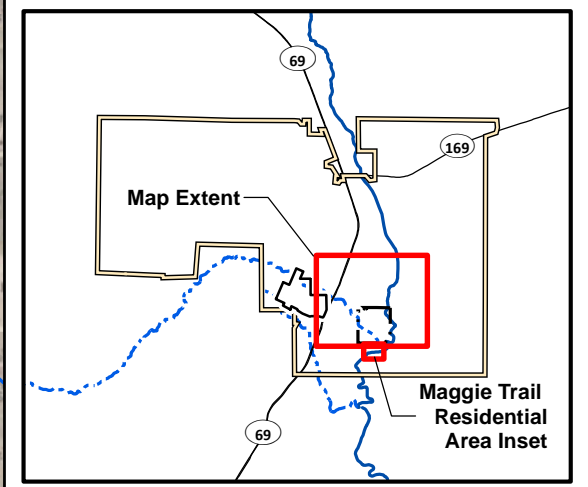


Yard ID	Parcel Number(s)	Property Address(es)
105B	402-06-028J	2875 S AZURITE ST
108	402-06-028S	2877 S AZURITE ST
116	402-07-017H	2840 S DANA ST
120	402-07-017G	2832 S DANA ST
138B	402-07-028D	2827 S CALUMET ST
141	402-07-031A	2790 S CALUMET ST
153	402-10-023	12838 E CHAPARRAL ST
157	402-08-017B	2560 S COLINA LN
162	402-08-018U	S PARKER ST
164	402-06-070	13029 E PHOENIX ST
164	402-08-043	2699 S HILL ST
176	402-10-028A	12972 E MAIN ST
182	402-07-081A	13065 E PRESCOTT ST
1910	402-05-090	13950 E AGUA FRIA LN
215C	402-10-052	2940 S THIRD ST
2215	402-08-025B	12541 E CORLEY ST
222	402-10-005A	2820 S HECLA ST
226	402-10-055C	12798 E RICHARDS LN
226	402-10-055A	12818 E RICHARDS LN
229 and 36W	402-07-041	13336 E WELLS ST
232	402-10-008A	12908 E MAIN ST
2328	402-09-023F	2535 S HURON ST
2393	402-08-032C	2555 S STATE ROUTE 69
2406	402-10-074C	E PRESCOTT ST
2408	402-10-074D	E PRESCOTT ST
2409	402-06-102R	E PRESCOTT ST
2410	402-06-102U	2852 S HECLA ST
2426	402-10-017	12913 E MAIN ST
2444	402-10-050A	2901 S FIRST ST
246 and 30W	402-07-042	13318 E WELLS ST
246 and 30W	402-07-042A	13330 E WELLS ST
247	402-06-074E	13032 E PRESCOTT ST
2529	402-06-064A	13030 E PHOENIX ST
2530	402-06-063	13023 E SWENSONS ALLEY
2530	402-06-062	2671 S HECLA ST
2602	402-07-083A	13095 E PRESCOTT ST
2615	402-07-023B	S BUTTE ST
2719	402-07-055A	2724 S JONES ST
3004	402-11-047C	13290 E MAGGY TRL



LEGEND

- Historic Rail Line
- River
- Intermittent Drainage
- Former Iron King Mine Property
- Former Humboldt Smelter Property
- Dewey-Humboldt Town Boundary

Risk Threshold Exceeded

- Lead EPC > 400
- ELCR > 1x10⁻⁴
- Both Lead EPC > 400 mg/kg and ELCR > 1x10⁻⁴
- Hazard Index > 1

^a The hazard index at this location is contributed by elevated levels of metals that do not appear to be from mine- or smelter-related sources.
^b Additional weight of evidence was considered to select these exposure areas, because they have both a cancer risk at the high end of the EPA risk management range (1x10⁻⁶ to 1x10⁻⁴) and a child-only hazard index exceeding 3 for a mine-related metal (arsenic).

Notes:
 ELCR = Excess Lifetime Cancer Risk
 EPC = Exposure Point Concentration
 HI = Hazard Index
 mg/kg = milligram per kilogram
 nc = Target organ/system-specific hazard index was not calculated since the total hazard index did not exceed 1 for this exposure area.
 NR = no incremental risk and/or hazard is identified for this exposure area.
 Image Source: USDA; 2015.

