

Next Level Historical Review

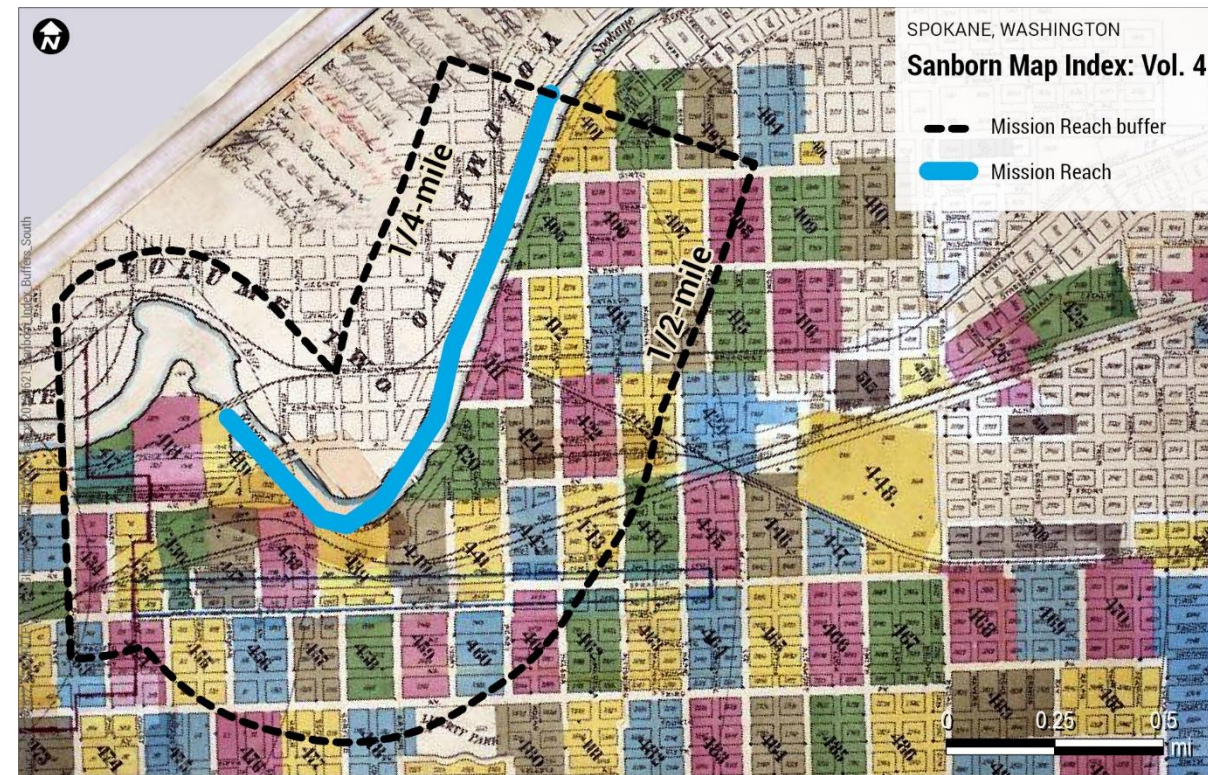
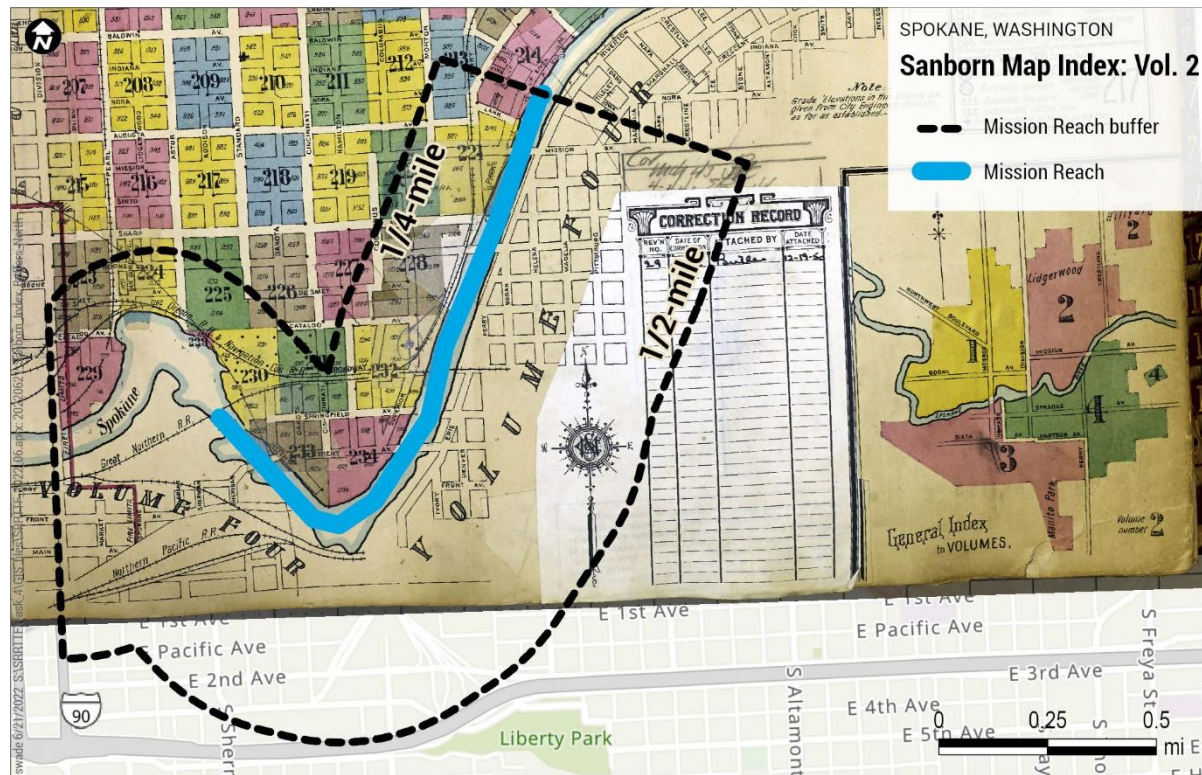
**Spokane River Regional Toxics Task Force
Technical Track Work Group
September 21, 2022 Meeting**

