APPENDIX E
STATISTICAL EVALUATION
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APPENDIX E
STATISTICAL EVALUATION

TABLES

FIGURES

APPENDIX E
STATISTICAL EVALUATION

E.1 Statistical Software

Statistical evaluation of data was performed using ProUCL 4.1 software.

E.2 Summary Statistics and Percentiles

Summary statistics for each of the 13 subareas were calculated on raw (untransformed) full datasets using ProUCL's summary statistics module. Percentiles were calculated using the full datasets with nondetects set equal to the reporting limit.

Surface soil metal concentration summary statistics and percentiles by individual subarea are presented in Tables E-1 and E-2, respectively.

Combined soil profile metal concentration summary statistics and percentiles for the 13 subareas are presented by depth interval in Tables E-3 and E-4, respectively.

E.3 Multivariate Analysis

Principal components analysis (PCA), one of many multivariate statistical methods available, was performed to determine if there are correlations among metals and other variables including soil type, underlying geology, elevation, slope, and aspect. PCA is a technique to combine correlated variables in a dataset and create a new, reduced set of variables (factors) that are linear combinations of the original variables. The total number of PCA factors derived is equal to the number of variables. The first PCA factor accounts for the largest percentage of data variability; the second PCA factor accounts for the second-most variability and so on. The first three PCA factors account for 93 percent of the observed variability in samples collected as part of this investigation. Increasing the number of factors evaluated or plotted has no impact on correlations among variables or statistical conclusions.

PCA correlation matrices and factor loading plots are used to evaluate correlations among variables. PCA correlation matrices quantitatively show the degree of correlation among variables. A correlation coefficient of 1.0 is a perfect correlation; a coefficient of 0.0 indicates no correlation among variables; and a coefficient of –1.0 demonstrates a negative correlation. Factor loading plots provide a visual indication of correlations among variables. Variables that plot close to one another in principal components (factor) space are strongly

correlated while variables plotted further apart are less correlated. The PCA factor loadings and correlation matrix are presented in Appendix E on Tables E-5. and E-6, respectively. The strength or degree of correlation as defined by the correlation coefficients (r) is:

- r values greater than 0.90 – very strong;
- r values between 0.7 and 0.9 – strong;
- r values between 0.5 and 0.7 – moderate
- r values between 0.3 and 0.5 – weak and
- r values less than 0.3 – none

E.4 Surface Soil Concentration Ranges and Variability

The range and variability of pooled surface metal results by subarea are presented visually in box and whisker plots of pooled surface metal results by subarea on Figures E-1 through E-23 . The ProUCL software constructs box and whisker plots in the following manner:

- The bottom of the box corresponds to the 25th percentile concentration;
- The upper end of the box is the 75th percentile concentration;
- The line within the box is the median (50th percentile) concentration;
- The upper whisker is located at the data point that is the closest to, but not greater than, 1.5 times the Interquartile Range (75th percentile minus 25th percentile) added to the 75 percentile; and
- The lower whisker is located at the data point that is closest to but not greater than 1.5 times the Interquartile Range subtracted from the 25 percentile.
- For a normal distribution, the whiskers encompass 95 percent of the data and data points outside the whiskers may either be extreme tails of the distribution or potential data outliers. Whiskers have little significance for other data distributions.

Short-range metal concentration variability was assessed by collection of two nearby surface soil samples from each of the 13 subareas. After the primary four-point composite sample points were identified within a 20 foot radius, a second composite sample was collected by rotating the primary sample locations 45 degrees clockwise. The average relative percent difference (RPD) for the replicate metal analyses ranged from 3.2 to 42.6 percent. Results are summarized in Table E-7.

E.5 Soil Profile Data Distributions for Arsenic, Cadmium, Lead, Mercury, and Zinc

The 12- to 24-inch soil profile mean was calculated using the data distribution with the best fit correlation coefficient from ProUCL goodness of fit (GOF) calculations (Table E-8). Data distributions, arithmetic means, and geometric means for metals of concern are summarized in Table E-9.

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Table E-1 - Surface Soil Metal Summary Statistics by Subarea

				Raw Statistics using Detected Observations							
Variable	Num Ds	NumNDs	% NDs	Minimum	Maximum	Mean	Median	SD	MAD/0.675	Skewness	CV
Al (sa-01)	9	0	0.00%	16500	26800	21944	21700	3505	2817	-0.0388	0.16
Al (sa-02)	9	0	0.00%	11200	23600	17589	16600	3981	3262	0.0368	0.226
Al (sa-03)	9	0	0.00%	11000	22100	17367	17200	3856	3855	-0.219	0.222
Al (sa-04)	9	0	0.00%	12900	18700	15333	14700	1839	1334	0.727	0.12
Al (sa-05)	8	0	0.00%	10700	31600	16013	14400	6691	3706	2.222	0.418
Al (sa-06)	9	0	0.00%	4590	17100	10962	9020	5291	6568	0.0481	0.483
Al (sa-07)	9	0	0.00%	4600	28400	13971	12400	7120	6316	0.978	0.51
Al (sa-08)	9	0	0.00%	7360	16000	10910	9990	3042	2076	0.771	0.279
Al (sa-09)	11	0	0.00%	15300	29400	20318	18700	4790	3706	1.131	0.236
Al (sa-10)	9	0	0.00%	17400	23700	19522	19000	1948	1631	1.28	0.1
Al (sa-11)	10	0	0.00%	6940	23500	17484	17750	4804	4151	-0.999	0.275
Al (sa-12)	9	0	0.00%	16600	34600	23189	23600	5615	4151	0.848	0.242
Al (sa-13)	9	0	0.00%	12700	28200	19400	19400	4743	4151	0.378	0.245
Sb (sa-01)	0	9	100.00%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sb (sa-02)	3	6	66.67%	0.2	0.4	0.3	0.3	0.1	0.148	2.602E-15	0.333
Sb (sa-03)	1	8	88.89%	0.6	0.6	0.6	0.6	N/A	0	N/A	N/A
Sb (sa-04)	5	4	44.44%	0.2	0.3	0.24	0.2	0.0548	0	0.609	0.228
Sb (sa-05)	6	2	25.00%	0.3	0.5	0.367	0.3	0.103	0	0.968	0.282
Sb (sa-06)	8	1	11.11%	0.2	1.5	0.5	0.35	0.417	0.148	2.482	0.835
Sb (sa-07)	9	0	0.00%	0.3	3.3	1.156	0.8	0.933	0.593	1.721	0.807
Sb (sa-08)	7	2	22.22%	0.2	2.6	0.943	0.7	0.8	0.445	1.799	0.848
Sb (sa-09)	7	4	36.36%	0.3	1.1	0.571	0.5	0.263	0.148	1.59	0.46
Sb (sa-10)	7	2	22.22%	0.2	1.7	0.786	0.5	0.587	0.445	0.91	0.747
Sb (sa-11)	7	3	30.00%	0.2	17.2	2.986	0.8	6.274	0.297	2.635	2.101
Sb (sa-12)	2	7	77.78%	0.2	0.4	0.3	0.3	0.141	0.148	N/A	0.471
Sb (sa-13)	6	3	33.33%	0.3	0.5	0.417	0.45	0.0983	0.0741	-0.456	0.236
As (sa-01)	9	0	0.00%	9.4	21.2	13	12.2	3.859	2.669	1.402	0.297
As (sa-02)	9	0	0.00%	7.4	22.7	14.59	16.2	4.799	3.41	-0.0921	0.329
As (sa-03)	9	0	0.00%	5.9	17.7	11.8	12.8	4.625	6.672	-0.0284	0.392
As (sa-04)	9	0	0.00%	9.1	20.2	14.3	14.3	3.411	3.558	0.318	0.239
As (sa-05)	8	0	0.00%	8.4	26.2	12.99	10.7	5.975	2.52	1.917	0.46
As (sa-06)	9	0	0.00%	5.7	36.3	15.87	14.8	9.661	7.858	1.318	0.609
As (sa-07)	9	0	0.00%	8.8	38.7	22.63	24.1	10.69	12.6	0.182	0.473
As (sa-08)	9	0	0.00%	7.6	45.1	21.89	17.3	12.68	8.302	0.906	0.579
As (sa-09)	11	0	0.00%	10.3	36	23.72	26.3	8.657	10.38	-0.233	0.365
As (sa-10)	9	0	0.00%	5.6	55.5	24.56	21.2	15.81	14.38	0.875	0.644
As (sa-11)	10	0	0.00%	9	37.3	21.71	20.85	9.689	12.08	0.336	0.446
As (sa-12)	9	0	0.00%	10	25.3	15.4	15.6	4.446	2.669	1.325	0.289
As (sa-13)	9	0	0.00%	5.3	22.4	14.21	16.4	6.594	7.858	-0.268	0.464
Ba (sa-01)	9	0	0.00%	226	1120	475.1	425	277	234.2	1.815	0.583
Ba (sa-02)	9	0	0.00%	90.4	744	319.5	308	182.9	124.5	1.623	0.572
Ba (sa-03)	9	0	0.00%	269	934	455.4	316	249.8	69.68	1.435	0.549

Table E-1 - Surface Soil Metal Summary Statistics by Subarea

				Raw Statistics using Detected Observations							
Variable	Num Ds	NumNDs	% NDs	Minimum	Maximum	Mean	Median	SD	MAD/0.675	Skewness	CV
Ba (sa-04)	9	0	0.00%	135	383	217.4	202	75.27	40.03	1.55	0.346
Ba (sa-05)	8	0	0.00%	130	773	269.4	198	209.2	49.67	2.541	0.777
Ba (sa-06)	9	0	0.00%	34.8	352	217.4	295	131.5	84.51	-0.426	0.605
Ba (sa-07)	9	0	0.00%	55	514	205.3	167	138.6	100.2	1.509	0.675
Ba (sa-08)	9	0	0.00%	75.7	427	186.2	161	108.1	62.27	1.491	0.581
Ba (sa-09)	11	0	0.00%	120	2590	589.1	375	688.3	275.8	2.903	1.168
Ba (sa-10)	9	0	0.00%	132	512	402.4	441	136.1	97.85	-1.316	0.338
Ba (sa-11)	10	0	0.00%	192	876	411.2	416.5	199.6	183.1	1.388	0.485
Ba (sa-12)	9	0	0.00%	154	590	359.9	370	125.1	81.54	0.157	0.348
Ba (sa-13)	9	0	0.00%	157	454	321.6	295	94.84	34.1	0.0136	0.295
Be (sa-01)	9	0	0.00%	0.7	1.2	0.856	0.8	0.174	0.148	1.07	0.203
Be (sa-02)	9	0	0.00%	0.4	0.9	0.6	0.5	0.166	0.148	0.846	0.276
Be (sa-03)	9	0	0.00%	0.4	0.9	0.611	0.5	0.203	0.148	0.617	0.332
Be (sa-04)	9	0	0.00%	0.5	0.7	0.544	0.5	0.0726	0	1.501	0.133
Be (sa-05)	8	0	0.00%	0.3	0.8	0.513	0.5	0.164	0.148	0.512	0.32
Be (sa-06)	9	0	0.00%	0.2	0.6	0.4	0.4	0.18	0.297	-1.86E-15	0.451
Be (sa-07)	9	0	0.00%	0.2	0.7	0.433	0.4	0.15	0.148	0.413	0.346
Be (sa-08)	9	0	0.00%	0.2	0.5	0.344	0.3	0.0882	0.148	0.214	0.256
Be (sa-09)	11	0	0.00%	0.5	1.5	0.691	0.6	0.277	0	2.968	0.401
Be (sa-10)	9	0	0.00%	0.5	1.2	0.7	0.7	0.212	0.148	1.818	0.303
Be (sa-11)	10	0	0.00%	0.4	1	0.6	0.55	0.17	0.0741	1.527	0.283
Be (sa-12)	9	0	0.00%	0.4	1.6	0.733	0.6	0.424	0.148	1.533	0.579
Be (sa-13)	9	0	0.00%	0.4	0.8	0.533	0.5	0.112	0	1.917	0.21
Cd (sa-01)	9	0	0.00%	0.9	3.3	1.678	1.6	0.748	0.741	1.259	0.446
Cd (sa-02)	9	0	0.00%	1.4	13.1	4.022	2.4	3.658	1.186	2.307	0.909
Cd (sa-03)	9	0	0.00%	0.6	11.1	4.344	3.6	3.5	3.262	0.949	0.806
Cd (sa-04)	9	0	0.00%	2.7	9.2	5.782	5.5	2.385	3.113	0.308	0.412
Cd (sa-05)	8	0	0.00%	2.9	9.5	6.288	6.25	2.269	2.669	-0.151	0.361
Cd (sa-06)	9	0	0.00%	1.1	10.6	6.508	8.4	3.743	2.076	-0.656	0.575
Cd (sa-07)	9	0	0.00%	4.77	17.2	9.141	8.1	4.196	3.706	1	0.459
Cd (sa-08)	9	0	0.00%	1.5	18.5	9.267	8.6	5.967	3.262	0.607	0.644
Cd (sa-09)	11	0	0.00%	4.26	24.2	11.2	10.5	5.833	5.634	0.965	0.521
Cd (sa-10)	9	0	0.00%	4.1	37.3	13.12	7.4	11.15	4.299	1.513	0.85
Cd (sa-11)	10	0	0.00%	2.2	16.9	8.6	6.6	5.942	6.375	0.321	0.691
Cd (sa-12)	9	0	0.00%	2	6.23	3.792	4	1.291	1.334	0.553	0.34
Cd (sa-13)	9	0	0.00%	1.3	12.9	5.067	3.6	4.211	1.483	1.439	0.831
Ca (sa-01)	9	0	0.00%	3110	10800	5691	5140	2278	859.9	1.539	0.4
Ca (sa-02)	9	0	0.00%	3370	7760	5019	5010	1379	1275	0.747	0.275
Ca (sa-03)	9	0	0.00%	2800	15200	6900	4970	4923	3024	1.164	0.714
Ca (sa-04)	9	0	0.00%	4420	7740	6030	5690	1204	1260	0.189	0.2
Ca (sa-05)	8	0	0.00%	4120	15300	8049	7130	3396	1171	1.555	0.422
Ca (sa-06)	9	0	0.00%	1310	5920	3574	4070	1710	1572	-0.212	0.479