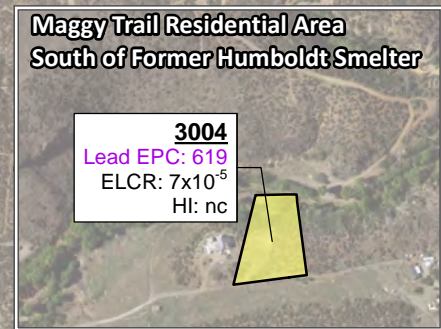
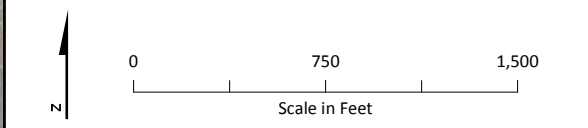
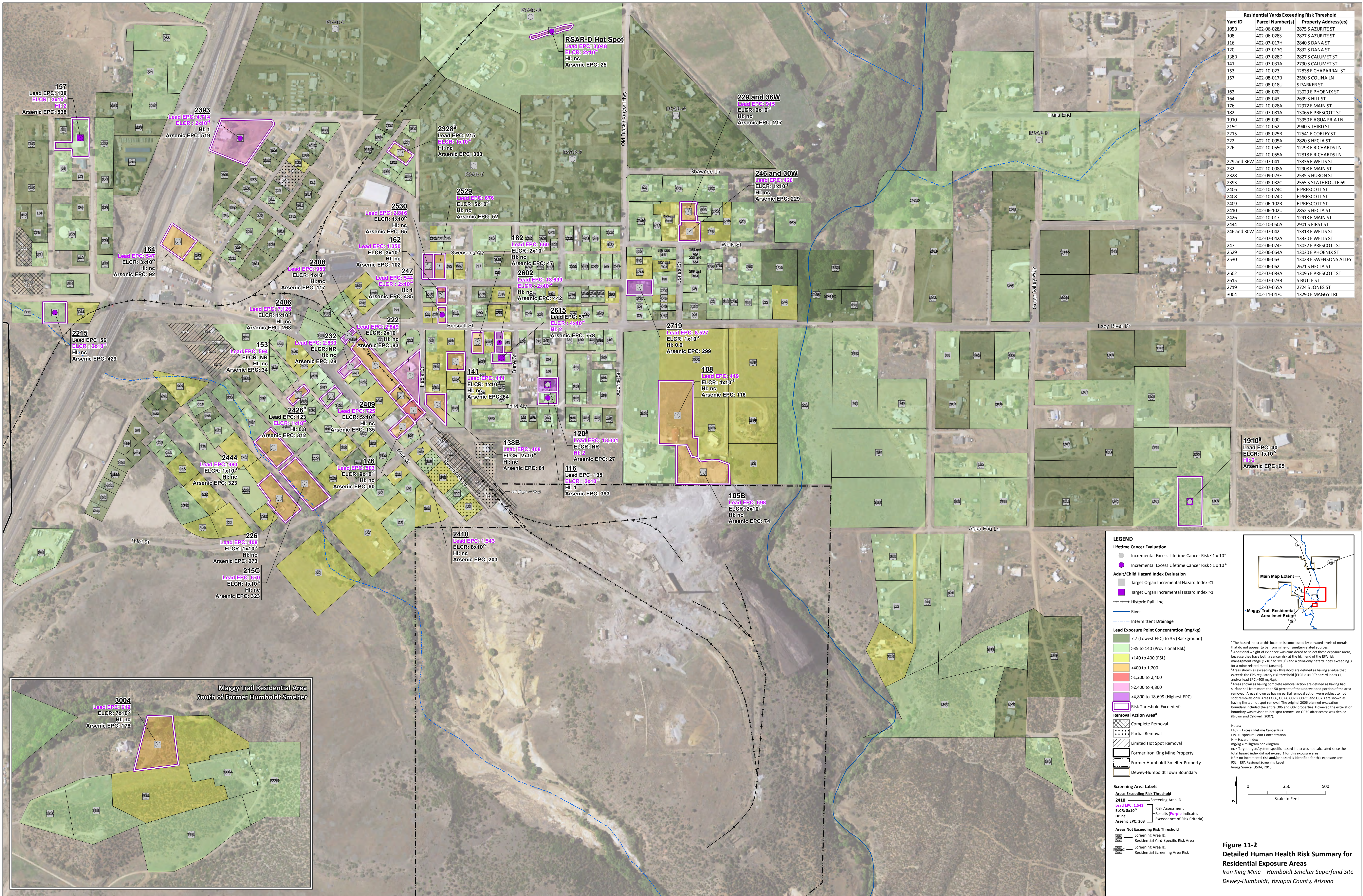