Next Level Historical Review

- Scope
 - Review Sanborn fire insurance maps from 1950 to 1980 and identify facilities that were potential sources of PCB releases
 - Review relevant historical TCP documents and associated monitoring data
 - Prioritize sites regarding their potential of being an ongoing PCB source
 - Focus on Mission Reach and Spokane Industrial Park
- Today's intent
 - Discuss (finalize?) prioritization scheme

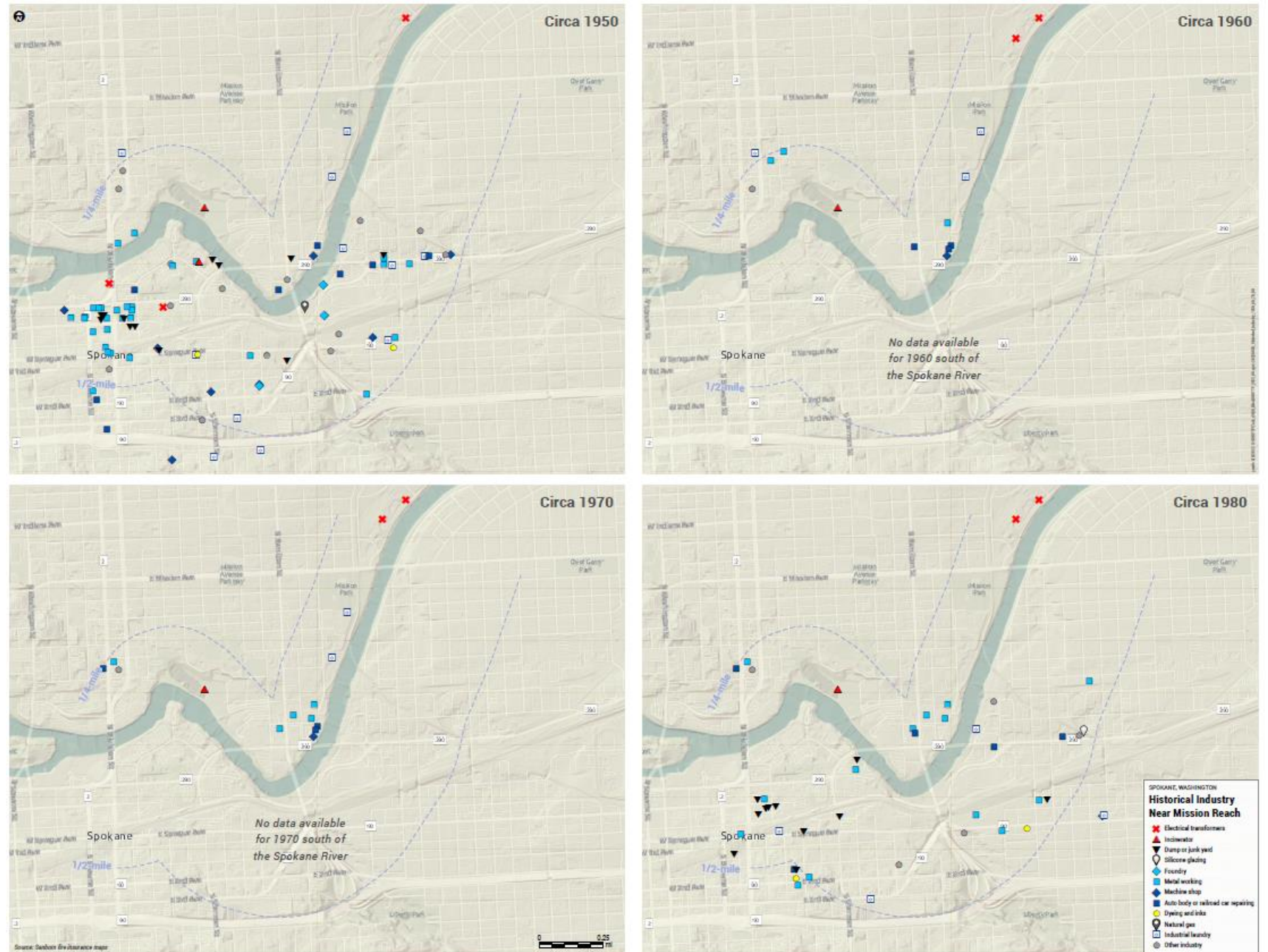
Sanborn Map Review

- Obtained the following Mission Reach maps within a ¼ mile north and ½ mile south of the river for the years 1950, 1960, 1970, and 1980
 - 150 maps in total



Sanborn Map Review

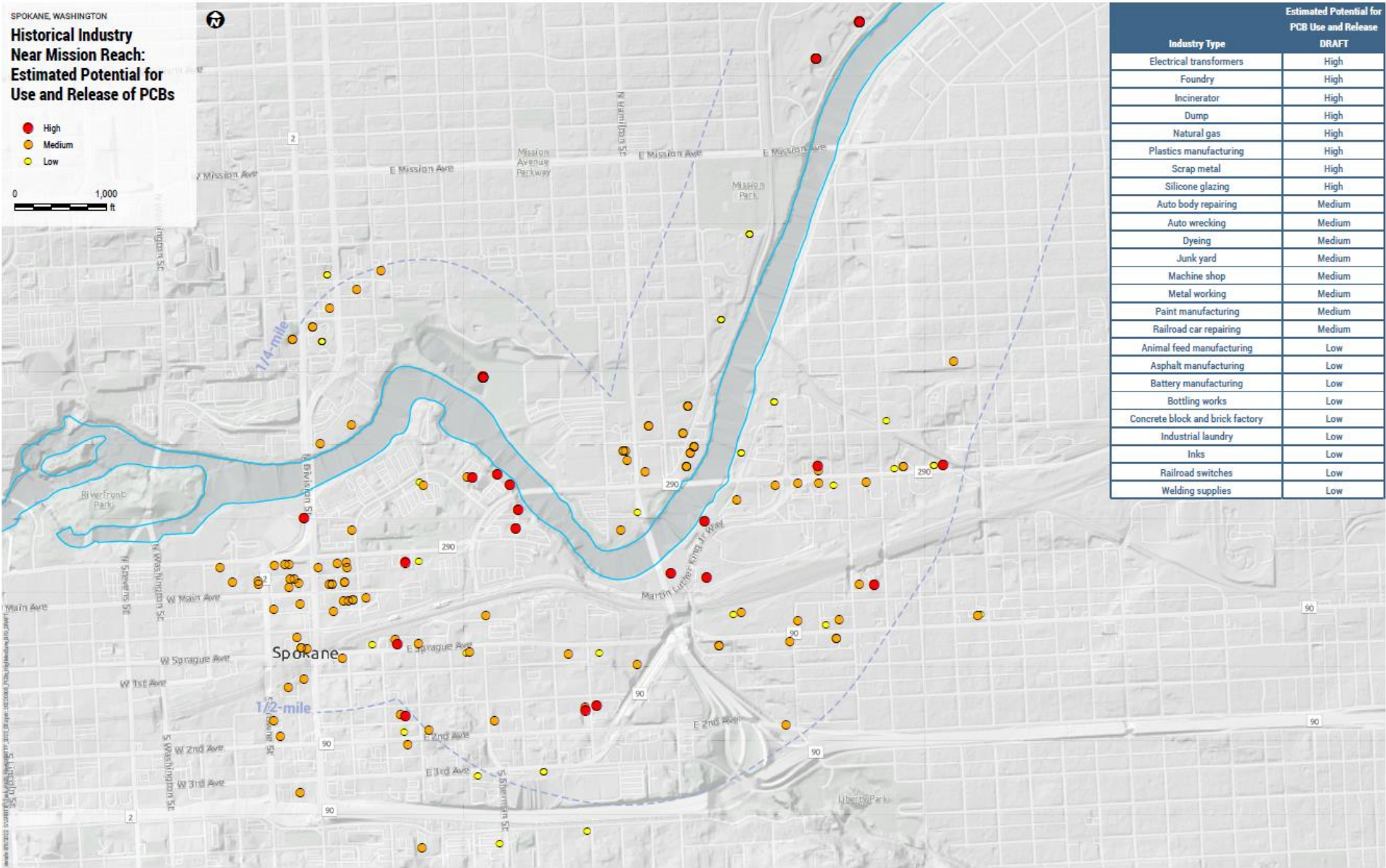
- Reviewed maps to identify potential PCB-using activities based upon established protocol
- Identified 130 sites in total