Table E-1 - Surface Soil Metal Summary Statistics by Subarea

				Raw Statistics using Detected Observations							
Variable	Num Ds	NumNDs	% NDs	Minimum	Maximum	Mean	Median	SD	MAD/0.675	Skewness	CV
Ca (sa-07)	9	0	0.00%	1630	7110	4072	3360	1922	2076	0.518	0.472
Ca (sa-08)	9	0	0.00%	2280	7020	3848	3540	1398	696.8	1.602	0.363
Ca (sa-09)	11	0	0.00%	3590	13200	8527	8250	3327	4552	0.116	0.39
Ca (sa-10)	9	0	0.00%	6330	21100	10493	9030	4556	2431	1.873	0.434
Ca (sa-11)	10	0	0.00%	3780	12100	6716	5635	3006	2468	0.856	0.448
Ca (sa-12)	9	0	0.00%	3250	10400	5979	5720	2017	1557	1.216	0.337
Ca (sa-13)	9	0	0.00%	2700	24500	8359	6490	6736	4937	1.975	0.806
Cr (sa-01)	9	0	0.00%	14.7	47.1	25.92	23.5	9.119	5.634	1.647	0.352
Cr (sa-02)	9	0	0.00%	15.3	48.6	24.98	20.6	11.03	7.858	1.302	0.442
Cr (sa-03)	9	0	0.00%	11.8	110	40.69	20.6	38.15	12.31	1.171	0.938
Cr (sa-04)	9	0	0.00%	13.5	53.8	27.7	27.5	11.1	4.448	1.69	0.401
Cr (sa-05)	8	0	0.00%	14	182	40.55	20.2	57.48	6.227	2.766	1.418
Cr (sa-06)	9	0	0.00%	7.6	40.3	17.78	17.3	10.99	12.45	1.117	0.618
Cr (sa-07)	9	0	0.00%	7	159	29.77	15.1	48.61	5.041	2.965	1.633
Cr (sa-08)	9	0	0.00%	9.1	17.1	13.31	12.2	2.867	3.41	0.101	0.215
Cr (sa-09)	11	0	0.00%	18.1	470	73.15	26.4	133.1	10.38	3.192	1.819
Cr (sa-10)	9	0	0.00%	11.2	34	20.46	20.6	6.739	8.302	0.813	0.329
Cr (sa-11)	10	0	0.00%	8.6	31.9	22.79	22.35	7.621	8.154	-0.437	0.334
Cr (sa-12)	9	0	0.00%	15.1	35	20.82	20.9	6.08	4.744	1.735	0.292
Cr (sa-13)	9	0	0.00%	18	28	22.31	21.5	3.523	0.741	0.876	0.158
Co (sa-01)	9	0	0.00%	6	12.3	8.989	9	1.919	1.483	0.224	0.213
Co (sa-02)	9	0	0.00%	5.3	17.6	8.422	6.9	3.676	2.372	2.328	0.436
Co (sa-03)	9	0	0.00%	4.6	23	9.911	6.4	7.393	2.224	1.376	0.746
Co (sa-04)	9	0	0.00%	6	9.7	8.567	8.9	1.181	0.89	-1.41	0.138
Co (sa-05)	8	0	0.00%	4.8	20	8.038	6.1	5.088	1.779	2.332	0.633
Co (sa-06)	9	0	0.00%	2.2	11.7	6.267	8	3.679	5.486	0.0388	0.587
Co (sa-07)	9	0	0.00%	2.1	22	6.633	5.5	5.914	1.334	2.702	0.892
Co (sa-08)	9	0	0.00%	3.5	8.3	5.144	4.9	1.592	1.927	0.966	0.31
Co (sa-09)	11	0	0.00%	6.2	24.2	10.7	8.6	4.977	2.076	2.324	0.465
Co (sa-10)	9	0	0.00%	2.9	21.5	10.74	10.6	4.906	2.372	1.018	0.457
Co (sa-11)	10	0	0.00%	4.1	12.2	7.87	7.85	2.341	1.927	0.455	0.297
Co (sa-12)	9	0	0.00%	6.5	18.6	9.067	8.4	3.798	2.52	2.389	0.419
Co (sa-13)	9	0	0.00%	6.9	11	8.589	8.5	1.589	2.076	0.623	0.185
Cu (sa-01)	9	0	0.00%	14.3	25	18.54	18.2	3.474	3.41	0.623	0.187
Cu (sa-02)	9	0	0.00%	11.9	34.3	19.93	17.6	7.683	4.151	1.062	0.385
Cu (sa-03)	9	0	0.00%	9.8	47	23.01	17.5	13.94	10.67	0.999	0.606
Cu (sa-04)	9	0	0.00%	17.6	36	25.16	25.2	4.915	2.52	1.104	0.195
Cu (sa-05)	8	0	0.00%	19.7	35.2	26.01	22.6	6.573	3.781	0.691	0.253
Cu (sa-06)	9	0	0.00%	6.4	33.9	20.54	20.1	10.51	12.75	-0.113	0.512
Cu (sa-07)	9	0	0.00%	12.7	62	30.77	30.1	15.31	16.75	1.02	0.498
Cu (sa-08)	9	0	0.00%	15	49.4	25.89	20.8	11.95	6.227	1.257	0.462
Cu (sa-09)	11	0	0.00%	23.4	50.1	32.33	30.9	7.666	7.561	1.225	0.237

Table E-1 - Surface Soil Metal Summary Statistics by Subarea

				Raw Statistics using Detected Observations							
Variable	Num Ds	NumNDs	% NDs	Minimum	Maximum	Mean	Median	SD	MAD/0.675	Skewness	CV
Cu (sa-10)	9	0	0.00%	20.7	62.9	36.31	38.8	12.33	11.86	1.14	0.34
Cu (sa-11)	10	0	0.00%	18.7	52	31.73	28.55	10.83	7.709	0.764	0.341
Cu (sa-12)	9	0	0.00%	14.7	52.9	25.82	21	13.2	7.265	1.499	0.511
Cu (sa-13)	9	0	0.00%	16.4	43.7	26.02	21.5	10.44	6.82	0.798	0.401
Fe (sa-01)	9	0	0.00%	17200	40800	24056	22500	6635	1779	2.372	0.276
Fe (sa-02)	9	0	0.00%	18300	28700	21689	20900	3174	3262	1.422	0.146
Fe (sa-03)	9	0	0.00%	14200	39100	21967	18000	9408	4893	1.27	0.428
Fe (sa-04)	9	0	0.00%	15400	23900	21067	21800	2538	1631	-1.501	0.12
Fe (sa-05)	8	0	0.00%	13900	41500	19475	15750	9374	2743	2.335	0.481
Fe (sa-06)	9	0	0.00%	7980	27200	16062	16600	7654	11520	0.245	0.477
Fe (sa-07)	9	0	0.00%	7620	41200	17280	15700	9497	2372	2.348	0.55
Fe (sa-08)	9	0	0.00%	10600	17600	13744	13100	2926	3558	0.213	0.213
Fe (sa-09)	11	0	0.00%	14200	40400	24745	22900	7569	7709	0.789	0.306
Fe (sa-10)	9	0	0.00%	9150	33900	23172	23000	6748	3262	-0.705	0.291
Fe (sa-11)	10	0	0.00%	9140	31000	20824	21700	6128	5782	-0.27	0.294
Fe (sa-12)	9	0	0.00%	17900	40800	24022	22700	6976	4448	1.992	0.29
Fe (sa-13)	9	0	0.00%	17200	25800	22000	22400	2665	2224	-0.544	0.121
Pb (sa-01)	9	0	0.00%	37.6	158	78.28	72.5	34.16	18.38	1.676	0.436
Pb (sa-02)	9	0	0.00%	59.5	405	159.1	107	113.7	55.6	1.473	0.715
Pb (sa-03)	9	0	0.00%	31	509	214.9	174	173.5	162.9	0.735	0.808
Pb (sa-04)	9	0	0.00%	109	512	267.7	224	140.3	134.9	0.551	0.524
Pb (sa-05)	8	0	0.00%	118	389	277.3	319	100.2	69.68	-0.859	0.361
Pb (sa-06)	9	0	0.00%	60.3	619	354.1	401	219.3	318.8	-0.242	0.619
Pb (sa-07)	9	0	0.00%	268	1280	611.1	496	356.2	277.2	0.876	0.583
Pb (sa-08)	9	0	0.00%	62.5	1440	548.8	381	453.4	373.6	1.105	0.826
Pb (sa-09)	11	0	0.00%	165	1040	491.9	503	248.7	219.4	0.866	0.506
Pb (sa-10)	9	0	0.00%	162	1240	382.3	313	330.2	129	2.708	0.864
Pb (sa-11)	10	0	0.00%	83	1920	539.1	437	551.5	446.3	1.953	1.023
Pb (sa-12)	9	0	0.00%	66.4	249	186.7	207	57.42	25.2	-1.435	0.308
Pb (sa-13)	9	0	0.00%	31.9	649	271	202	204.3	129	1.037	0.754
Mg (sa-01)	9	0	0.00%	3670	8750	5532	5230	1515	1290	1.139	0.274
Mg (sa-02)	9	0	0.00%	3220	6570	4940	5000	1023	1067	-0.12	0.207
Mg (sa-03)	9	0	0.00%	2350	13800	6169	4260	4230	2357	1.059	0.686
Mg (sa-04)	9	0	0.00%	3280	7900	5446	5120	1472	800.6	0.636	0.27
Mg (sa-05)	8	0	0.00%	3330	24500	7026	4185	7209	889.5	2.617	1.026
Mg (sa-06)	9	0	0.00%	1800	6200	3524	3570	1719	2254	0.66	0.488
Mg (sa-07)	9	0	0.00%	1760	23400	5574	3340	6738	1171	2.907	1.209
Mg (sa-08)	9	0	0.00%	2180	4250	3192	2900	800.7	637.5	0.404	0.251
Mg (sa-09)	11	0	0.00%	2850	34900	9385	6040	9058	3084	2.656	0.965
Mg (sa-10)	9	0	0.00%	2510	6280	4844	5070	1266	1527	-0.542	0.261
Mg (sa-11)	10	0	0.00%	1960	7580	5113	5145	1707	1475	-0.34	0.334
Mg (sa-12)	9	0	0.00%	3280	9370	5216	4640	1781	1082	1.774	0.341