Figure 11-1
Current Residential Exposure Areas Where Risk Estimates Exceed EPA Thresholds For Potential Exposure to Soil
 Iron King Mine – Humboldt Smelter Superfund Site
 Dewey-Humboldt, Yavapai County, Arizona



Residential Yards Exceeding Risk Threshold		
Yard ID	Parcel Number(s)	Property Address(es)
105B	402-06-028J	2875 S AZURITE ST
108	402-06-028S	2877 S AZURITE ST
116	402-07-017H	2840 S DANA ST
120	402-07-017G	2832 S DANA ST
138B	402-07-038D	2827 S CALLUMET ST
141	402-07-031A	2790 S CALLUMET ST
153	402-10-023	12888 E CHAPARRAL ST
157	402-08-017B	2560 S COLINA LN
162	402-08-018U	S PARKER ST
164	402-08-043	2699 S HILL ST
176	402-10-028A	12972 E MAIN ST
182	402-07-081A	13065 E PRESCOTT ST
1910	402-05-090	13950 E AGUA FRIA LN
215C	402-10-052	2940 S THIRD ST
2215	402-08-025B	12541 E CORLEY ST
222	402-10-055A	2820 S HECLA ST
226	402-10-055C	12798 E RICHARDS LN
	402-10-055A	12818 E RICHARDS LN
229 and 36W	402-07-041	13336 E WELLS ST
232	402-10-008A	12908 E MAIN ST
232A	402-09-023F	2535 S HURON ST
2393	402-08-032C	2555 S STATE ROUTE 69
2406	402-10-074C	E PRESCOTT ST
2408	402-10-074D	E PRESCOTT ST
2409	402-06-102R	E PRESCOTT ST
2410	402-06-102U	2852 S HECLA ST
2426	402-10-017	12915 E MAIN ST
2444	402-10-055A	2501 S FIRST ST
246 and 30W	402-07-042	13316 E WELLS ST
	402-07-042A	13330 E WELLS ST
247	402-06-074E	13032 E PRESCOTT ST
2529	402-06-064A	13030 E PHOENIX ST
2530	402-06-063	13023 E SWENSONS ALLEY
	402-06-062	2671 S HECLA ST
2602	402-07-083A	13095 E PRESCOTT ST
2615	402-07-023B	S BUTTE ST
2719	402-07-055A	2724 S JONES ST
3004	402-11-047C	13290 E MAGGY TRL

LEGEND

Lifetime Cancer Evaluation

- Incremental Excess Lifetime Cancer Risk $\leq 1 \times 10^{-4}$
- Incremental Excess Lifetime Cancer Risk $> 1 \times 10^{-4}$

Adult/Child Hazard Index Evaluation

- Target Organ Incremental Hazard Index ≤ 1
- Target Organ Incremental Hazard Index > 1

Lead Exposure Point Concentration (mg/kg)

- 7.7 (Lowest EPC) to 35 (Background)
- >35 to 140 (Provisional RSL)
- >140 to 400 (RSL)
- >400 to 1,200
- >1,200 to 2,400
- >2,400 to 4,800
- >4,800 to 18,699 (Highest EPC)
- Risk Threshold Exceeded*

Removal Action Area^a

- Complete Removal
- Partial Removal
- Limited Hot Spot Removal
- Former Iron King Mine Property
- Former Humboldt Smelter Property
- Dewey-Humboldt Town Boundary

