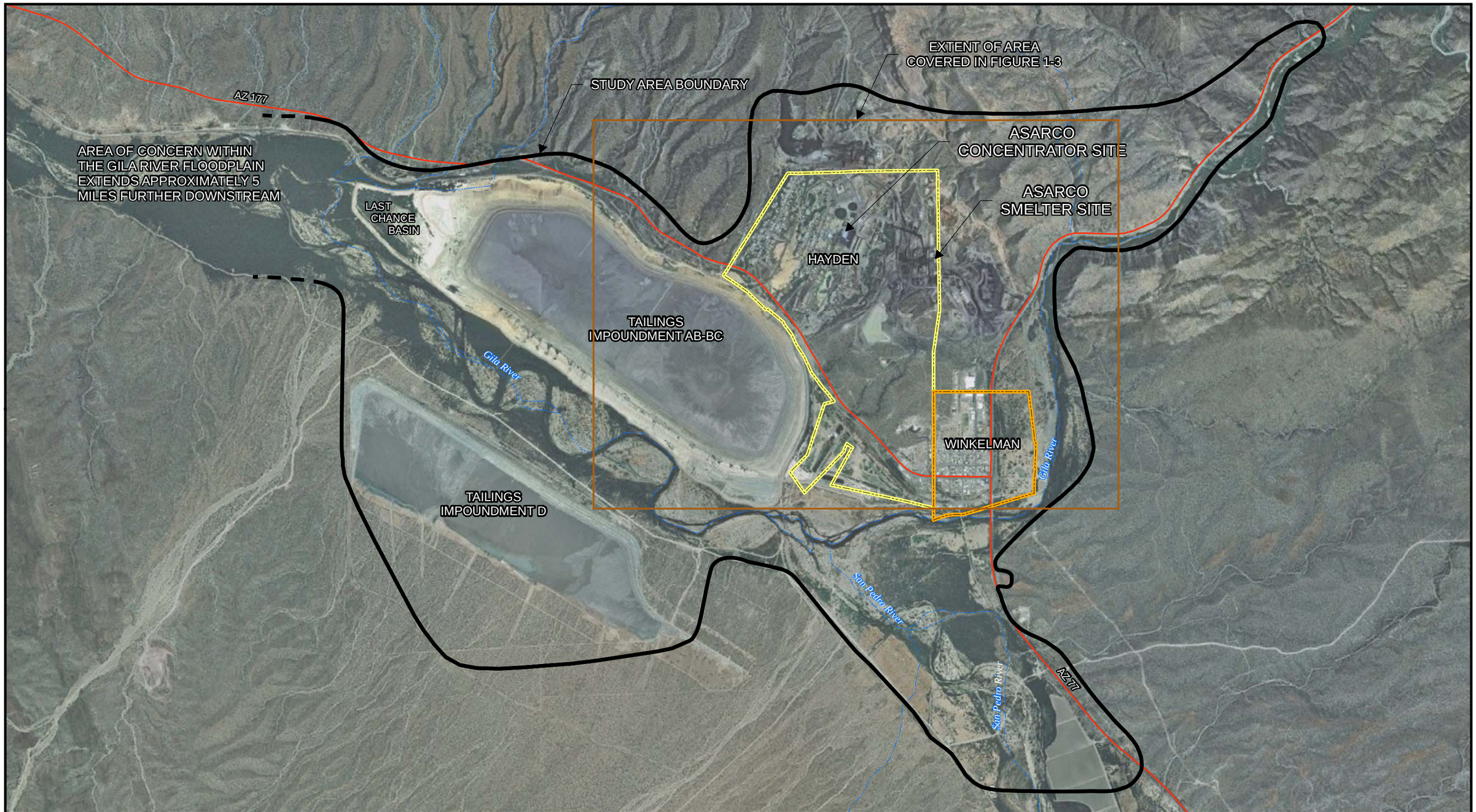
\\MADISON\GROUPS\EMS\GIS_LIBRARY\ASARCO\MAPFILES\03_FINAL\FIG1-1_VICINITY_MAP.MXD TJW 6/13/2008 12:42:37



Legend

- Study Area Boundary
- Road
- River
- Active Tailings Impoundment
- Hayden Town Boundary
- Winkelman Town Boundary