Table E-1 - Surface Soil Metal Summary Statistics by Subarea

				Raw Statistics using Detected Observations							
Variable	Num Ds	NumNDs	% NDs	Minimum	Maximum	Mean	Median	SD	MAD/0.675	Skewness	CV
Mg (sa-13)	9	0	0.00%	3510	6610	4862	4770	1023	1127	0.555	0.21
Mn (sa-01)	9	0	0.00%	914	2340	1426	1150	560.4	286.1	1.046	0.393
Mn (sa-02)	9	0	0.00%	399	2510	1145	1120	586.5	222.4	1.598	0.512
Mn (sa-03)	9	0	0.00%	622	2420	1271	1090	561.1	338	1.176	0.441
Mn (sa-04)	9	0	0.00%	574	1190	823.8	831	200	262.4	0.59	0.243
Mn (sa-05)	8	0	0.00%	427	1090	667.1	539.5	260.5	160.9	0.774	0.39
Mn (sa-06)	9	0	0.00%	162	2020	917.7	942	610.5	649.4	0.396	0.665
Mn (sa-07)	9	0	0.00%	254	1050	611	542	313.3	266.9	0.577	0.513
Mn (sa-08)	9	0	0.00%	304	918	637.8	619	207.7	262.4	-0.34	0.326
Mn (sa-09)	11	0	0.00%	334	2030	1182	1260	522.9	696.8	0.0133	0.442
Mn (sa-10)	9	0	0.00%	43.6	5490	2387	2340	1650	1883	0.502	0.691
Mn (sa-11)	10	0	0.00%	497	2850	1282	1265	679.7	556	1.32	0.53
Mn (sa-12)	9	0	0.00%	655	2750	1590	1470	660	578.2	0.537	0.415
Mn (sa-13)	9	0	0.00%	317	2270	1227	1260	543.6	326.2	0.304	0.443
Hg (sa-01)	9	0	0.00%	0.04	0.073	0.0501	0.048	0.0102	0.00593	1.643	0.203
Hg (sa-02)	9	0	0.00%	0.03	0.066	0.0453	0.041	0.0137	0.0119	0.557	0.303
Hg (sa-03)	9	0	0.00%	0.022	0.148	0.0636	0.036	0.0492	0.0208	0.927	0.774
Hg (sa-04)	9	0	0.00%	0.039	0.139	0.0739	0.073	0.0311	0.0326	1.201	0.42
Hg (sa-05)	8	0	0.00%	0.043	0.114	0.0733	0.0735	0.024	0.0267	0.387	0.328
Hg (sa-06)	9	0	0.00%	0.015	0.108	0.0702	0.082	0.0364	0.0311	-0.678	0.519
Hg (sa-07)	9	0	0.00%	0.055	0.278	0.126	0.099	0.0733	0.0519	1.243	0.58
Hg (sa-08)	9	0	0.00%	0.019	0.287	0.108	0.085	0.084	0.0771	1.271	0.775
Hg (sa-09)	11	0	0.00%	0.054	0.262	0.13	0.115	0.0648	0.0697	0.698	0.499
Hg (sa-10)	9	0	0.00%	0.06	0.232	0.108	0.094	0.0502	0.0252	2.18	0.463
Hg (sa-11)	10	0	0.00%	0.035	0.527	0.147	0.115	0.142	0.063	2.508	0.964
Hg (sa-12)	9	0	0.00%	0.045	0.135	0.0706	0.065	0.0267	0.0119	1.992	0.378
Hg (sa-13)	9	0	0.00%	0.044	0.113	0.082	0.085	0.0234	0.0237	-0.319	0.285
Ni (sa-01)	9	0	0.00%	13.1	33.6	23.03	23.4	5.653	4.596	0.165	0.245
Ni (sa-02)	9	0	0.00%	12.9	41.2	21.12	15.3	9.975	3.558	1.226	0.472
Ni (sa-03)	9	0	0.00%	11.4	95.3	35.16	19.4	31.66	11.12	1.174	0.9
Ni (sa-04)	9	0	0.00%	14.5	35.5	21.12	21.2	6.277	4.596	1.586	0.297
Ni (sa-05)	8	0	0.00%	10.8	44.9	18.85	14.5	11.61	5.486	1.942	0.616
Ni (sa-06)	9	0	0.00%	6.6	30.3	16.26	16.6	9.275	14.08	0.307	0.571
Ni (sa-07)	9	0	0.00%	5.9	83.8	20.33	14.3	24.02	4.151	2.891	1.181
Ni (sa-08)	9	0	0.00%	8.9	17.6	12.47	11.5	2.885	3.855	0.491	0.231
Ni (sa-09)	11	0	0.00%	20.7	178	41.71	26.9	45.52	8.895	3.232	1.091
Ni (sa-10)	9	0	0.00%	13.1	57.2	35.99	29.8	15.95	16.46	0.198	0.443
Ni (sa-11)	10	0	0.00%	7.8	38.8	21.17	19.8	8.555	3.632	0.821	0.404
Ni (sa-12)	9	0	0.00%	14.3	76.4	27.47	20.4	19.39	5.782	2.469	0.706
Ni (sa-13)	9	0	0.00%	15.5	26.5	19.79	18.9	3.283	2.372	0.989	0.166
K (sa-01)	9	0	0.00%	1090	1820	1378	1370	238.3	296.5	0.607	0.173
K (sa-02)	9	0	0.00%	1320	3380	2032	1900	649.7	415.1	1.284	0.32

Table E-1 - Surface Soil Metal Summary Statistics by Subarea

				Raw Statistics using Detected Observations							
Variable	Num Ds	NumNDs	% NDs	Minimum	Maximum	Mean	Median	SD	MAD/0.675	Skewness	CV
K (sa-03)	9	0	0.00%	990	4730	2216	1640	1419	815.4	1.126	0.64
K (sa-04)	9	0	0.00%	1350	3520	2501	2760	645	459.6	-0.386	0.258
K (sa-05)	8	0	0.00%	1120	10400	3264	2460	2957	867.3	2.553	0.906
K (sa-06)	9	0	0.00%	600	2480	1416	1490	723.6	1112	0.239	0.511
K (sa-07)	9	0	0.00%	490	13900	2780	1370	4219	756.1	2.869	1.518
K (sa-08)	9	0	0.00%	610	1670	1170	1330	374.9	326.2	-0.387	0.32
K (sa-09)	11	0	0.00%	1150	17200	3620	1890	4660	563.4	2.966	1.287
K (sa-10)	9	0	0.00%	460	2120	1527	1600	470.6	326.2	-1.451	0.308
K (sa-11)	10	0	0.00%	1200	2230	1700	1815	368.7	422.5	-0.191	0.217
K (sa-12)	9	0	0.00%	1100	2010	1551	1530	281.6	192.7	0.292	0.182
K (sa-13)	9	0	0.00%	1200	2380	1533	1340	459.2	163.1	1.509	0.3
Se (sa-01)	0	9	100.00%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Se (sa-02)	0	9	100.00%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Se (sa-03)	0	9	100.00%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Se (sa-04)	0	9	100.00%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Se (sa-05)	0	8	100.00%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Se (sa-06)	0	9	100.00%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Se (sa-07)	1	8	88.89%	0.6	0.6	0.6	0.6	N/A	0	N/A	N/A
Se (sa-08)	0	9	100.00%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Se (sa-09)	1	10	90.91%	1	1	1	1	N/A	0	N/A	N/A
Se (sa-10)	3	6	66.67%	0.5	5.2	2.333	1.3	2.515	1.186	1.537	1.078
Se (sa-11)	2	8	80.00%	0.6	0.7	0.65	0.65	0.0707	0.0741	N/A	0.109
Se (sa-12)	1	8	88.89%	0.6	0.6	0.6	0.6	N/A	0	N/A	N/A
Se (sa-13)	1	8	88.89%	1.7	1.7	1.7	1.7	N/A	0	N/A	N/A
Ag (sa-01)	0	9	100.00%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ag (sa-02)	2	7	77.78%	0.2	0.2	0.2	0.2	0	0	N/A	0
Ag (sa-03)	3	6	66.67%	0.2	0.3	0.267	0.3	0.0577	0	-1.732	0.217
Ag (sa-04)	5	4	44.44%	0.2	0.4	0.28	0.3	0.0837	0.148	0.512	0.299
Ag (sa-05)	7	1	12.50%	0.2	0.4	0.3	0.3	0.0816	0.148	4.276E-15	0.272
Ag (sa-06)	6	3	33.33%	0.3	0.4	0.317	0.3	0.0408	0	2.449	0.129
Ag (sa-07)	9	0	0.00%	0.2	1	0.544	0.5	0.313	0.445	0.446	0.574
Ag (sa-08)	6	3	33.33%	0.3	1.2	0.567	0.5	0.339	0.222	1.635	0.598
Ag (sa-09)	11	0	0.00%	0.3	0.6	0.436	0.5	0.121	0.148	-0.0276	0.276
Ag (sa-10)	8	1	11.11%	0.2	0.6	0.338	0.3	0.13	0.148	1.14	0.386
Ag (sa-11)	8	2	20.00%	0.2	2	0.575	0.35	0.59	0.148	2.574	1.026
Ag (sa-12)	5	4	44.44%	0.2	1.2	0.44	0.3	0.428	0.148	2.16	0.972
Ag (sa-13)	7	2	22.22%	0.3	0.4	0.314	0.3	0.0378	0	2.646	0.12
Na (sa-01)	8	1	11.11%	100	200	155	160	38.54	37.06	-0.489	0.249
Na (sa-02)	8	1	11.11%	170	260	200	185	30.71	14.83	1.184	0.154
Na (sa-03)	7	2	22.22%	110	220	172.9	170	36.84	29.65	-0.485	0.213
Na (sa-04)	7	2	22.22%	130	160	150	150	11.55	14.83	-0.909	0.077
Na (sa-05)	8	0	0.00%	140	270	213.8	220	43.07	51.89	-0.399	0.202

Table E-1 - Surface Soil Metal Summary Statistics by Subarea

				Raw Statistics using Detected Observations							
Variable	Num Ds	NumNDs	% NDs	Minimum	Maximum	Mean	Median	SD	MAD/0.675	Skewness	CV
Na (sa-06)	5	4	44.44%	140	190	166	160	19.49	29.65	-0.081	0.117
Na (sa-07)	7	2	22.22%	130	320	184.3	160	64.25	29.65	1.96	0.349
Na (sa-08)	5	4	44.44%	120	270	166	140	61.07	29.65	1.762	0.368
Na (sa-09)	11	0	0.00%	150	340	232.7	210	69.15	88.95	0.284	0.297
Na (sa-10)	8	1	11.11%	150	250	197.5	200	32.84	29.65	0.101	0.166
Na (sa-11)	8	2	20.00%	130	320	227.5	255	73.44	66.72	-0.358	0.323
Na (sa-12)	9	0	0.00%	160	310	223.3	220	51.23	74.13	0.448	0.229
Na (sa-13)	8	1	11.11%	170	290	222.5	215	46.83	44.48	0.58	0.21
Tl (sa-01)	2	7	77.78%	0.2	0.3	0.25	0.25	0.0707	0.0741	N/A	0.283
Tl (sa-02)	5	4	44.44%	0.2	0.5	0.3	0.3	0.122	0.148	1.361	0.408
Tl (sa-03)	5	4	44.44%	0.2	0.6	0.36	0.3	0.182	0.148	0.567	0.505
Tl (sa-04)	8	1	11.11%	0.2	0.4	0.313	0.3	0.0835	0.148	-0.277	0.267
Tl (sa-05)	8	0	0.00%	0.2	0.5	0.338	0.35	0.106	0.0741	-0.0449	0.314
Tl (sa-06)	6	3	33.33%	0.3	0.4	0.367	0.4	0.0516	0	-0.968	0.141
Tl (sa-07)	9	0	0.00%	0.2	0.9	0.511	0.5	0.226	0.148	0.575	0.442
Tl (sa-08)	8	1	11.11%	0.2	1	0.488	0.35	0.3	0.148	1.136	0.615
Tl (sa-09)	11	0	0.00%	0.3	0.9	0.555	0.5	0.207	0.148	0.419	0.373
Tl (sa-10)	8	1	11.11%	0.3	1.2	0.488	0.4	0.295	0.0741	2.569	0.605
Tl (sa-11)	10	0	0.00%	0.2	1	0.48	0.5	0.262	0.297	0.644	0.545
Tl (sa-12)	8	1	11.11%	0.2	0.4	0.263	0.25	0.0744	0.0741	0.824	0.283
Tl (sa-13)	8	1	11.11%	0.2	0.5	0.325	0.3	0.128	0.148	0.475	0.394
V (sa-01)	9	0	0.00%	23	42.5	32.3	32.7	5.546	4.448	0.148	0.172
V (sa-02)	9	0	0.00%	17.5	34.6	27.32	27.7	5.361	3.558	-0.401	0.196
V (sa-03)	9	0	0.00%	17.5	39	25.02	19.5	8.986	2.965	0.768	0.359
V (sa-04)	9	0	0.00%	18.4	43.1	28.42	28.6	6.888	4.744	1.009	0.242
V (sa-05)	8	0	0.00%	20.5	73	30.93	22.5	18.27	2.965	2.217	0.591
V (sa-06)	9	0	0.00%	10.6	28.5	18.26	20.3	6.499	11.27	0.144	0.356
V (sa-07)	9	0	0.00%	9	75	25	19.1	19.26	4.893	2.685	0.771
V (sa-08)	9	0	0.00%	12.9	30.8	20.36	18.7	6.563	4.596	0.75	0.322
V (sa-09)	11	0	0.00%	17.3	73.5	33.17	26.7	18.05	8.599	1.647	0.544
V (sa-10)	9	0	0.00%	20.8	42.4	25.67	24.6	6.641	3.41	2.405	0.259
V (sa-11)	10	0	0.00%	11.4	47.3	30.65	30.9	9.583	5.56	-0.254	0.313
V (sa-12)	9	0	0.00%	23.4	44.3	29.71	28.5	6.58	5.189	1.44	0.221
V (sa-13)	9	0	0.00%	23.3	39	32.98	34.6	5.331	5.041	-0.704	0.162
Zn (sa-01)	9	0	0.00%	127	227	152.2	147	31.16	20.76	2.049	0.205
Zn (sa-02)	9	0	0.00%	105	520	258.8	210	148.2	65.23	1.159	0.573
Zn (sa-03)	9	0	0.00%	83	660	280.3	233	191.7	155.7	1.059	0.684
Zn (sa-04)	9	0	0.00%	186	430	290.6	281	91.32	131.9	0.148	0.314
Zn (sa-05)	8	0	0.00%	161	510	321.4	310	119	118.6	0.425	0.37
Zn (sa-06)	9	0	0.00%	70	540	331.7	420	183.7	74.13	-0.654	0.554
Zn (sa-07)	9	0	0.00%	188	1130	525.9	480	288.5	252	1.176	0.549
Zn (sa-08)	9	0	0.00%	112	1210	477.6	370	353.8	281.7	1.286	0.741