Screening Area Labels

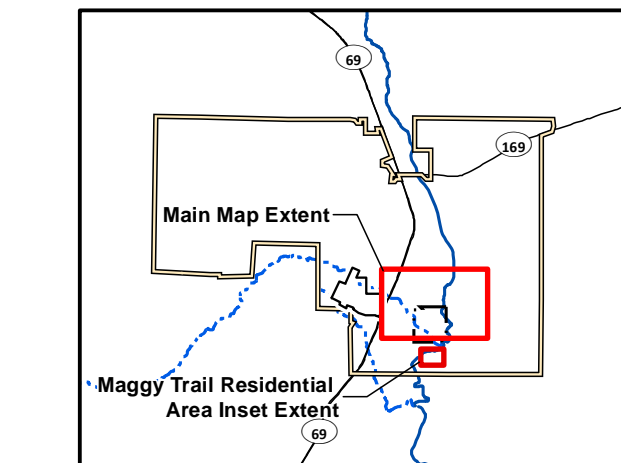
Areas Exceeding Risk Threshold

2410
Lead EPC: 1,543
ELCR: 8×10^{-5}
HI: nc
Arsenic EPC: 203

Risk Assessment
Results (Purple Indicates Exceedence of Risk Criteria)

Areas Not Exceeding Risk Threshold

Screening Area ID, Residential Yard-Specific Risk Area, Screening Area ID, Residential Yard-Specific Area Risk



* The hazard index at this location is contributed by elevated levels of metals that do not appear to be from mine- or smelter-related sources.