N
W E
S

0 1,250 2,500 5,000 Feet

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

FIGURE 1-2
STUDY AREA MAP

ASARCO, LLC Hayden Plant Site
Hayden, Arizona

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\\MADISON\GROUPS\EMS\GIS_LIBRARY\ASARCO\MAPFILES\03_FINAL\FIG1-2_STUDY_AREA.MXD TJW 6/13/2008 16:33:21

Legend

- Road
- Railroad
- River
- Tailings Pipeline - Above Ground
- Tailings Pipeline - Underground
- Active Tailings Impoundment
- ASARCO Hayden Smelter Boundary
- ASARCO Concentrator Boundary
- Former Kennecott Smelter Boundary

N W E S

0 600 1,200 2,400 Feet

Aerial Source: Environmental Protection Agency, 2004.

FIGURE 1-3
KEY FEATURES OF STUDY AREA
ASARCO, LLC Hayden Plant Site
Hayden, Arizona

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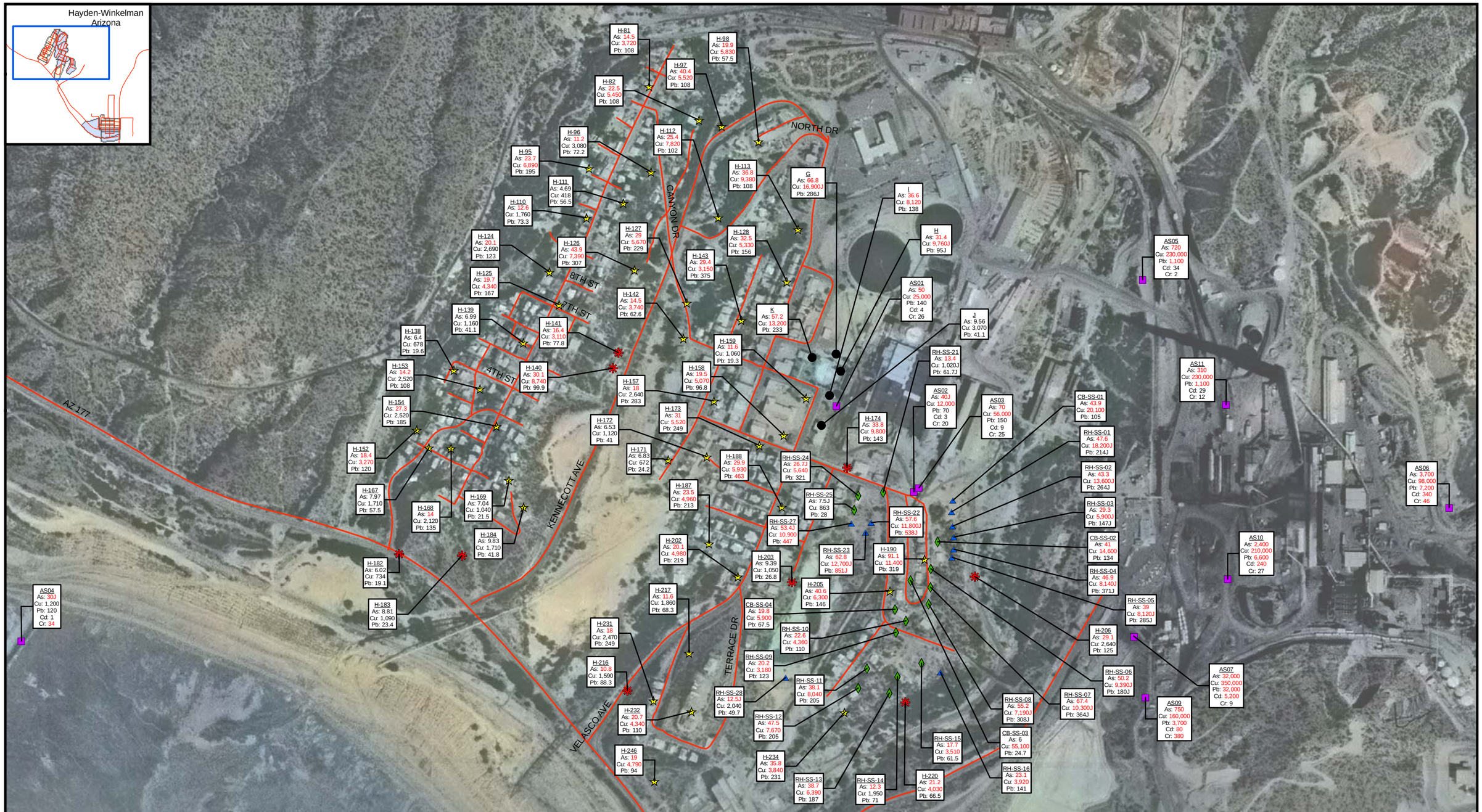
\\MADISON\GROUPS\EMS\GIS_LIBRARY\ASARCO\MAPFILES\03_FINAL\FIG1-3_KEY_FEATURES_OF_STUDY_AREA.MXD TJW 6/13/2008 16:41:37