Table E-1 - Surface Soil Metal Summary Statistics by Subarea

				Raw Statistics using Detected Observations							
Variable	**Num Ds**	**NumNDs**	**% NDs**	**Minimum**	**Maximum**	**Mean**	**Median**	**SD**	**MAD/0.675**	**Skewness**	**CV**
Zn (sa-09)	11	0	0.00%	280	850	526.4	490	190.6	192.7	0.466	0.362
Zn (sa-10)	9	0	0.00%	165	1330	549.1	400	375.6	222.4	1.217	0.684
Zn (sa-11)	10	0	0.00%	169	1150	480	360	324	269.8	0.997	0.675
Zn (sa-12)	9	0	0.00%	163	440	281.6	249	100.3	78.58	0.757	0.356
Zn (sa-13)	9	0	0.00%	160	660	316.8	271	185.1	126	1.339	0.584

Table E-2 - Surface Soil Metal Percentiles by Subarea

Variable	NumObs	5%ile	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Al (sa-01)	9	16500	16500	17620	18575	21250	23450	24200	26620	26710	26782
Al (sa-02)	9	11200	11200	14000	14725	16250	20525	21200	21800	22700	23420
Al (sa-03)	9	11000	11000	13880	14625	16000	20150	20620	21920	22010	22082
Al (sa-04)	9	12900	12900	13620	13925	14700	16200	16740	17440	18070	18574
Al (sa-05)	8	10700	10700	11360	11800	14300	15500	16380	20480	26040	30488
Al (sa-06)	9	4590	4590	5070	5408	8760	16050	16240	16470	16785	17037
Al (sa-07)	9	4600	4600	7432	8730	11700	16375	18040	21020	24710	27662
Al (sa-08)	9	7360	7360	8344	8625	9555	12350	13400	15100	15550	15910
Al (sa-09)	11	15300	15330	15720	16050	18550	21050	21160	27950	29015	29323
Al (sa-10)	9	17400	17400	17800	17950	18850	20325	20640	21090	22395	23439
Al (sa-11)	10	6940	6940	14900	14950	16600	20200	21400	22500	23000	23400
Al (sa-12)	9	16600	16600	16920	17550	22200	25475	25720	27040	30820	33844
Al (sa-13)	9	12700	12700	13660	14750	18450	21900	22240	22980	25590	27678
Sb (sa-01)	9	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Sb (sa-02)	9	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.31	0.355	0.391
Sb (sa-03)	9	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.24	0.42	0.564
Sb (sa-04)	9	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.3	0.3	0.3
Sb (sa-05)	8	0.2	0.2	0.2	0.2	0.3	0.3	0.38	0.5	0.5	0.5
Sb (sa-06)	9	0.2	0.2	0.2	0.225	0.3	0.475	0.5	0.6	1.05	1.41
Sb (sa-07)	9	0.3	0.3	0.38	0.45	0.75	1.4	1.54	1.86	2.58	3.156
Sb (sa-08)	9	0.2	0.2	0.2	0.2	0.5	0.85	0.96	1.34	1.97	2.474
Sb (sa-09)	11	0.2	0.2	0.2	0.2	0.35	0.5	0.5	0.68	0.88	1.056
Sb (sa-10)	9	0.2	0.2	0.2	0.2	0.4	0.725	0.94	1.52	1.61	1.682
Sb (sa-11)	10	0.2	0.2	0.2	0.2	0.3	0.85	0.9	0.9	9.05	15.57
Sb (sa-12)	9	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.31	0.382
Sb (sa-13)	9	0.2	0.2	0.2	0.225	0.3	0.475	0.5	0.5	0.5	0.5
As (sa-01)	9	9.4	9.4	9.72	9.95	11.45	13.5	14.42	17.33	19.27	20.81
As (sa-02)	9	7.4	7.4	8.04	9.2	15.05	16.65	16.98	18.2	20.45	22.25
As (sa-03)	9	5.9	5.9	6.38	6.85	10.75	14.95	15.62	17.34	17.52	17.66
As (sa-04)	9	9.1	9.1	11.26	11.83	13.4	15.83	16.44	18.04	19.12	19.98
As (sa-05)	8	8.4	8.4	8.58	8.7	10.4	12.1	14.06	18.84	22.52	25.46
As (sa-06)	9	5.7	5.7	6.66	7.55	13.85	15.58	17.6	26.67	31.49	35.34
As (sa-07)	9	8.8	8.8	9.76	11.4	20.35	28.35	30.7	35.82	37.26	38.41
As (sa-08)	9	7.6	7.6	10.88	11.75	17.15	26.5	30.4	38.35	41.73	44.43
As (sa-09)	11	10.3	10.64	13.78	14	24.15	29.1	30.2	33.03	34.52	35.7
As (sa-10)	9	5.6	5.6	10.32	11.6	18.8	30.35	32.58	40.92	48.21	54.04
As (sa-11)	10	9	9	10.6	11.45	20.7	25.5	28.6	35	36.15	37.07
As (sa-12)	9	10	10	10.8	11.6	14.7	16.18	16.52	18.19	21.75	24.59
As (sa-13)	9	5.3	5.3	5.78	6.35	14.6	18.13	19.06	21.77	22.09	22.34
Ba (sa-01)	9	226	226	254	262.5	412	471.8	522.6	710.5	915.3	1079
Ba (sa-02)	9	90.4	90.4	180.5	204.5	286	338.3	353.6	427.2	585.6	712.3
Ba (sa-03)	9	269	269	273.8	281.5	314.5	437	519	837.7	885.9	924.4
Ba (sa-04)	9	135	135	161.4	169.8	192	213	230	299.3	341.2	374.6
Ba (sa-05)	8	130	130	148	160	197	227	253.4	389	581	734.6
Ba (sa-06)	9	34.8	34.8	42.24	62.83	216.5	318	323.2	341.2	346.6	350.9
Ba (sa-07)	9	55	55	90.52	104.6	163	247.3	277.6	314.2	414.1	494
Ba (sa-08)	9	75.7	75.7	81.46	91.93	160	191.8	207.2	283.9	355.5	412.7
Ba (sa-09)	11	120	126.6	186.6	188.3	371.5	550.5	584.6	708.6	1562	2384
Ba (sa-10)	9	132	132	209.6	265.3	434	501	503	507.5	509.8	511.6
Ba (sa-11)	10	192	192	230	242.5	413	463.5	484	523	699.5	840.7
Ba (sa-12)	9	154	154	232.4	255.5	366	412	416.2	441.5	515.8	575.2
Ba (sa-13)	9	157	157	249	272.5	294.5	366.5	398.4	452.2	453.1	453.8
Be (sa-01)	9	0.7	0.7	0.7	0.7	0.8	0.95	1	1.02	1.11	1.182
Be (sa-02)	9	0.4	0.4	0.48	0.5	0.5	0.675	0.72	0.81	0.855	0.891
Be (sa-03)	9	0.4	0.4	0.4	0.425	0.5	0.75	0.82	0.9	0.9	0.9
Be (sa-04)	9	0.5	0.5	0.5	0.5	0.5	0.575	0.6	0.61	0.655	0.691
Be (sa-05)	8	0.3	0.3	0.36	0.4	0.4	0.6	0.6	0.64	0.72	0.784
Be (sa-06)	9	0.2	0.2	0.2	0.2	0.35	0.575	0.6	0.6	0.6	0.6

Table E-2 - Surface Soil Metal Percentiles by Subarea

Variable	NumObs	5%ile	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Be (sa-07)	9	0.2	0.2	0.28	0.325	0.4	0.475	0.52	0.61	0.655	0.691
Be (sa-08)	9	0.2	0.2	0.28	0.3	0.3	0.4	0.4	0.41	0.455	0.491
Be (sa-09)	11	0.5	0.51	0.6	0.6	0.6	0.6	0.6	0.78	1.115	1.423
Be (sa-10)	9	0.5	0.5	0.5	0.525	0.65	0.7	0.72	0.84	1.02	1.164
Be (sa-11)	10	0.4	0.4	0.5	0.5	0.5	0.65	0.7	0.7	0.85	0.97
Be (sa-12)	9	0.4	0.4	0.4	0.425	0.55	0.675	0.82	1.33	1.465	1.573
Be (sa-13)	9	0.4	0.4	0.48	0.5	0.5	0.5	0.52	0.62	0.71	0.782
Cd (sa-01)	9	0.9	0.9	0.98	1	1.55	1.925	2.02	2.22	2.76	3.192
Cd (sa-02)	9	1.4	1.4	1.8	1.925	2.25	4.475	4.96	5.99	9.545	12.39
Cd (sa-03)	9	0.6	0.6	1.24	1.45	2.95	6.1	6.98	8.04	9.57	10.79
Cd (sa-04)	9	2.7	2.7	3.26	3.45	5.47	7.1	7.88	9.02	9.11	9.182
Cd (sa-05)	8	2.9	2.9	3.38	3.7	5.9	7.5	7.94	8.78	9.14	9.428
Cd (sa-06)	9	1.1	1.1	1.42	1.75	7.785	8.825	9.08	9.88	10.24	10.53
Cd (sa-07)	9	4.77	4.77	5.434	5.65	7.45	10.58	11.66	14.23	15.72	16.9
Cd (sa-08)	9	1.5	1.5	2.7	3.875	7.7	10.43	12.32	18.41	18.46	18.49
Cd (sa-09)	11	4.26	4.324	5.22	6.1	10.15	13.68	13.84	15.79	19.69	23.3
Cd (sa-10)	9	4.1	4.1	4.42	4.975	7.4	17.1	20.28	23.71	30.51	35.94
Cd (sa-11)	10	2.2	2.2	2.4	2.45	6.3	14	14.7	15.8	16.35	16.79
Cd (sa-12)	9	2	2	2.48	2.65	3.65	4.175	4.34	5.033	5.632	6.11
Cd (sa-13)	9	1.3	1.3	2.18	2.45	3.2	4.275	5.86	11.82	12.36	12.79
Ca (sa-01)	9	3110	3110	3574	4013	5070	5610	6076	7830	9315	10503
Ca (sa-02)	9	3370	3370	3386	3580	4800	5605	5772	6122	6941	7596
Ca (sa-03)	9	2800	2800	2904	2945	4530	7535	9348	14930	15065	15173
Ca (sa-04)	9	4420	4420	4756	4875	5670	6905	7150	7497	7619	7716
Ca (sa-05)	8	4120	4120	5224	5960	7000	7540	8644	11300	13300	14900
Ca (sa-06)	9	1310	1310	1534	1625	3540	4798	4830	5047	5484	5833
Ca (sa-07)	9	1630	1630	1894	2298	3345	4885	5474	6768	6939	7076
Ca (sa-08)	9	2280	2280	2712	2883	3395	3960	4174	5049	6035	6823
Ca (sa-09)	11	3590	3712	4884	5088	7815	10700	11580	13070	13200	13200
Ca (sa-10)	9	6330	6330	7178	7455	8895	10395	11360	14710	17905	20461
Ca (sa-11)	10	3780	3780	4010	4070	5590	8165	8990	10900	11500	11980
Ca (sa-12)	9	3250	3250	4274	4570	5610	6588	6798	7259	8830	10086
Ca (sa-13)	9	2700	2700	2980	3358	5500	9785	9896	11630	18065	23213
Cr (sa-01)	9	14.7	14.7	18.54	20.08	23.2	27.15	27.8	31.53	39.32	45.54
Cr (sa-02)	9	15.3	15.3	15.78	16.03	18.95	29.9	30.58	33.39	41	47.08
Cr (sa-03)	9	11.8	11.8	12.2	12.88	20.45	51.65	68.4	95.6	102.8	108.6
Cr (sa-04)	9	13.5	13.5	19.26	21	26	28.68	29.22	32.83	43.32	51.7
Cr (sa-05)	8	14	14	14.9	15.5	19.3	22.2	26.84	63.44	122.7	170.1
Cr (sa-06)	9	7.6	7.6	8.16	8.45	13.25	20.45	22.04	29.05	34.68	39.18
Cr (sa-07)	9	7	7	9.64	10.55	13.8	17.6	18.18	32.55	95.77	146.4
Cr (sa-08)	9	9.1	9.1	10.3	10.88	12.05	15.48	16.02	16.92	17.01	17.08
Cr (sa-09)	11	18.1	18.23	20.36	23	26	36.1	41.82	84.49	260.5	428.1
Cr (sa-10)	9	11.2	11.2	14.16	14.93	20.5	21.05	22.2	26.98	30.49	33.3
Cr (sa-11)	10	8.6	8.6	14.9	17.2	21.5	28.55	31.2	31.4	31.65	31.85
Cr (sa-12)	9	15.1	15.1	15.82	16.03	19.3	22.3	22.6	23.84	29.42	33.88
Cr (sa-13)	9	18	18	18.56	19.33	21.45	22	23.2	28	28	28
Co (sa-01)	9	6	6	6.88	7.35	8.65	9.8	10.18	11.04	11.67	12.17
Co (sa-02)	9	5.3	5.3	6.18	6.4	6.85	8.5	8.68	10.22	13.91	16.86
Co (sa-03)	9	4.6	4.6	4.84	4.925	6	9.925	13.2	22.1	22.55	22.91
Co (sa-04)	9	6	6	7.28	7.775	8.65	9.3	9.36	9.61	9.655	9.691
Co (sa-05)	8	4.8	4.8	4.92	5	5.6	7.6	8.36	11.6	15.8	19.16
Co (sa-06)	9	2.2	2.2	2.44	2.525	5.45	8.75	8.98	9.54	10.62	11.48
Co (sa-07)	9	2.1	2.1	3.14	3.625	5.05	5.75	5.92	7.96	14.98	20.6
Co (sa-08)	9	3.5	3.5	3.58	3.675	4.6	6	6.32	6.59	7.445	8.129
Co (sa-09)	11	6.2	6.36	7.86	8.025	8.6	10.5	11.16	14.1	18.81	23.12
Co (sa-10)	9	2.9	2.9	7.46	8.7	9.8	11.73	12.16	13.31	17.41	20.68
Co (sa-11)	10	4.1	4.1	6	6.2	7.8	8.4	8.7	10.8	11.5	12.06
Co (sa-12)	9	6.5	6.5	6.5	6.55	7.8	8.75	9.1	11.13	14.87	17.85