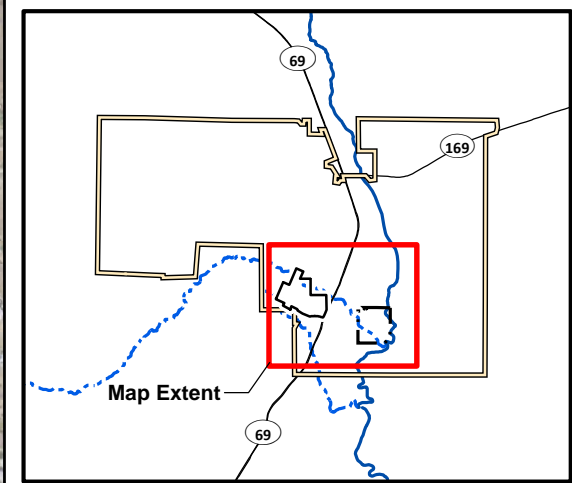
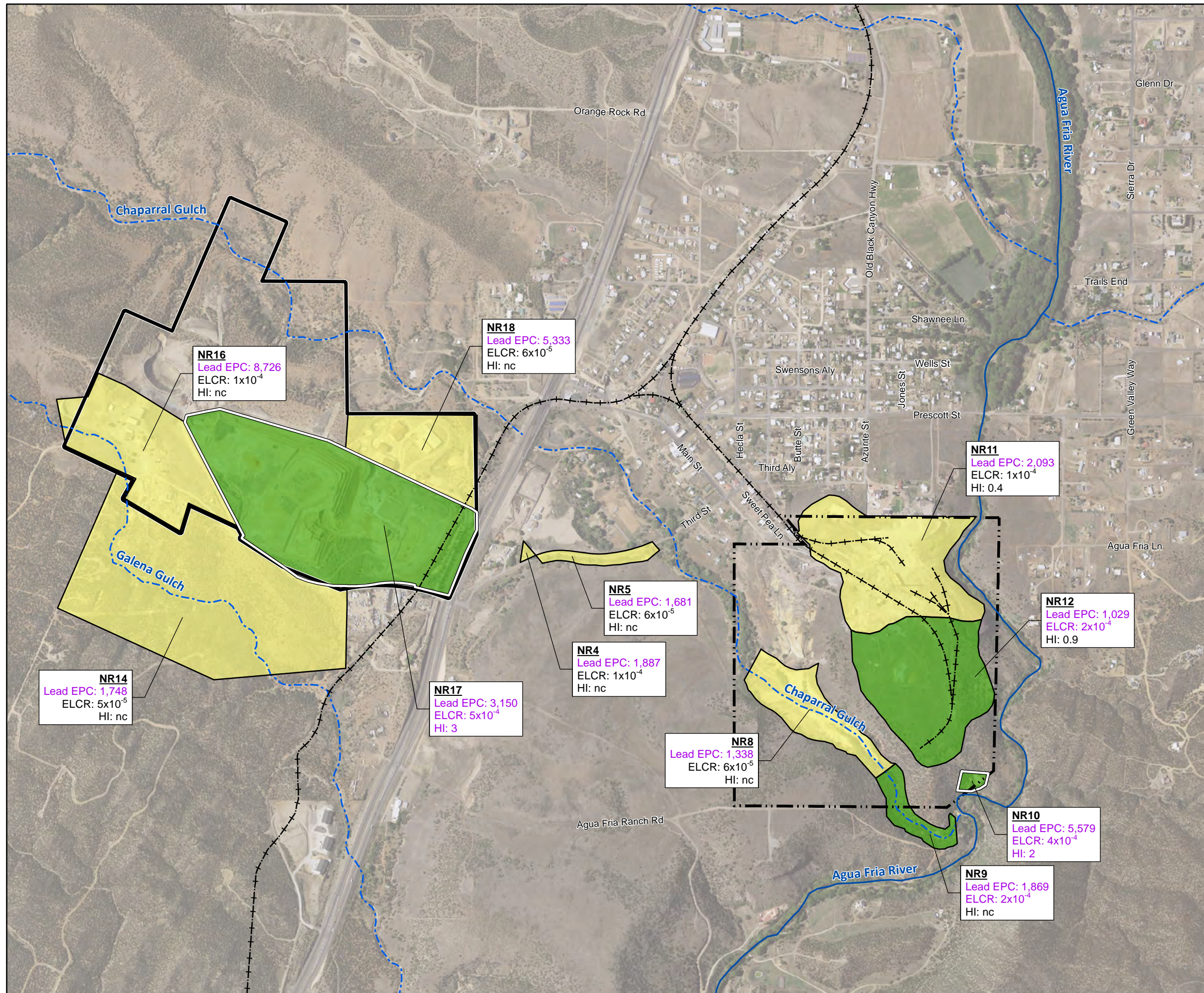
^a Additional weight of evidence was considered to select these exposure areas, because they have both a cancer risk at the high end of the EPA risk management range (1×10^{-4} to 1×10^{-3}) and a child-only hazard index exceeding 3 for a minor-related metal (arsenic).

^b Areas shown as exceeding risk threshold are defined as having a value that exceeds the EPA regulatory risk threshold (ELCR $> 1 \times 10^{-4}$; hazard index > 1 ; and/or lead EPC > 400 mg/kg).

^c Areas shown as having complete removal action are defined as having had surface soil from more than 50 percent of the undeveloped portion of the area removed. Areas shown as having partial removal action were subject to hot spot removals only. Areas D06, D07A, D07B, D07C, and D07D are shown as having limited hot spot removal. The original 2006 planned remediation boundary included the entire D06 and D07 properties. However, the excavation boundary was revised to hot spot removal on D07C after access was denied (Brown and Caldwell, 2007).

Notes:
ELCR = Excess Lifetime Cancer Risk
EPC = Exposure Point Concentration
HI = Hazard Index
mg/kg = milligram per kilogram
nc = Target organ/system-specific hazard index was not calculated since the total hazard index did not exceed 1 for this exposure area
NR = no incremental risk and/or hazard is identified for this exposure area
RSL = EPA Regional Screening Level
Image Source: USDA, 2015

Figure 11-2
Detailed Human Health Risk Summary for Residential Exposure Areas
Iron King Mine - Humboldt Smelter Superfund Site
Dewey-Humboldt, Yavapai County, Arizona



LEGEND

- + -+ Historic Rail Line
- River
- - - Intermittent Drainage
- ▭ Former Iron King Mine Property
- ▭ Former Humboldt Smelter Property
- ▭ Dewey-Humboldt Town Boundary
- Risk Threshold Exceeded**
- Lead EPC > 800 mg/kg
- Lead EPC > 800 mg/kg and ELCR > 1x10⁻⁴
- Hazard Index > 1

Notes:
 ELCR = Excess Lifetime Cancer Risk
 EPC = Exposure Point Concentration
 HI = Hazard Index
 mg/kg = milligram per kilogram
 nc = Target organ/system-specific hazard index was not calculated since the total hazard index did not exceed 1 for this exposure area.
 Image Source: USDA, 2015.