Categorizing Sanborn Sites based upon PCB Release Potential

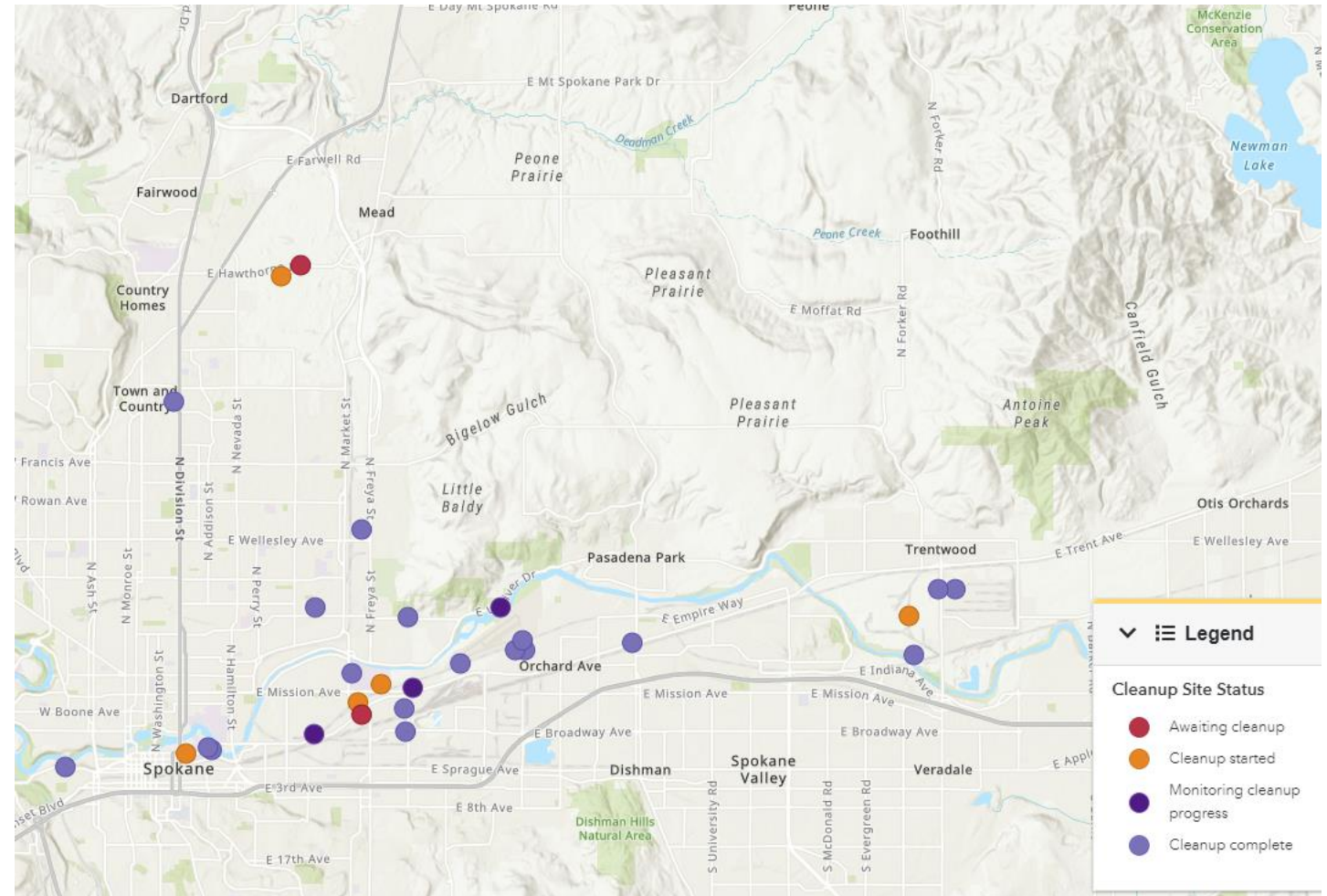
- Qualitative estimate (low, medium, high) based on prior experience
- High potential
 - Electrical transformers, foundry, incinerator, dump, natural gas, plastics manufacturing, scrap metal, silicone glazing
- Medium potential
 - Auto body repair, auto wrecking, dyeing, junk yard, machine shop, metal working, paint manufacturing, railroad car manufacturing
- Lower potential
 - Animal feed manufacturing, asphalt manufacturing, battery manufacturing, bottling works, concrete block and brick factory, industrial laundry, inks, railroad switches, welding supplies

Summary of Sanborn Sites by Release Potential



Review of Historical Documents

- Ecology's "What's in My Neighborhood: Toxics Cleanup" web site
 - 28 sites identified as having PCB contamination
 - All relevant documents and data downloaded and reviewed
 - Sites characterized regarding potential to deliver PCBs to the River