Table E-2 - Surface Soil Metal Percentiles by Subarea

Variable	NumObs	5%ile	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Co (sa-13)	9	6.9	6.9	6.98	7.025	8.15	9	9.4	11	11	11
Cu (sa-01)	9	14.3	14.3	14.86	15.25	17.45	20.28	20.72	21.94	23.47	24.69
Cu (sa-02)	9	11.9	11.9	11.98	12.95	17.55	20.18	22.4	30.79	32.55	33.95
Cu (sa-03)	9	9.8	9.8	10.2	11.18	16.1	26.95	31.68	43.94	45.47	46.69
Cu (sa-04)	9	17.6	17.6	21.2	22.45	24.45	25.75	26.14	27.99	32	35.2
Cu (sa-05)	8	19.7	19.7	20.12	20.4	22.4	30.9	32.54	35.04	35.12	35.18
Cu (sa-06)	9	6.4	6.4	7.28	8.5	19.1	27.73	29.26	33.18	33.54	33.83
Cu (sa-07)	9	12.7	12.7	17.5	18.73	26.05	35.98	38.62	45.35	53.68	60.34
Cu (sa-08)	9	15	15	16.28	16.9	19.7	28	31.48	41.84	45.62	48.64
Cu (sa-09)	11	23.4	23.53	24.92	25.53	30.7	34.33	37.02	38.36	43.67	48.81
Cu (sa-10)	9	20.7	20.7	25.34	26.63	34.8	39.18	39.72	43.91	53.41	61
Cu (sa-11)	10	18.7	18.7	22.6	23.35	25.1	37.2	41.9	43.5	47.75	51.15
Cu (sa-12)	9	14.7	14.7	15.1	16	20.4	24.83	29.3	43.9	48.4	52
Cu (sa-13)	9	16.4	16.4	16.8	17.15	20.05	32.35	35.48	39.47	41.59	43.28
Fe (sa-01)	9	17200	17200	20000	21000	22300	23450	23940	26490	33645	39369
Fe (sa-02)	9	18300	18300	18620	19000	20850	22600	23220	24200	26450	28250
Fe (sa-03)	9	14200	14200	14600	14800	17300	22575	25900	36580	37840	38848
Fe (sa-04)	9	15400	15400	18760	19650	21650	22525	22740	23000	23450	23810
Fe (sa-05)	8	13900	13900	13900	13900	15100	18400	20040	26300	33900	39980
Fe (sa-06)	9	7980	7980	8132	8335	13140	20700	21860	25490	26345	27029
Fe (sa-07)	9	7620	7620	10484	11925	15650	16175	16640	20320	30760	39112
Fe (sa-08)	9	10600	10600	10680	10825	12250	16375	16760	17060	17330	17546
Fe (sa-09)	11	14200	14500	17700	19075	22450	28150	28260	33160	36715	39663
Fe (sa-10)	9	9150	9150	18070	20500	22750	25000	25960	29490	31695	33459
Fe (sa-11)	10	9140	9140	15700	16650	21500	23150	24000	27100	29050	30610
Fe (sa-12)	9	17900	17900	18140	18575	21950	25000	25620	27930	34365	39513
Fe (sa-13)	9	17200	17200	18640	19475	22200	23075	23400	24720	25260	25692
Pb (sa-01)	9	37.6	37.6	48.48	54.13	69.4	84.1	85.8	96.26	127.1	151.8
Pb (sa-02)	9	59.5	59.5	67.5	73.75	106	202.3	232.8	263.7	334.4	390.9
Pb (sa-03)	9	31	31	57.48	66.53	139.5	310.8	364.4	437.9	473.5	501.9
Pb (sa-04)	9	109	109	128.2	133.5	218.5	364.3	388.4	409.4	460.7	501.7
Pb (sa-05)	8	118	118	130.6	139	301	340	341.6	353	371	385.4
Pb (sa-06)	9	60.3	60.3	79.66	93.88	380	492.8	541.6	616.3	617.7	618.7
Pb (sa-07)	9	268	268	300.8	310.3	426	838.8	911.6	968.6	1124	1249
Pb (sa-08)	9	62.5	62.5	115.7	173.8	372	665	803.6	1107	1274	1407
Pb (sa-09)	11	165	171.5	236	252.5	469.5	567	628.6	687	848.1	1002
Pb (sa-10)	9	162	162	192.4	205.5	279.5	329.5	344	484	862	1164
Pb (sa-11)	10	83	83	94.7	103.9	374	643.5	715	810	1365	1809
Pb (sa-12)	9	66.4	66.4	109.3	135.8	205.5	215.3	218.4	226.5	237.8	246.8
Pb (sa-13)	9	31.9	31.9	89.58	118.8	185	287	341.4	560.8	604.9	640.2
Mg (sa-01)	9	3670	3670	4206	4345	5130	6005	6174	6770	7760	8552
Mg (sa-02)	9	3220	3220	3924	4143	4735	5588	5640	5805	6188	6494
Mg (sa-03)	9	2350	2350	2606	2858	4040	7765	9424	12000	12900	13620
Mg (sa-04)	9	3280	3280	4152	4485	4975	5605	6044	7612	7756	7871
Mg (sa-05)	8	3330	3330	3516	3640	3690	4840	6048	11188	17844	23169
Mg (sa-06)	9	1800	1800	1944	1998	2830	3995	4422	6083	6142	6188
Mg (sa-07)	9	1760	1760	2392	2713	3320	4255	4448	6372	14886	21697
Mg (sa-08)	9	2180	2180	2412	2503	2850	3915	4154	4178	4214	4243
Mg (sa-09)	11	2850	2961	4248	5040	5910	8328	8498	14536	24065	32733
Mg (sa-10)	9	2510	2510	3614	3928	4715	5853	6104	6208	6244	6273
Mg (sa-11)	10	1960	1960	3290	3855	4870	5935	6410	7150	7365	7537
Mg (sa-12)	9	3280	3280	3784	4025	4620	5400	5682	6562	7966	9089
Mg (sa-13)	9	3510	3510	3854	4005	4550	5348	5638	6124	6367	6561
Mn (sa-01)	9	914	914	948.4	975.3	1135	1585	1800	2322	2331	2338
Mn (sa-02)	9	399	399	641.4	731	1105	1220	1246	1394	1952	2398
Mn (sa-03)	9	622	622	814	872	1037	1388	1506	1907	2164	2369
Mn (sa-04)	9	574	574	604.4	622.5	816	863	904	1055	1123	1177
Mn (sa-05)	8	427	427	431.8	435	539	851	895.8	988.4	1039	1080

Table E-2 - Surface Soil Metal Percentiles by Subarea

Variable	NumObs	5%ile	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Mn (sa-06)	9	162	162	178	251.8	817	1245	1300	1444	1732	1962
Mn (sa-07)	9	254	254	340.4	362.5	468.5	839.5	954.4	1041	1046	1049
Mn (sa-08)	9	304	304	361.6	421.3	610	775.3	808	862.2	890.1	912.4
Mn (sa-09)	11	334	366	657.4	666.8	1205	1438	1652	1730	1865	1997
Mn (sa-10)	9	43.6	43.6	672.7	890	2265	2863	3058	3978	4734	5339
Mn (sa-11)	10	497	497	676	701	1200	1515	1570	1630	2240	2728
Mn (sa-12)	9	655	655	903.8	1037	1420	1798	1964	2417	2584	2717
Mn (sa-13)	9	317	317	729.8	837.5	1220	1453	1480	1559	1915	2199
Hg (sa-01)	9	0.04	0.04	0.0416	0.0425	0.047	0.0498	0.0518	0.0604	0.0667	0.0717
Hg (sa-02)	9	0.03	0.03	0.0324	0.033	0.0405	0.0558	0.0604	0.0624	0.0642	0.0656
Hg (sa-03)	9	0.022	0.022	0.0244	0.0255	0.0335	0.0923	0.11	0.128	0.138	0.146
Hg (sa-04)	9	0.039	0.039	0.047	0.0495	0.065	0.0788	0.0844	0.106	0.122	0.136
Hg (sa-05)	8	0.043	0.043	0.0472	0.05	0.068	0.088	0.0888	0.0948	0.104	0.112
Hg (sa-06)	9	0.015	0.015	0.0238	0.0268	0.081	0.0953	0.0974	0.104	0.106	0.108
Hg (sa-07)	9	0.055	0.055	0.0622	0.0668	0.095	0.156	0.174	0.201	0.239	0.27
Hg (sa-08)	9	0.019	0.019	0.0302	0.0385	0.0785	0.142	0.159	0.181	0.234	0.276
Hg (sa-09)	11	0.054	0.054	0.0568	0.0645	0.114	0.164	0.179	0.19	0.223	0.254
Hg (sa-10)	9	0.06	0.06	0.0736	0.0785	0.091	0.112	0.116	0.135	0.183	0.222
Hg (sa-11)	10	0.035	0.035	0.05	0.0605	0.104	0.15	0.15	0.185	0.356	0.493
Hg (sa-12)	9	0.045	0.045	0.0458	0.0498	0.064	0.0715	0.0744	0.0855	0.11	0.13
Hg (sa-13)	9	0.044	0.044	0.0552	0.0605	0.077	0.1	0.1	0.102	0.108	0.112
Ni (sa-01)	9	13.1	13.1	18.46	19.83	22.15	25.23	25.62	27.21	30.41	32.96
Ni (sa-02)	9	12.9	12.9	13.38	13.68	14.8	24.9	27.38	32.65	36.93	40.35
Ni (sa-03)	9	11.4	11.4	11.8	12.18	16.7	47.28	59.42	76.04	85.67	93.37
Ni (sa-04)	9	14.5	14.5	15.14	15.73	20.25	21.6	22.22	25.42	30.46	34.49
Ni (sa-05)	8	10.8	10.8	10.8	10.8	12.4	20.9	21.94	27.78	36.34	43.19
Ni (sa-06)	9	6.6	6.6	6.84	6.95	12.8	21.73	23.22	27.6	28.95	30.03
Ni (sa-07)	9	5.9	5.9	9.02	10.15	12.9	15.33	15.76	23.14	53.47	77.73
Ni (sa-08)	9	8.9	8.9	9.46	9.725	11.4	14.33	14.46	14.99	16.3	17.34
Ni (sa-09)	11	20.7	20.72	21.9	24.65	26.8	34	35.1	37.21	100.7	162.5
Ni (sa-10)	9	13.1	13.1	22.46	24.83	27.65	49.9	53.28	55.04	56.12	56.98
Ni (sa-11)	10	7.8	7.8	14.4	16.15	19.2	21.75	22.8	31.1	34.95	38.03
Ni (sa-12)	9	14.3	14.3	16.06	16.85	19.2	24.25	26.62	39.59	58	72.72
Ni (sa-13)	9	15.5	15.5	16.94	17.4	18.7	21.35	21.94	22.54	24.52	26.1
K (sa-01)	9	1090	1090	1154	1170	1295	1498	1514	1595	1708	1798
K (sa-02)	9	1320	1320	1520	1583	1765	2080	2218	2795	3088	3322
K (sa-03)	9	990	990	1070	1098	1545	2553	3102	4352	4541	4692
K (sa-04)	9	1350	1350	1814	1950	2605	2820	2838	2935	3228	3462
K (sa-05)	8	1120	1120	1462	1690	2360	2600	2888	4736	7568	9834
K (sa-06)	9	600	600	704	732.5	1140	1823	1920	2300	2390	2462
K (sa-07)	9	490	490	786	905	1265	2128	2382	3577	8738	12868
K (sa-08)	9	610	610	714	752.5	1220	1405	1424	1499	1585	1653
K (sa-09)	11	1150	1186	1514	1525	1875	2518	2798	5303	10804	15921
K (sa-10)	9	460	460	1196	1383	1515	1795	1844	1886	2003	2097
K (sa-11)	10	1200	1200	1260	1280	1760	1965	2000	2010	2120	2208
K (sa-12)	9	1100	1100	1284	1348	1500	1610	1680	1929	1970	2002
K (sa-13)	9	1200	1200	1224	1235	1320	1440	1632	2290	2335	2371
Se (sa-01)	9	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.51	0.555	0.591
Se (sa-02)	9	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Se (sa-03)	9	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Se (sa-04)	9	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Se (sa-05)	8	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.52	0.56	0.592
Se (sa-06)	9	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Se (sa-07)	9	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.51	0.555	0.591
Se (sa-08)	9	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.52	0.61	0.682
Se (sa-09)	11	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.725	0.945
Se (sa-10)	9	0.5	0.5	0.5	0.5	0.5	0.5	0.66	1.69	3.445	4.849
Se (sa-11)	10	0.5	0.5	0.5	0.5	0.5	0.55	0.6	0.7	1.35	1.87