Legend

- RCRA Inspection Location (2000)
- Removal Assessment Non-residential Data (2004)
- Removal Assessment Residential Data (2004)
- ESI Residential (2002)
- ESI Non-residential (2002)
- School and Playground Data (2004)
- Roads

Notes:

[1] H-246 = Sample ID
[2] As = Arsenic
[3] Cu = Copper
[4] Pb = Lead
[5] Cd = Cadmium
[6] Cr = Chromium
[7] J = Estimated value
[8] mg/kg = milligrams per kilogram
[9] R-SRL = Residential Soil Remediation Level
[10] All concentrations are in mg/kg
[11] Soil concentrations in RED exceed Arizona-R-SRLs
[12] Arizona R-SRL for As = 10 mg/kg
[13] Arizona R-SRL for Cu = 3,100 mg/kg
[14] Arizona R-SRL for Pb = 400 mg/kg
[15] Arizona R-SRL for Cd = 39 mg/kg
[16] Arizona R-SRL for Cr = 30 mg/kg
[17] If a duplicate sample was collected, the higher concentration of the two is posted.
[18] Location for AS07 estimated based on field notes (no GPS coordinates obtained).
[19] Aerial Source: ESRI I3 Imagery Prime World 2D dataset, April 26, 1992; October 12, 1992; June 17, 2005.