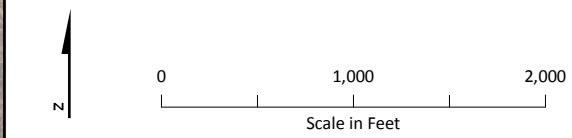
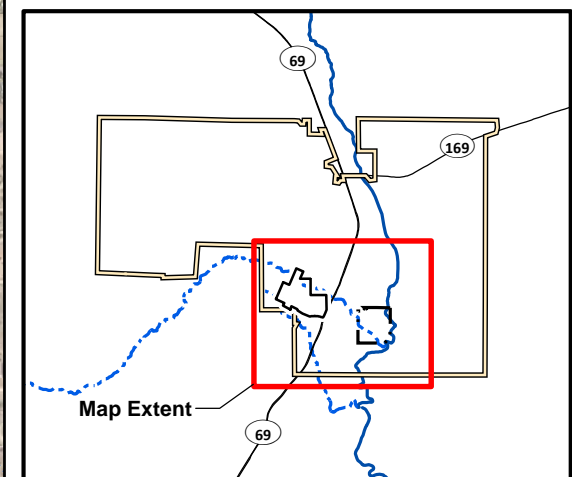
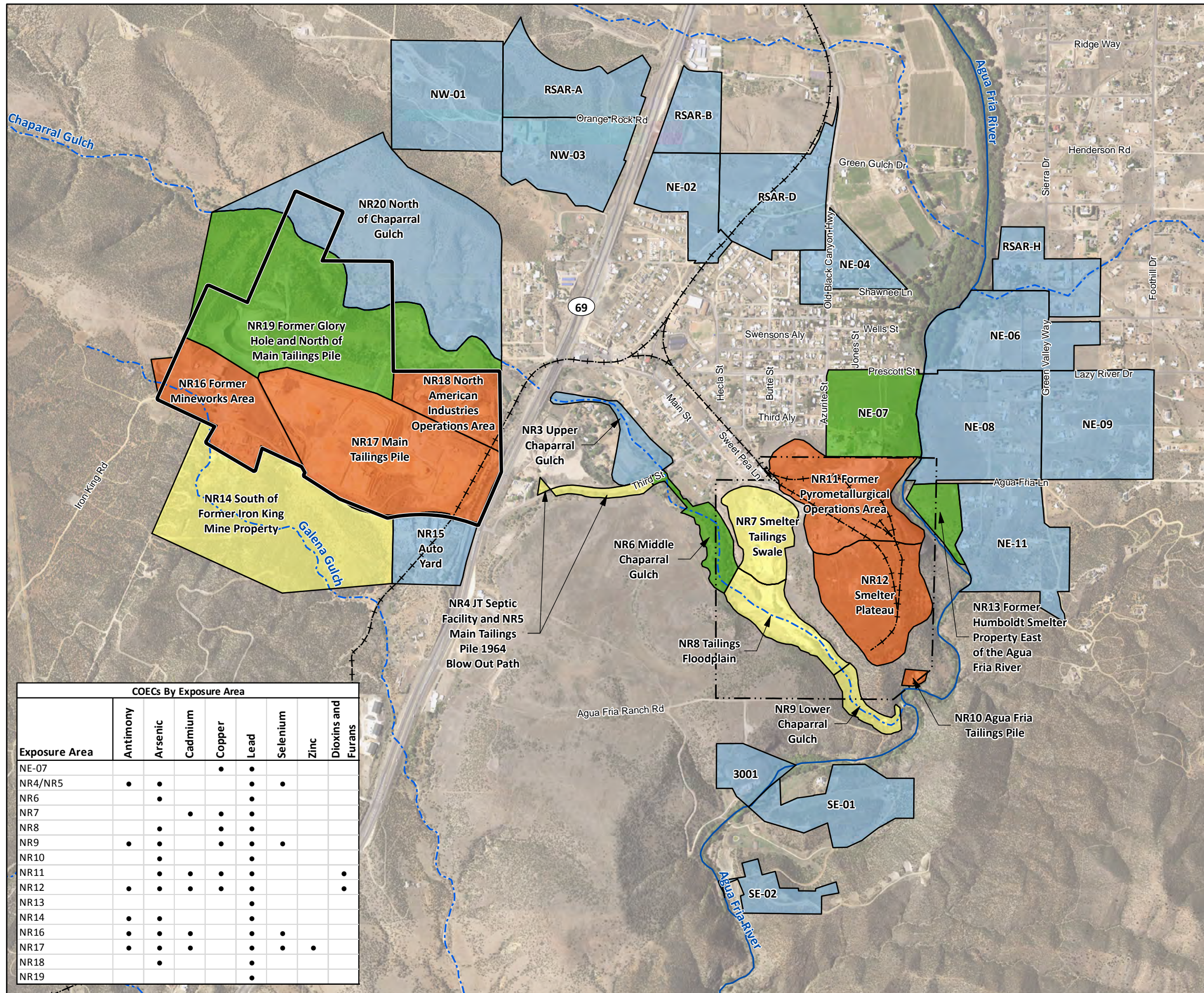