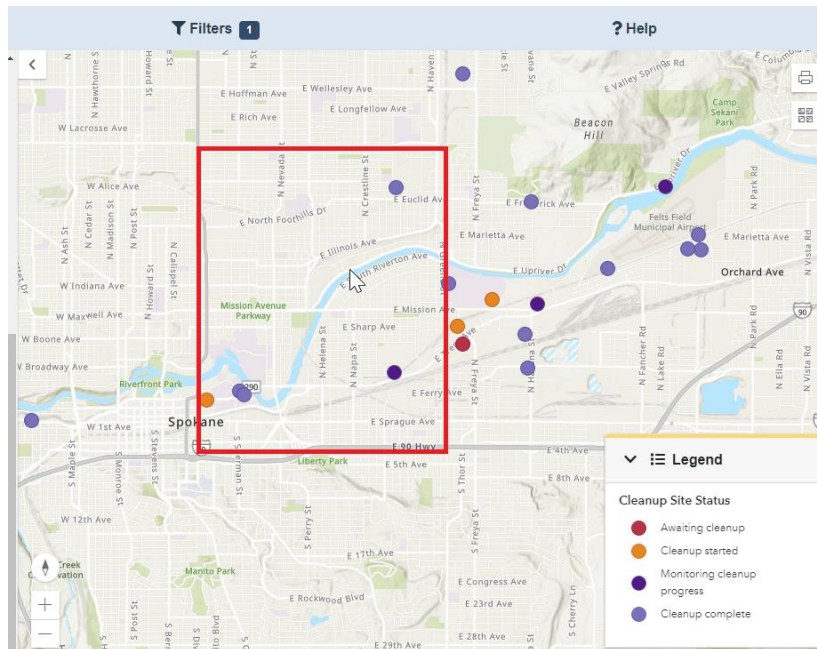


Review of Historical Documents

- Per scope, narrowed sites down to those in the area of:

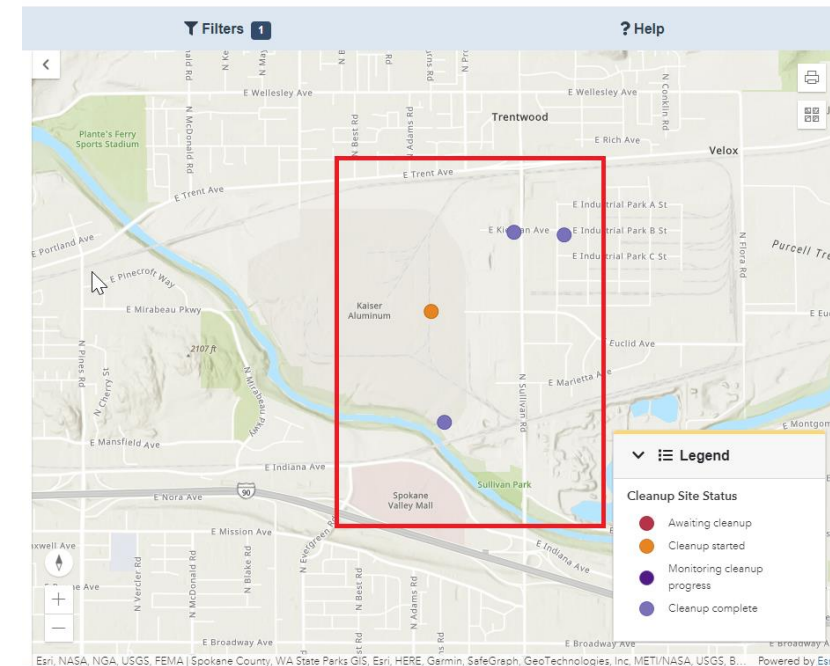
Mission Reach

What's in My Neighborhood: Toxics Cleanup



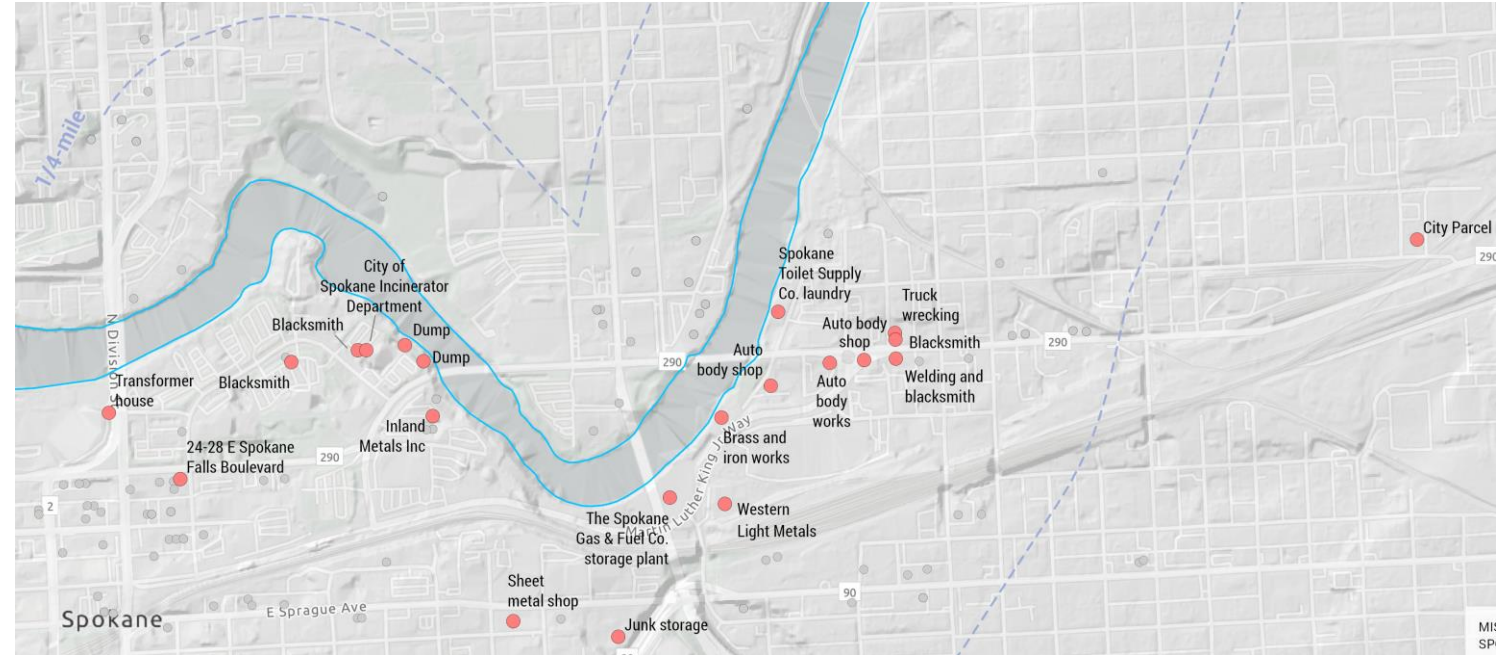
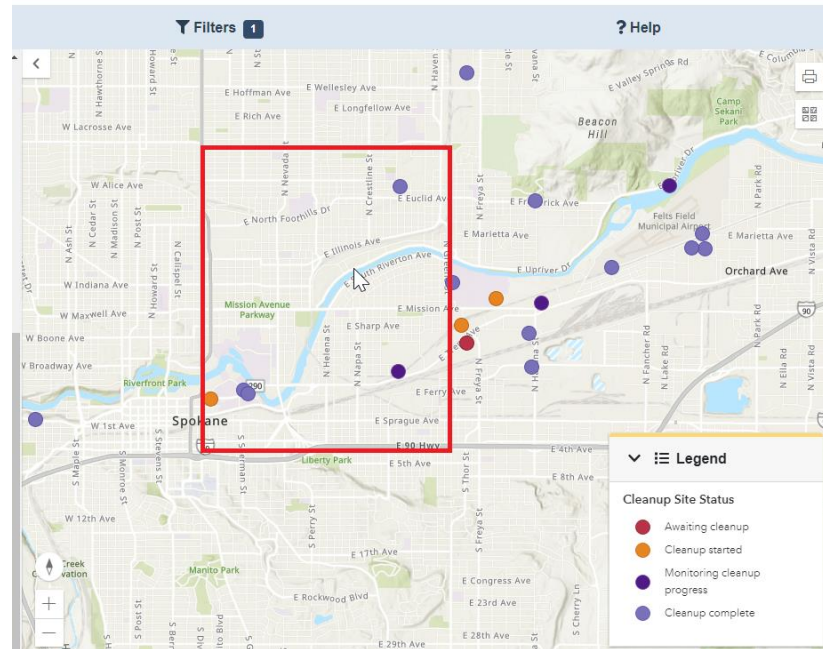
Spokane Industrial Park

What's in My Neighborhood: Toxics Cleanup



Review of Historical Documents

What's in My Neighborhood: Toxics Cleanup



- City Parcel and Junk Yard sites removed to be consistent with Sanborn coverage

Prioritization Scheme: Initial Proposal from August

- Determine site-specific score for various prioritization factor
 - Scores provided in table below are intended to illustrate the concept

Delivery Potential		Initial Site Contamination		Current Site Contamination		Offsite Contamination	
Attribute	Score	Attribute	Score	Attribute	Score	Attribute	Score
GW flow towards river, < 300 m away	+2	> 10x action level	+3	> 10x action level	+2	Observed	+2
GW flow towards river, > 300 m away	+1	Qualitatively high	+2	1-10x action level	+1	No data	0
GW flow away from river, < 100 m	+1	1-10x action level	+2	No data	0	Confirmed absent	-2
GW flow away from river, > 100 m away	-1	Qualitatively medium	1	< Action level	-1		
		Qualitatively low	0				
		< Action level	-2				