Table E-2 - Surface Soil Metal Percentiles by Subarea

Variable	NumObs	5%ile	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Se (sa-12)	9	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.51	0.555	0.591
Se (sa-13)	9	0.5	0.5	0.5	0.5	0.5	0.5	0.74	1.73	1.865	1.973
Ag (sa-01)	9	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Ag (sa-02)	9	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Ag (sa-03)	9	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.3	0.3	0.3
Ag (sa-04)	9	0.2	0.2	0.2	0.2	0.2	0.275	0.3	0.31	0.355	0.391
Ag (sa-05)	8	0.2	0.2	0.2	0.2	0.3	0.3	0.34	0.4	0.4	0.4
Ag (sa-06)	9	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.31	0.355	0.391
Ag (sa-07)	9	0.2	0.2	0.2	0.225	0.45	0.8	0.9	0.91	0.955	0.991
Ag (sa-08)	9	0.2	0.2	0.2	0.2	0.3	0.55	0.6	0.66	0.93	1.146
Ag (sa-09)	11	0.3	0.3	0.3	0.3	0.45	0.5	0.5	0.59	0.6	0.6
Ag (sa-10)	9	0.2	0.2	0.2	0.2	0.3	0.375	0.4	0.42	0.51	0.582
Ag (sa-11)	10	0.2	0.2	0.2	0.2	0.3	0.45	0.5	0.6	1.3	1.86
Ag (sa-12)	9	0.2	0.2	0.2	0.2	0.2	0.275	0.3	0.39	0.795	1.119
Ag (sa-13)	9	0.2	0.2	0.2	0.225	0.3	0.3	0.3	0.31	0.355	0.391
Na (sa-01)	9	100	100	100	107.5	155	167.5	176	200	200	200
Na (sa-02)	9	120	120	160	172.5	180	212.5	220	224	242	256.4
Na (sa-03)	9	110	110	126	130	160	177.5	186	211	215.5	219.1
Na (sa-04)	9	130	130	130	130	145	157.5	160	160	160	160
Na (sa-05)	8	140	140	164	180	210	230	242	262	266	269.2
Na (sa-06)	9	120	120	120	120	130	160	164	181	185.5	189.1
Na (sa-07)	9	120	120	120	122.5	150	175	184	212	266	309.2
Na (sa-08)	9	120	120	120	122.5	130	137.5	146	180	225	261
Na (sa-09)	11	150	150	152	157.5	210	295	306	310	323.5	336.7
Na (sa-10)	9	130	130	146	152.5	195	200	206	232	241	248.2
Na (sa-11)	10	120	120	130	135	160	275	280	280	300	316
Na (sa-12)	9	160	160	168	175	205	260	270	274	292	306.4
Na (sa-13)	9	130	130	162	170	205	227.5	242	290	290	290
Tl (sa-01)	9	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.21	0.255	0.291
Tl (sa-02)	9	0.2	0.2	0.2	0.2	0.2	0.275	0.3	0.32	0.41	0.482
Tl (sa-03)	9	0.2	0.2	0.2	0.2	0.2	0.275	0.34	0.51	0.555	0.591
Tl (sa-04)	9	0.2	0.2	0.2	0.2	0.3	0.375	0.4	0.4	0.4	0.4
Tl (sa-05)	8	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.42	0.46	0.492
Tl (sa-06)	9	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.4	0.4	0.4
Tl (sa-07)	9	0.2	0.2	0.28	0.325	0.45	0.575	0.64	0.81	0.855	0.891
Tl (sa-08)	9	0.2	0.2	0.2	0.225	0.3	0.475	0.58	0.91	0.955	0.991
Tl (sa-09)	11	0.3	0.3	0.32	0.375	0.5	0.65	0.76	0.8	0.845	0.889
Tl (sa-10)	9	0.2	0.2	0.28	0.3	0.4	0.4	0.42	0.57	0.885	1.137
Tl (sa-11)	10	0.2	0.2	0.2	0.2	0.5	0.6	0.6	0.7	0.85	0.97
Tl (sa-12)	9	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.31	0.355	0.391
Tl (sa-13)	9	0.2	0.2	0.2	0.2	0.25	0.375	0.42	0.5	0.5	0.5
V (sa-01)	9	23	23	26.84	27.93	32.5	34.4	34.82	36.38	39.44	41.89
V (sa-02)	9	17.5	17.5	21.58	23.28	26.7	29.73	30.84	33.88	34.24	34.53
V (sa-03)	9	17.5	17.5	17.5	17.7	19.1	32.18	35.2	36.3	37.65	38.73
V (sa-04)	9	18.4	18.4	22.08	23.6	27.5	29.2	30.1	33.92	38.51	42.18
V (sa-05)	8	20.5	20.5	20.5	20.5	22.1	26.5	32.14	47.08	60.04	70.41
V (sa-06)	9	10.6	10.6	11.4	11.8	16.5	22.58	22.82	23.82	26.16	28.03
V (sa-07)	9	9	9	15.16	16.9	18.9	22.85	23.12	28.74	51.87	70.37
V (sa-08)	9	12.9	12.9	15.06	15.6	17.2	23.55	25.94	29.81	30.31	30.7
V (sa-09)	11	17.3	17.46	19.3	20.4	26.4	30.95	35.02	59.36	67.12	72.22
V (sa-10)	9	20.8	20.8	21.28	21.43	23.45	25.68	25.9	28.27	35.34	40.99
V (sa-11)	10	11.4	11.4	24.8	25.5	30.7	32.5	33.7	41.2	44.25	46.69
V (sa-12)	9	23.4	23.4	23.64	24.03	27.3	31.4	31.84	34.67	39.49	43.34
V (sa-13)	9	23.3	23.3	26.42	27.9	33.3	37.03	37.76	38.1	38.55	38.91
Zn (sa-01)	9	127	127	130.2	131.5	140.5	150	154.2	176.6	201.8	222
Zn (sa-02)	9	105	105	125	142.5	199	253.5	301.2	493	506.5	517.3
Zn (sa-03)	9	83	83	119	131.8	188.5	360.5	406	489	574.5	642.9
Zn (sa-04)	9	186	186	186	187.5	275.5	357.5	372	385	407.5	425.5

Table E-2 - Surface Soil Metal Percentiles by Subarea

Variable	NumObs	5%ile	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Zn (sa-05)	8	161	161	200.6	227	300	360	400	470	490	506
Zn (sa-06)	9	70	70	83.6	97.25	395	455	462	477	508.5	533.7
Zn (sa-07)	9	188	188	265.6	298.8	440	610	674	806	968	1098
Zn (sa-08)	9	112	112	141.6	186	350	522.5	620	895	1053	1179
Zn (sa-09)	11	280	283	320	347.5	465	615	692	774	811.5	842.3
Zn (sa-10)	9	165	165	233	254.3	385	737.5	814	880	1105	1285
Zn (sa-11)	10	169	169	187	191.5	310	680	700	750	950	1110
Zn (sa-12)	9	163	163	189.4	201.5	244	325.3	365.6	429.2	434.6	438.9
Zn (sa-13)	9	160	160	169.6	175.5	244	298.8	364	606	633	654.6

Table E-3 - Soil Profile Metal Summary Statistics by Depth Interval

Variable	Depth	Num Ds	NumNDs	% NDs	Minimum	Maximum	Mean	Median	SD	MAD/0.675	Skewness	CV
Al (h1)	0 - 3"	13	0	0.00%	6450	29900	16151	15600	7061	4893	0.671	0.437
Al (h2)	3 - 6"	13	0	0.00%	6240	33500	18365	18800	7359	4151	0.454	0.401
Al (h3)	6 - 12"	13	0	0.00%	6710	34400	19255	20600	7087	6227	0.249	0.368
Al (h4)	12 - 24"	12	0	0.00%	6300	35400	17867	17050	7957	7265	0.842	0.445
Sb (h1)	0 - 3"	6	7	53.85%	0.4	5.1	1.7	1.1	1.779	1.038	1.841	1.046
Sb (h2)	3 - 6"	3	10	76.92%	0.4	0.7	0.567	0.6	0.153	0.148	-0.935	0.27
Sb (h3)	6 - 12"	1	12	92.31%	0.2	0.2	0.2	0.2	N/A	0	N/A	N/A
Sb (h4)	12 - 24"	0	12	100.00%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
As (h1)	0 - 3"	13	0	0.00%	6.8	26.2	13.92	11.1	6.062	3.113	0.968	0.436
As (h2)	3 - 6"	13	0	0.00%	4.7	28.2	11.04	9.6	6.459	5.486	1.686	0.585
As (h3)	6 - 12"	13	0	0.00%	1.3	16.1	6.308	5.5	3.936	3.41	1.227	0.624
As (h4)	12 - 24"	12	0	0.00%	1.3	10	5.05	5.35	2.687	2.669	0.196	0.532
Ba (h1)	0 - 3"	13	0	0.00%	48	445	239.4	216	122.9	103.8	0.471	0.513
Ba (h2)	3 - 6"	13	0	0.00%	44	376	214.9	236	101.3	133.4	0.0259	0.471
Ba (h3)	6 - 12"	13	0	0.00%	69.6	326	166.4	141	75.92	54.86	0.868	0.456
Ba (h4)	12 - 24"	12	0	0.00%	57.7	315	165.1	154.5	85.29	94.89	0.454	0.517
Be (h1)	0 - 3"	13	0	0.00%	0.2	1.1	0.531	0.5	0.263	0.297	0.909	0.495
Be (h2)	3 - 6"	13	0	0.00%	0.3	2.4	0.669	0.5	0.569	0.297	2.689	0.851
Be (h3)	6 - 12"	13	0	0.00%	0.3	2.1	0.692	0.6	0.468	0.148	2.604	0.676
Be (h4)	12 - 24"	12	0	0.00%	0.2	1.2	0.55	0.5	0.288	0.148	1.375	0.523
Cd (h1)	0 - 3"	13	0	0.00%	0.65	26.9	6.003	5.1	7.091	5.634	2.374	1.181
Cd (h2)	3 - 6"	13	0	0.00%	0.3	11.6	2.267	1.09	3.03	1.171	2.763	1.336
Cd (h3)	6 - 12"	13	0	0.00%	0.2	4.1	0.762	0.4	1.057	0.297	3.019	1.388
Cd (h4)	12 - 24"	12	0	0.00%	0.1	0.8	0.336	0.25	0.232	0.0741	1.173	0.692
Ca (h1)	0 - 3"	13	0	0.00%	1270	21800	5731	4140	5260	2461	2.671	0.918
Ca (h2)	3 - 6"	13	0	0.00%	1370	12700	4266	3650	3008	2016	2.038	0.705
Ca (h3)	6 - 12"	13	0	0.00%	1440	10900	3971	3530	2560	1972	1.883	0.645
Ca (h4)	12 - 24"	12	0	0.00%	1550	57300	7752	3680	15664	2120	3.416	2.021
Cr (h1)	0 - 3"	13	0	0.00%	7.4	28.3	17.75	18.6	6.455	6.672	-0.156	0.364
Cr (h2)	3 - 6"	13	0	0.00%	7.8	32.8	19.72	20	7.45	9.489	-0.102	0.378
Cr (h3)	6 - 12"	13	0	0.00%	7.8	28.9	20.76	21.8	7.459	8.599	-0.671	0.359
Cr (h4)	12 - 24"	12	0	0.00%	7.5	37.1	21.56	23.5	8.705	8.228	-0.0823	0.404
Co (h1)	0 - 3"	13	0	0.00%	2.3	19.9	7.523	6.5	4.464	3.113	1.809	0.593
Co (h2)	3 - 6"	13	0	0.00%	2.2	32.3	8.746	8	7.525	2.817	2.874	0.86
Co (h3)	6 - 12"	13	0	0.00%	2.3	24.5	8.385	8.6	5.471	1.927	2.232	0.652
Co (h4)	12 - 24"	12	0	0.00%	2.2	9.5	6.983	7.85	2.662	2.224	-0.714	0.381
Cu (h1)	0 - 3"	13	0	0.00%	8.2	69.7	23.25	22.1	15.47	5.634	2.442	0.665
Cu (h2)	3 - 6"	13	0	0.00%	9.6	70.4	22.26	22.3	15.85	10.23	2.584	0.712
Cu (h3)	6 - 12"	13	0	0.00%	6.5	64	22.97	22.5	14.72	13.49	1.865	0.641
Cu (h4)	12 - 24"	12	0	0.00%	5.8	35.3	21.18	22.75	10.55	16.16	-0.0426	0.498
Fe (h1)	0 - 3"	13	0	0.00%	8380	32600	18808	18700	7001	7413	0.253	0.372
Fe (h2)	3 - 6"	13	0	0.00%	8420	41600	21055	21900	8559	7858	0.861	0.407
Fe (h3)	6 - 12"	13	0	0.00%	8140	60200	23011	23100	12695	5486	2.177	0.552
Fe (h4)	12 - 24"	12	0	0.00%	8020	27900	20293	22950	7002	6968	-0.544	0.345
Pb (h1)	0 - 3"	13	0	0.00%	37.5	1620	325.2	224	439.4	259	2.451	1.351
Pb (h2)	3 - 6"	13	0	0.00%	12.5	552	105.1	28.4	150.6	23.57	2.5	1.433
Pb (h3)	6 - 12"	13	0	0.00%	5.2	248	36.57	13.8	64.8	10.38	3.367	1.772
Pb (h4)	12 - 24"	12	0	0.00%	4.95	26	13.18	9.15	7.703	5.374	0.656	0.584
Mg (h1)	0 - 3"	13	0	0.00%	1870	6680	4337	4700	1616	1616	-0.167	0.373
Mg (h2)	3 - 6"	13	0	0.00%	1840	10600	4943	5060	2274	1423	1.029	0.46
Mg (h3)	6 - 12"	13	0	0.00%	1940	13400	5403	5690	2887	770.9	1.687	0.534
Mg (h4)	12 - 24"	12	0	0.00%	1840	10400	5258	5370	2505	2772	0.501	0.476