Figure 11-3
Occupational Worker Exposure Areas Where Risk Estimates Exceed EPA Thresholds For Potential Exposure to Soil
 Iron King Mine – Humboldt Smelter Superfund Site
 Dewey-Humboldt, Yavapai County, Arizona



LEGEND

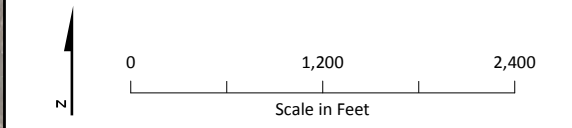
Ecological Weight of Evidence

- All LOAEL-based HQs <1
- Limited Potential for Adverse Effects^a
- Moderate Potential for Adverse Effects^b
- Higher Potential for Adverse Effects^c
- River
- Intermittent Drainage
- Former Iron King Mine Property
- Former Humboldt Smelter Property
- Dewey-Humboldt Town Boundary

^aTwo or fewer COECs or receptors with LOAEL-based HQs>1. LOAEL-based HQs 1 to 10.
^bThree or more COECs or receptors with LOAEL-based HQs>1. LOAEL-based HQs 1 to 50.
^cMultiple COECs and receptors with LOAEL-based HQs>1. LOAEL-based HQs 1 to 100+.

Notes:
 COEC = Chemicals of Ecological Concern
 HQ = Hazard Quotient
 LOAEL = Lowest Observed Adverse Effect Level

Exposure areas are color coded by weight of evidence for potential risks to ecological receptors in each trophic level/feeding guild. Incremental risk is used as basis for coding where background data were available, otherwise site risks are used. Estimated risks to plants or soil invertebrates were not used as the sole determinant of overall potential for unacceptable risks and are not included in color coding.
 Image Source: USDA, 2015.



Exposure Area	COECs By Exposure Area							
	Antimony	Arsenic	Cadmium	Copper	Lead	Selenium	Zinc	Dioxins and Furans
NE-07				•	•			
NR4/NR5	•	•			•	•		
NR6		•			•			
NR7			•	•	•			
NR8		•		•	•			
NR9	•	•		•	•	•		
NR10		•			•			
NR11		•	•	•	•			•
NR12	•	•	•	•	•			•
NR13					•			
NR14	•	•			•			
NR16	•	•	•		•	•		
NR17	•	•	•		•	•	•	
NR18		•			•			
NR19					•			

Figure 11-4
Summary of Estimated Ecological Risks for Potential Exposure to Soil
 Iron King Mine – Humboldt Smelter Superfund Site
 Dewey-Humboldt, Yavapai County, Arizona