- Sum factor scores to get total score used in prioritization
 - Site score = Delivery Potential score + Initial Site Contamination score
+ Current Site Contamination score + Offsite Contamination score

Feedback Received on Initial Prioritization

- Consider proximity to observed in-stream hot spot
- Increase sub-score values to allow better differentiation between sites
- Allow for a tiered approach
 - More detailed assessment (e.g., similarity of fingerprints between source and river signal) on a subset of higher priority sites identified in initial screening

Prioritization Scheme: Updated Proposal(s)

- Version 1

Delivery Potential		Distance to Hot Spot		Initial Site Contamination		Current Site Contamination		Offsite Contamination	
Attribute	Score	Attribute	Score	Attribute	Score	Attribute	Score	Attribute	Score
GW flow towards river, <300 m away	+10	<100 m	+2	>10,000 ug/kg	+6	>10,000 ug/kg	+2	Observed	+5
GW flow towards river, >300 m away	+5	100 - 250 m	+1	Qualitatively high	+6	1,000 - 10,000 ug/kg	+1	No data	0
GW flow away from river, <100 m	0	250 – 500 m	0	1,000 - 10,000 ug/kg	+3	No data	0	Confirmed absent	-5
GW flow away from river, 100 m	-5	>500 m	-1	Qualitatively medium	3	<1,000 ug/kg	-2		
				Qualitatively low	+0				
				<1,000 ug/kg	-3				

- Version 2

Delivery Potential		Distance to Hot Spot		Initial Site Contamination		Current Site Contamination		Offsite Contamination	
Attribute	Score	Attribute	Score	Attribute	Score	Attribute	Score	Attribute	Score
GW flow towards river, <300 m away	+6	<100 m	+2	>10,000 ug/kg	+4	>10,000 ug/kg	+2	Observed	+3
GW flow towards river, >300 m away	+3	100 - 250 m	+1	Qualitatively high	+4	1,000 - 10,000 ug/kg	+1	No data	0
GW flow away from river, <100 m	0	250 – 500 m	0	1,000 - 10,000 ug/kg	+2	No data	0	Confirmed absent	-3
GW flow away from river, 100 m	-3	>500 m	-1	Qualitatively medium	2	<1,000 ug/kg	-2		
				Qualitatively low	+0				
				<1,000 ug/kg	-2				

*1,000 and 10,000 ug/kg are cleanup thresholds for unrestricted and industrial land uses, respectively, and not explicitly linked to protection of the river