N W E S

0 250 500 1,000 Feet

FIGURE 1-4
HISTORICAL SURFACE SOIL SAMPLE RESULTS IN HAYDEN

ASARCO, LLC Hayden Plant Site
Hayden, Arizona

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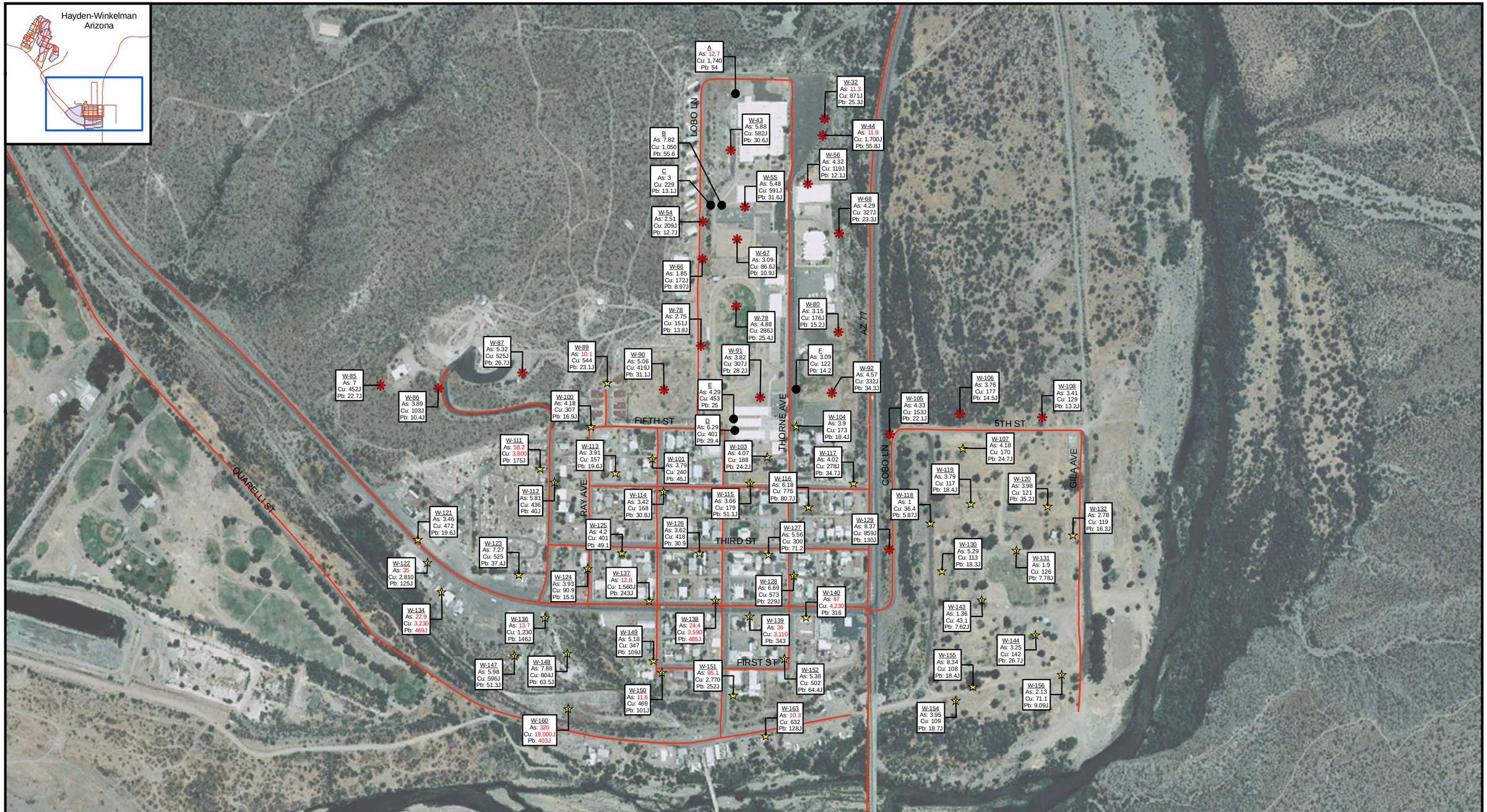
\\MADISON\GROUPS\EMS\GIS_LIBRARY\ASARCO\MAPFILES\03_FINAL\FIG1-4_SURFACESOILSAMPLERESULTS_HAYDEN.MXD CVF 7/28/2008 13:30:58



Legend

- Removal Assessment Non-residential Data (2004)
- Removal Assessment Residential Data (2004)
- School and Playground Data (2004)
- Roads

Notes:

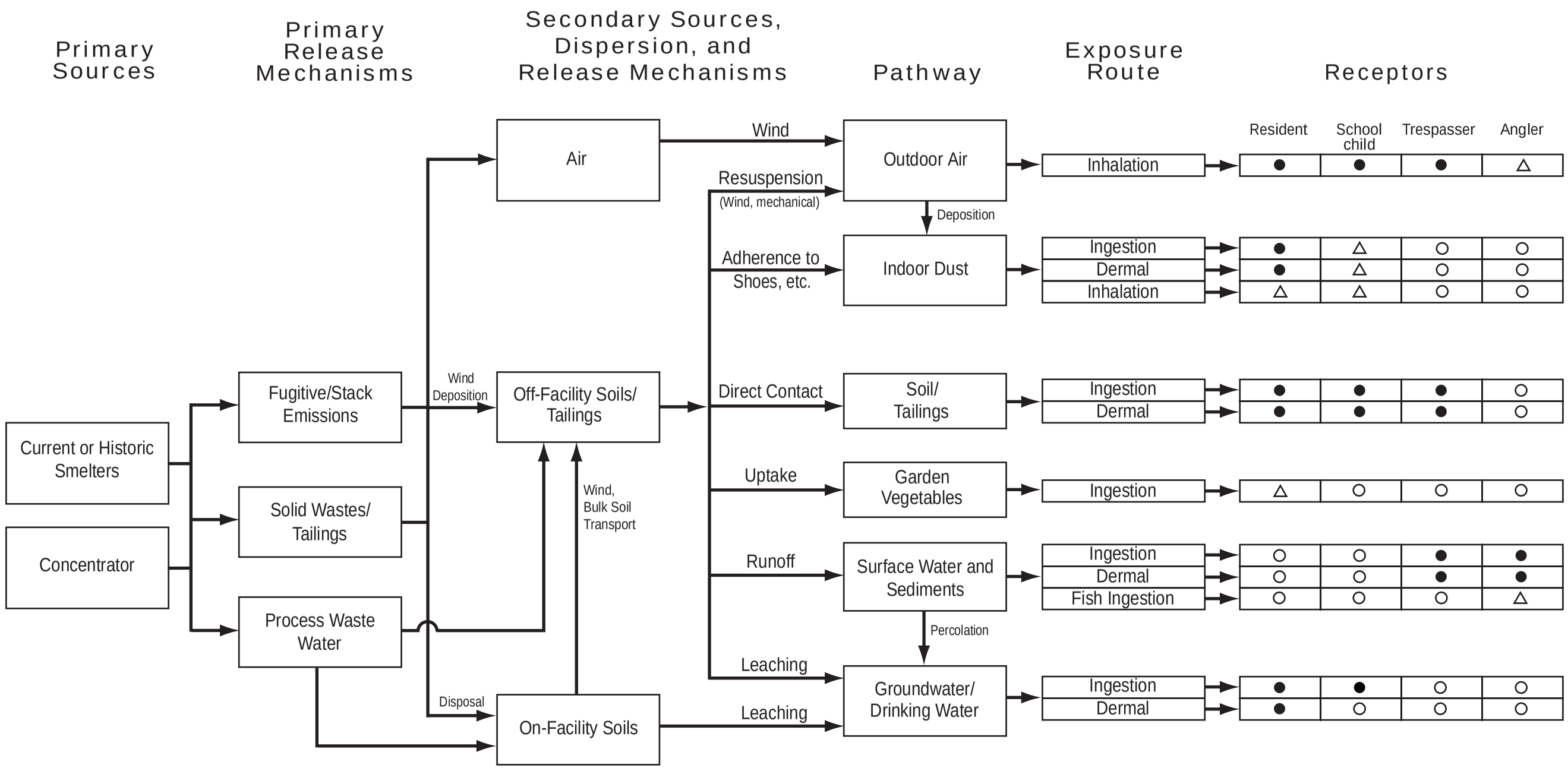
[1] W-160 = Sample ID
[2] As = Arsenic
[3] Cu = Copper
[4] Pb = Lead
[5] J = Estimated value
[6] mg/kg = milligrams per kilogram
[7] R-SRL = Residential Soil Remediation Level
[8] All concentrations are in mg/kg
[9] Soil concentrations in RED exceed Arizona-R-SRLs
[10] Arizona R-SRL for As = 10 mg/kg
[11] Arizona R-SRL for Cu = 3,100 mg/kg
[12] Arizona R-SRL for Pb = 400 mg/kg
[13] If a duplicate sample was collected, the higher concentration of the two is posted.
[14] Aerial Source: ESRI I3 Imagery Prime World 2D dataset, June 17, 2005.

N
W E
S

0 250 500 1,000 Feet

FIGURE 1-5
HISTORICAL SURFACE SOIL SAMPLE RESULTS FOR ARSENIC, COPPER, AND LEAD IN WINKELMAN
ASARCO, LLC Hayden Plant Site
Hayden, Arizona
DRAFT
CH2MHILL

\\MADISON\GROUPS\EMS\GIS_LIBRARY\ASARCO\MAPFILES\02_PRE-FINAL\FIG1-5_SURFACESOILSAMPLERESULTS_WINKELMAN.MXD CVF 6/20/2008 11:31:21



Legend

● = Potentially Complete Pathway

○ = Potentially Incomplete Pathway, no quantitative evaluation required

△ = Potentially Complete Pathway, but judged to be minor (qualitative evaluation)