Table E-3 - Soil Profile Metal Summary Statistics by Depth Interval

Variable	Depth	Num Ds	NumNDs	% NDs	Minimum	Maximum	Mean	Median	SD	MAD/0.675	Skewness	CV
Mn (h1)	0 - 3"	13	0	0.00%	190	5920	1146	799	1468	446.3	3.318	1.281
Mn (h2)	3 - 6"	13	0	0.00%	179	3590	777.8	479	876.2	278.7	3.176	1.127
Mn (h3)	6 - 12"	13	0	0.00%	121	2690	544	411	659.2	166	3.331	1.212
Mn (h4)	12 - 24"	12	0	0.00%	114	1450	418	375	343.2	98.59	2.813	0.821
Hg (h1)	0 - 3"	13	0	0.00%	0.019	0.241	0.0861	0.062	0.07	0.0608	1.161	0.813
Hg (h2)	3 - 6"	13	0	0.00%	0.017	0.144	0.0392	0.028	0.0331	0.0104	3.043	0.846
Hg (h3)	6 - 12"	12	1	7.69%	0.011	0.061	0.0248	0.021	0.0154	0.00964	1.615	0.623
Hg (h4)	12 - 24"	10	2	16.67%	0.009	0.058	0.0231	0.0165	0.0155	0.0111	1.363	0.672
Ni (h1)	0 - 3"	13	0	0.00%	7.2	44.8	19.01	15.8	10.77	6.672	1.244	0.567
Ni (h2)	3 - 6"	13	0	0.00%	7.1	78.2	22.43	18.4	18.21	9.192	2.693	0.812
Ni (h3)	6 - 12"	13	0	0.00%	7.5	75.6	23.22	20.5	17.41	11.86	2.52	0.75
Ni (h4)	12 - 24"	12	0	0.00%	7.3	36.7	19.64	19.25	8.936	10.01	0.38	0.455
K (h1)	0 - 3"	13	0	0.00%	490	2930	1424	1370	681.3	533.7	0.859	0.478
K (h2)	3 - 6"	13	0	0.00%	510	2850	1413	1360	632	548.6	0.735	0.447
K (h3)	6 - 12"	13	0	0.00%	510	2380	1406	1420	573.3	682	-0.138	0.408
K (h4)	12 - 24"	12	0	0.00%	560	3040	1612	1690	762.2	726.5	0.145	0.473
Se (h1)	0 - 3"	1	12	92.31%	1.3	1.3	1.3	1.3	N/A	0	N/A	N/A
Se (h2)	3 - 6"	1	12	92.31%	1.4	1.4	1.4	1.4	N/A	0	N/A	N/A
Se (h3)	6 - 12"	0	13	100.00%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Se (h4)	12 - 24"	0	12	100.00%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ag (h1)	0 - 3"	10	3	23.08%	0.2	1	0.39	0.25	0.269	0.0741	1.51	0.689
Ag (h2)	3 - 6"	4	9	69.23%	0.2	0.9	0.425	0.3	0.32	0.0741	1.866	0.753
Ag (h3)	6 - 12"	6	7	53.85%	0.2	1.4	0.45	0.25	0.472	0.0741	2.299	1.049
Ag (h4)	12 - 24"	6	6	50.00%	0.2	0.7	0.333	0.2	0.216	0	1.323	0.648
Tl (h1)	0 - 3"	8	5	38.46%	0.2	1	0.4	0.3	0.262	0.148	2.1	0.655
Tl (h2)	3 - 6"	5	8	61.54%	0.2	0.5	0.26	0.2	0.134	0	2.236	0.516
Tl (h3)	6 - 12"	1	12	92.31%	0.2	0.2	0.2	0.2	N/A	0	N/A	N/A
Tl (h4)	12 - 24"	1	11	91.67%	0.2	0.2	0.2	0.2	N/A	0	N/A	N/A
V (h1)	0 - 3"	13	0	0.00%	10.1	35.8	24.35	26.5	8.021	8.599	-0.36	0.329
V (h2)	3 - 6"	13	0	0.00%	11.5	39.2	26.63	27.8	8.392	10.82	-0.305	0.315
V (h3)	6 - 12"	13	0	0.00%	11.7	45	29.66	31.6	10.39	12.45	-0.35	0.35
V (h4)	12 - 24"	12	0	0.00%	11.2	45.3	29.62	31.25	10.26	10.38	-0.357	0.346
Zn (h1)	0 - 3"	13	0	0.00%	80	1230	326.8	200	311.8	137.9	2.28	0.954
Zn (h2)	3 - 6"	13	0	0.00%	61	720	173.5	128	169.2	37.06	3.244	0.975
Zn (h3)	6 - 12"	13	0	0.00%	40	410	101.5	67	97.03	37.06	3.072	0.956
Zn (h4)	12 - 24"	12	0	0.00%	24	166	65.83	57.5	39.02	33.36	1.63	0.593

Table E-4 - Soil Profile Metal Percentiles by Depth Interval

Variable	Depth	NumObs	5%ile	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Al (h1)	0 - 3"	13	7128	7910	10458	12300	15600	18600	19680	26480	28760	29672
Al (h2)	3 - 6"	13	8736	10520	12200	14000	18800	21300	21480	27200	30560	32912
Al (h3)	6 - 12"	13	9584	11540	13220	15500	20600	23000	23180	25060	29060	33332
Al (h4)	12 - 24"	12	8335	10140	11700	12525	17050	20300	23600	26150	30395	34399
Sb (h1)	0 - 3"	13	0.2	0.2	0.2	0.2	0.2	1.1	1.1	1.9	3.3	4.74
Sb (h2)	3 - 6"	13	0.2	0.2	0.2	0.2	0.2	0.2	0.32	0.56	0.64	0.688
Sb (h3)	6 - 12"	13	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Sb (h4)	12 - 24"	12	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
As (h1)	0 - 3"	13	8.12	9.1	9.58	9.7	11.1	18.2	19.34	22.5	24.34	25.83
As (h2)	3 - 6"	13	4.82	5.1	6.38	7.1	9.6	13.9	14.86	16.62	21.42	26.84
As (h3)	6 - 12"	13	1.72	2.24	3.52	4	5.5	8.2	8.98	9.66	12.26	15.33
As (h4)	12 - 24"	12	1.465	1.67	2.5	3.05	5.35	6.65	6.76	7.79	8.845	9.769
Ba (h1)	0 - 3"	13	87.6	120.4	151.2	159	216	301	362.8	419.2	431.8	442.4
Ba (h2)	3 - 6"	13	72.86	101.3	140.4	144	236	275	291.2	349.2	367	374.2
Ba (h3)	6 - 12"	13	74.88	83.52	114.8	131	141	193	232.6	263	288.8	318.6
Ba (h4)	12 - 24"	12	67.6	76.19	84.08	93.65	154.5	213.3	222.6	281.8	300.2	312
Be (h1)	0 - 3"	13	0.26	0.3	0.3	0.3	0.5	0.7	0.7	0.86	0.98	1.076
Be (h2)	3 - 6"	13	0.3	0.3	0.3	0.3	0.5	0.6	0.72	1.04	1.62	2.244
Be (h3)	6 - 12"	13	0.36	0.4	0.4	0.4	0.6	0.7	0.7	1.02	1.5	1.98
Be (h4)	12 - 24"	12	0.255	0.31	0.4	0.4	0.5	0.55	0.66	0.97	1.09	1.178
Cd (h1)	0 - 3"	13	0.8	0.94	1.14	1.2	5.1	6.8	8.06	10.26	17.12	24.94
Cd (h2)	3 - 6"	13	0.3	0.34	0.5	0.5	1.09	2.7	2.94	3.5	6.8	10.64
Cd (h3)	6 - 12"	13	0.2	0.2	0.2	0.2	0.4	0.8	0.86	1.14	2.36	3.752
Cd (h4)	12 - 24"	12	0.117	0.137	0.2	0.2	0.25	0.375	0.54	0.69	0.745	0.789
Ca (h1)	0 - 3"	13	1606	1960	2776	3220	4140	5870	7010	7994	13550	20150
Ca (h2)	3 - 6"	13	1694	1964	2224	2290	3650	4740	5556	6732	9214	12003
Ca (h3)	6 - 12"	13	1662	1874	2158	2200	3530	3760	4816	6600	8482	10416
Ca (h4)	12 - 24"	12	1682	1791	1862	2033	3680	4258	4450	5987	29168	51674
Cr (h1)	0 - 3"	13	7.52	8.6	13.2	14.1	18.6	23.1	23.7	24.58	26.14	27.87
Cr (h2)	3 - 6"	13	8.4	9.58	13.02	13.5	20	24.9	25.8	27.12	29.5	32.14
Cr (h3)	6 - 12"	13	8.16	9.54	14.18	14.3	21.8	26.4	27.12	28.56	28.84	28.89
Cr (h4)	12 - 24"	12	8.82	10.29	13.9	14.18	23.5	26.33	27.92	29.49	32.98	36.28
Co (h1)	0 - 3"	13	2.6	3.12	4.64	5	6.5	8.7	9.06	10.42	14.38	18.8
Co (h2)	3 - 6"	13	2.74	3.32	4.4	4.7	8	8.8	9.22	10.3	19.22	29.68
Co (h3)	6 - 12"	13	2.78	3.38	4.7	5	8.6	9	9.06	9.74	15.74	22.75
Co (h4)	12 - 24"	12	2.75	3.33	4.54	4.65	7.85	9.3	9.3	9.39	9.445	9.489
Cu (h1)	0 - 3"	13	9.28	10.24	12.04	13.3	22.1	25.4	25.7	28.14	45.1	64.78
Cu (h2)	3 - 6"	13	9.72	9.98	11.58	12.9	22.3	24.2	25.1	26.9	44.48	65.22
Cu (h3)	6 - 12"	13	8.6	10.08	10.96	11.8	22.5	25.3	29.08	32.16	44.98	60.2
Cu (h4)	12 - 24"	12	7.67	9.32	10.58	11.08	22.75	29.95	32.26	34.18	34.75	35.19
Fe (h1)	0 - 3"	13	8830	9784	13400	14900	18700	23700	24240	25480	28460	31772
Fe (h2)	3 - 6"	13	10028	11620	14500	15700	21900	25200	26040	27080	32960	39872
Fe (h3)	6 - 12"	13	9496	11280	15640	16900	23100	25500	25560	26560	40160	56192
Fe (h4)	12 - 24"	12	9604	11220	14140	14250	22950	26825	26880	27350	27625	27845
Pb (h1)	0 - 3"	13	38.16	39.7	46.18	49.3	224	271	460.6	651.8	1049	1506
Pb (h2)	3 - 6"	13	14.9	16.52	17.64	19.2	28.4	127	152.8	212.4	354.6	512.5
Pb (h3)	6 - 12"	13	6.82	8	8.64	9	13.8	31.3	33.22	45.06	127.8	224
Pb (h4)	12 - 24"	12	5.583	6.12	6.6	7.425	9.15	19.1	20.64	24.53	25.4	25.88
Mg (h1)	0 - 3"	13	1924	2128	2852	2930	4700	5670	5742	6302	6530	6650
Mg (h2)	3 - 6"	13	2182	2450	2806	3100	5060	5650	5872	6548	8248	10130
Mg (h3)	6 - 12"	13	2090	2304	3008	3380	5690	5990	6038	6454	9290	12578
Mg (h4)	12 - 24"	12	2099	2346	2798	3150	5370	6248	6836	7887	9069	10134
Mn (h1)	0 - 3"	13	319.6	413.8	458.6	479	799	1010	1064	1292	3172	5370