Top 20 Sites Relatively Consistent Across Versions

Version 1

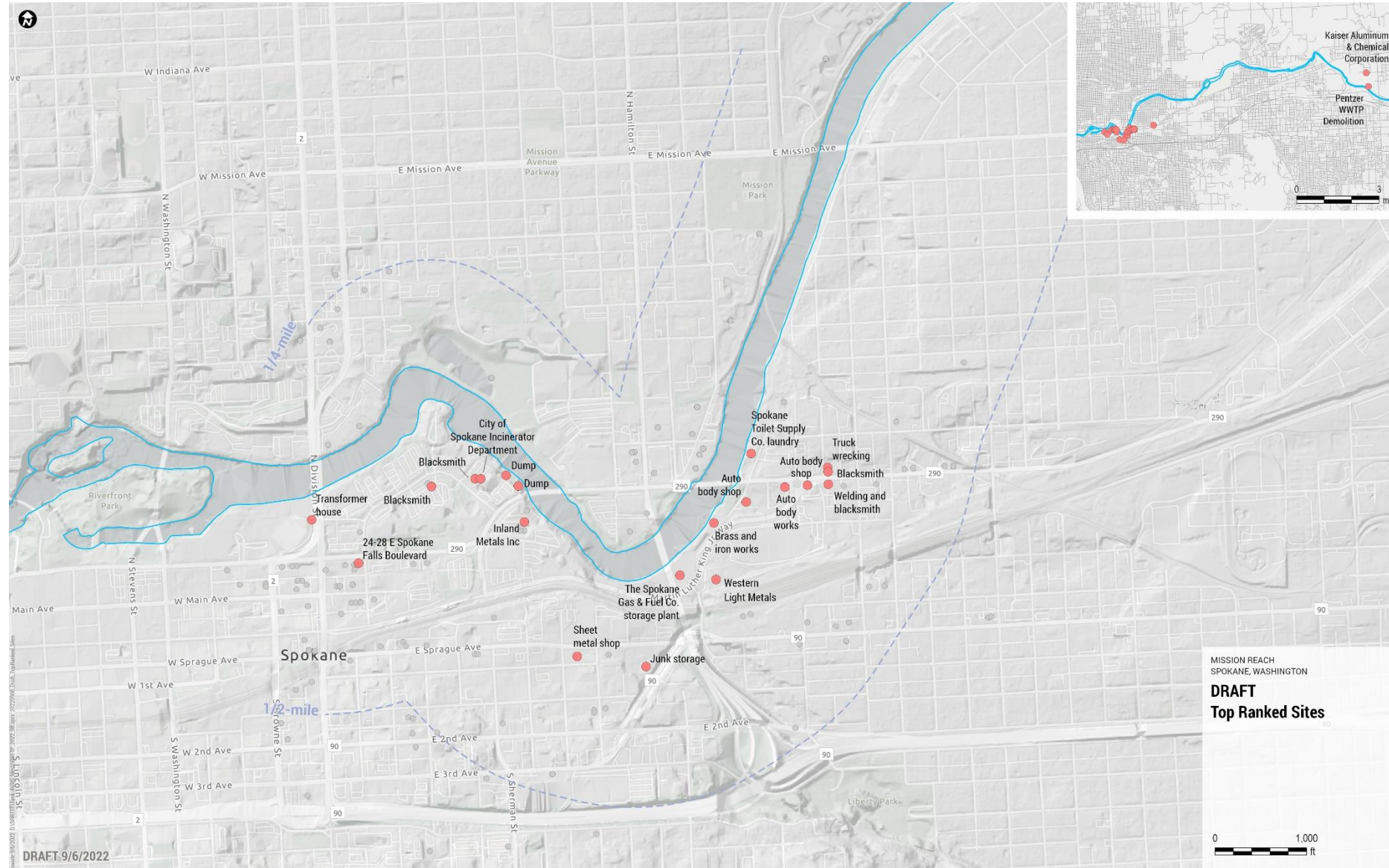
		Delivery potential	Distance to Hot Spot	Initial Contamination	Current Contamination	Offsite Contamination		
Rank	Site	Sub-score	Sub-score	Sub-score	Sub-score	Sub-score		Total Score
1	Inland Metals Inc	10	1	6	1	5		23
2	Kaiser Aluminum & Chemical Corporation	10	-1	6	2	5		22
3	Dump	10	2	6	0	0		18
4	Dump	10	2	6	0	0		18
5	City of Spokane Incinerator Department	10	2	6	0	0		18
6	24-28 E Spokane Falls Boulevard	10	-1	6	2	0		17
7	Scrap metal	10	1	6	0	0		17
8	The Spokane Gas & Fuel Co. storage plant	10	1	6	0	0		17
9	Brass and iron works	10	0	6	0	0		16
10	Western Light Metals	10	0	6	0	0		16
11	Truck wrecking	10	0	6	0	0		16
12	Transformer house	10	-1	6	0	0		15
13	Blacksmith	10	2	3	0	0		15
14	Auto body shop	10	1	3	0	0		14
15	Auto body works	10	1	3	0	0		14
16	Blacksmith	10	1	3	0	0		14
17	Auto body shop	10	1	3	0	0		14
18	Pentzer WWTP Demolition	10	-1	6	-2	0		13
19	Blacksmith	10	0	3	0	0		13
20	Sheet metal shop	10	0	3	0	0		13
21	Junk storage	10	0	3	0	0		13
22	Welding and blacksmith	10	0	3	0	0		13

Version 2

		Delivery potential	Distance to Hot Spot	Initial Contamination	Current Contamination	Offsite Contamination		
Rank	Site	Sub-score	Sub-score	Sub-score	Sub-score	Sub-score		Total Score
1	Inland Metals Inc	6	1	4	1	3		15
2	Kaiser Aluminum & Chemical Corporation	6	-1	4	2	3		14
3	Dump	6	2	4	0	0		12
4	Dump	6	2	4	0	0		12
5	City of Spokane Incinerator Department	6	2	4	0	0		12
6	24-28 E Spokane Falls Boulevard	6	-1	4	2	0		11
7	Scrap metal	6	1	4	0	0		11
8	The Spokane Gas & Fuel Co. storage plant	6	1	4	0	0		11
9	Brass and iron works	6	0	4	0	0		10
10	Western Light Metals	6	0	4	0	0		10
11	Truck wrecking	6	0	4	0	0		10
12	Blacksmith	6	2	2	0	0		10
13	Transformer house	6	-1	4	0	0		9
14	Auto body shop	6	1	2	0	0		9
15	Auto body works	6	1	2	0	0		9
16	Blacksmith	6	1	2	0	0		9
17	Auto body shop	6	1	2	0	0		9
18	City Parcel	3	-1	4	2	0		8
19	Blacksmith	6	0	2	0	0		8
20	Sheet metal shop	6	0	2	0	0		8
21	Junk storage	6	0	2	0	0		8
22	Welding and blacksmith	6	0	2	0	0		8
23	Spokane Toilet Supply Co. laundry	6	2	0	0	0		8

Top 25 Sites

- Subject to finalization of prioritization scheme



Discussion of Next Steps

- Any additional revisions to scoring scheme?
- Tiered analysis
 - Where do we set the cutoff?
 - What do we do next with high priority sites
 - Comparison of fingerprints between source and river hot spot?
 - Review of groundwater elevation to better assess connectivity to river?