Resident = Adult and Child

Note: On-Facility Soils not evaluated in this Human Health Risk Assessment

FIGURE 1-6
Conceptual Site Model Diagram for Human Exposures
ASARCO, LLC Hayden Plant Site
Hayden, Arizona
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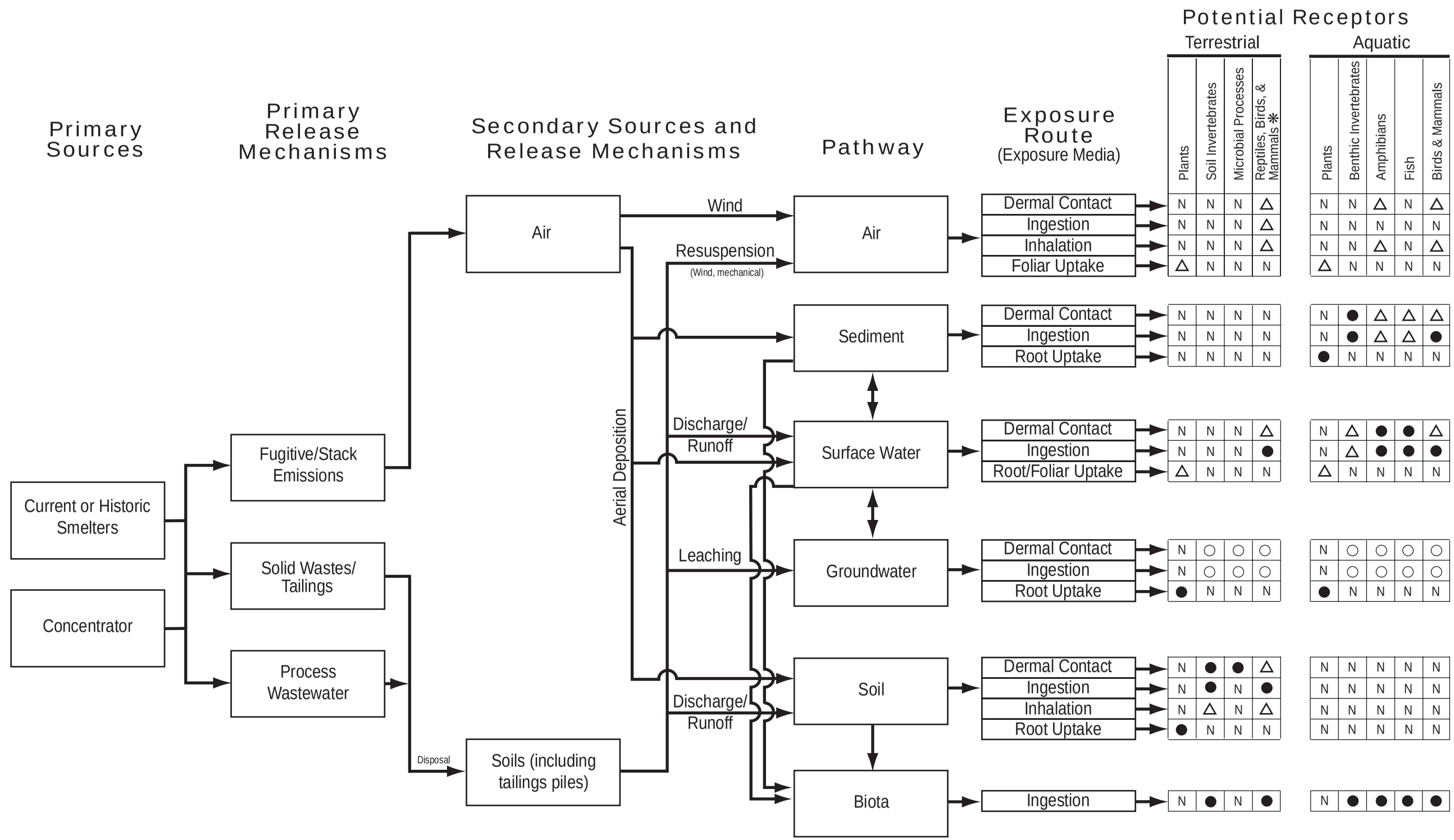

Legend

- ● = Potentially complete exposure pathway
- ○ = Incomplete exposure pathway
- N = Pathway not applicable
- △ = Possibly complete exposure pathway, but likely not significant or insufficient data for analysis in a Screening Level Ecological Risk Assessment

✻ Data required to evaluate exposure and effects to reptiles are lacking; therefore, reptiles will not be evaluated. Instead, analyses for birds will be assumed to be representative of reptiles.

FIGURE 1-7
Conceptual Site Model Diagram for Ecological Exposures
ASARCO, LLC Hayden Plant Site
Hayden, Arizona
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