Table E-4 - Soil Profile Metal Percentiles by Depth Interval

Variable	Depth	NumObs	5%ile	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Mn (h2)	3 - 6"	13	246.2	303.8	384.2	428	479	797	843.8	941.4	2011	3274
Mn (h3)	6 - 12"	13	154	186.6	257	299	411	512	520.4	560.4	1417	2435
Mn (h4)	12 - 24"	12	137.7	164.9	241.2	255.5	375	433.3	433.8	447.5	899.4	1340
Hg (h1)	0 - 3"	13	0.0202	0.0214	0.0262	0.031	0.062	0.124	0.128	0.182	0.213	0.235
Hg (h2)	3 - 6"	13	0.0182	0.0196	0.0232	0.025	0.028	0.039	0.0438	0.0502	0.0882	0.133
Hg (h3)	6 - 12"	13	0.0094	0.0112	0.012	0.012	0.02	0.023	0.0278	0.0454	0.0538	0.0596
Hg (h4)	12 - 24"	12	0.007	0.0072	0.009	0.009	0.0145	0.0298	0.0314	0.0347	0.0454	0.0555
Ni (h1)	0 - 3"	13	7.5	8.42	11.7	12.3	15.8	23.9	27.5	30.38	36.22	43.08
Ni (h2)	3 - 6"	13	8.36	9.64	11.72	12.2	18.4	23.5	26.2	30.16	49.7	72.5
Ni (h3)	6 - 12"	13	8.46	9.74	12.38	12.5	20.5	23.7	27.48	31.92	49.68	70.42
Ni (h4)	12 - 24"	12	7.795	8.57	12.08	12.58	19.25	24.95	25.94	30.08	33.29	36.02
K (h1)	0 - 3"	13	544	640	932	1010	1370	1650	1704	2276	2618	2868
K (h2)	3 - 6"	13	552	646	1002	1140	1360	1730	1802	2026	2382	2756
K (h3)	6 - 12"	13	522	594	894	960	1420	1870	1882	2002	2170	2338
K (h4)	12 - 24"	12	571	598	850	1098	1690	2055	2154	2271	2622	2956
Se (h1)	0 - 3"	13	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.82	1.204
Se (h2)	3 - 6"	13	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.86	1.292
Se (h3)	6 - 12"	13	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.1	1.82
Se (h4)	12 - 24"	12	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Ag (h1)	0 - 3"	13	0.2	0.2	0.2	0.2	0.2	0.4	0.52	0.6	0.76	0.952
Ag (h2)	3 - 6"	13	0.2	0.2	0.2	0.2	0.2	0.2	0.26	0.3	0.54	0.828
Ag (h3)	6 - 12"	13	0.2	0.2	0.2	0.2	0.2	0.2	0.26	0.38	0.8	1.28
Ag (h4)	12 - 24"	12	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.47	0.59	0.678
Tl (h1)	0 - 3"	13	0.2	0.2	0.2	0.2	0.2	0.3	0.36	0.48	0.7	0.94
Tl (h2)	3 - 6"	13	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.32	0.464
Tl (h3)	6 - 12"	13	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Tl (h4)	12 - 24"	12	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
V (h1)	0 - 3"	13	11.66	13.56	18.44	20.6	26.5	30	30.84	33.48	34.72	35.58
V (h2)	3 - 6"	13	14.5	16.62	18.22	19.9	27.8	30.9	33.42	36.62	37.88	38.94
V (h3)	6 - 12"	13	14.1	16.14	19.3	21.4	31.6	36.7	38.68	40.96	42.72	44.54
V (h4)	12 - 24"	12	14.67	17.73	20.22	21.38	31.25	36.83	37.32	38.85	41.84	44.61
Zn (h1)	0 - 3"	13	96.2	111.4	132.2	137	200	430	448	548	834	1151
Zn (h2)	3 - 6"	13	71.2	83	103.4	104	128	164	164.6	209	420	660
Zn (h3)	6 - 12"	13	41.2	42.4	48.8	56	67	111	113.4	119.8	236.6	375.3
Zn (h4)	12 - 24"	12	29.5	34.1	35.6	37.25	57.5	82	86.4	97	128.6	158.5

Table E-5 Principal Components Analysis Factor Loadings

Metal	PC1	PC2	PC3	PC4	PC5	PC6	PC7	PC8	PC9	PC10	PC11	PC12	PC13	PC14	PC15	PC16	PC17	PC18	PC19	PC20	PC21	PC22	PC23
Al	0.217	-0.183	0.0092	-0.275	-0.0822	-0.385	0.141	0.00842	-0.105	-0.416	0.0584	0.177	0.0568	0.388	0.526	-0.00485	0.0821	-0.0433	0.0393	-0.0233	-0.0359	-0.0823	-0.0214
Sb	0.00651	0.268	-0.0806	0.182	0.356	-0.503	0.0412	0.161	0.275	0.364	-0.11	-0.0685	0.33	0.116	0.105	0.268	0.131	-0.126	-0.0413	-0.0631	-0.0353	0.1	0.0296
As	0.173	0.238	0.155	-0.197	-0.201	-0.013	0.26	-0.247	0.185	0.141	-0.689	0.0578	-0.232	-0.0155	0.0513	-0.0968	-0.168	-0.182	0.043	-0.088	0.0907	-0.0117	0.063
Ba	0.267	-0.0694	0.0133	0.142	0.274	-0.16	-0.447	-0.0936	-0.0498	-0.249	-0.17	-0.505	-0.329	0.069	-0.0592	0.00532	0.0989	-0.054	0.205	0.0543	0.227	-0.00653	0.143
Be	0.233	-0.125	0.00671	-0.245	0.27	-0.268	0.0819	-0.24	-0.582	0.156	-0.0413	0.143	0.228	-0.207	-0.346	0.021	-0.129	-0.0304	-0.0338	0.0691	0.0187	-0.169	0.0927
Cd	0.168	0.294	0.0599	-0.144	-0.132	0.311	-0.0941	0.0597	-0.198	0.103	-0.105	-0.239	0.367	0.162	0.209	0.265	-0.146	0.424	0.306	0.198	-0.0269	-0.012	0.0858
Ca	0.113	0.0305	-0.576	-0.196	-0.0393	0.0861	-0.407	0.172	-0.0457	0.199	-0.159	0.069	-0.0225	0.0253	0.112	-0.0983	-0.0757	-0.142	-0.12	-0.0119	0.0353	-0.257	-0.457
Cr	0.254	-0.143	-0.0725	0.355	0.0521	0.0675	-0.133	-0.155	-0.0585	-0.0261	-0.181	0.152	-0.117	-0.0413	0.1	0.139	-0.112	0.0541	-0.048	-0.042	-0.771	0.122	0.0268
Co	0.296	-0.11	-0.0855	-0.119	0.0717	0.211	0.203	0.0564	0.254	-0.0152	0.124	0.000905	0.128	-0.231	-0.0326	-0.0112	0.241	-0.44	0.458	0.392	-0.131	-0.0108	-0.0391
Cu	0.253	0.168	-0.208	-0.107	-0.118	-0.0194	0.244	-0.161	-0.18	0.329	0.323	-0.0929	-0.438	0.265	-0.109	0.124	0.247	0.0847	0.0152	-0.0542	-0.00607	0.347	-0.138
Fe	0.268	-0.162	-0.0866	-0.21	-0.00471	0.0431	0.262	0.116	0.298	-0.282	-0.121	-0.321	0.125	-0.0589	-0.334	0.235	0.11	0.277	-0.357	-0.157	-0.092	-0.127	-0.169
Pb	0.134	0.351	0.0501	0.0696	-0.0473	-0.0702	0.029	0.262	-0.175	-0.0414	-0.101	0.0154	-0.0904	-0.226	0.114	-0.36	0.452	0.169	-0.349	0.36	-0.104	-0.095	0.162
Mg	0.283	-0.153	-0.0599	0.252	-0.0392	0.0596	0.046	0.11	0.0535	-0.0388	-0.0142	0.204	-0.0159	0.0686	0.0228	0.218	-0.351	-0.0514	-0.353	0.476	0.388	0.284	0.0442
Mn	0.185	0.0523	0.227	-0.444	0.222	0.024	-0.354	0.0359	0.409	0.162	0.238	0.288	-0.171	0.122	-0.0984	-0.0631	-0.114	0.172	-0.0854	0.049	-0.113	-0.0642	0.278
Hg	0.109	0.333	-0.195	0.00672	0.0076	-0.259	-0.0142	0.176	0.0608	-0.356	0.0282	0.282	-0.0509	-0.35	-0.147	-0.0606	-0.201	0.273	0.355	-0.143	0.0699	0.3	-0.151
Ni	0.29	-0.111	-0.0779	0.0883	0.0967	0.154	-0.0363	-0.417	0.144	0.126	0.138	0.000473	0.217	-0.364	0.415	-0.178	0.141	0.182	-0.114	-0.303	0.269	0.104	0.043
K	0.259	-0.125	-0.0396	0.349	-0.079	0.0866	0.0159	0.0796	0.0511	0.0702	-0.129	0.264	0.232	0.464	-0.346	-0.376	0.188	0.15	0.198	-0.152	0.124	-0.104	0.0577
Se	-0.201	-0.0255	-0.664	-0.103	-0.00402	0.0602	0.122	-0.0424	0.0402	-0.0914	-0.0631	-0.00305	-0.0179	0.04	-0.0112	0.0251	-0.0113	0.0174	0.00554	-0.0154	-0.00904	-0.00114	0.685
Ag	0.0331	0.333	-0.123	0.259	0.0294	-0.121	0.185	-0.397	0.188	-0.0983	0.296	-0.114	-0.0469	0.103	-0.0183	-0.122	-0.305	0.0664	-0.0125	0.227	-0.0537	-0.511	-0.108
Na	0.0469	-0.1	0.00443	0.0176	-0.732	-0.385	-0.325	-0.171	0.132	0.106	0.0847	-0.034	0.142	-0.164	-0.152	0.147	0.118	-0.0233	0.0201	0.0978	-0.0238	-0.0333	0.118
Tl	0.193	0.297	0.0859	0.159	-0.0565	0.216	-0.0566	0.105	-0.126	-0.145	0.112	0.278	-0.105	-0.0709	-0.00927	0.495	0.172	-0.259	-0.0419	-0.332	0.154	-0.362	0.159
V	0.241	-0.211	0.0485	0.107	-0.134	-0.125	0.206	0.504	-0.0499	0.294	0.166	-0.249	-0.18	-0.172	0.151	-0.152	-0.357	0.0103	0.109	-0.222	-0.028	-0.208	0.187
Zn	0.183	0.317	0.0345	-0.0834	-0.103	0.0986	-0.112	0.0146	-0.0834	-0.19	0.182	-0.246	0.307	0.133	-0.112	-0.292	-0.225	-0.448	-0.241	-0.208	-0.142	0.307	0.106

Table E-6 - Principal Components Analysis Correlation Matrix

	ElevAvg	AspectAvg	Slope	SoilType	TOC	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	V	Zn
ElevAvg	1	-0.0928	0.148	-0.185	-0.0454	0.468	-0.192	-0.183	0.303	0.474	-0.209	0.252	0.0726	0.283	-0.0486	0.36	-0.33	0.124	0.367	-0.18	0.222	0.00129	0.0	-0.69	0.1	-0.517	0.232	-0.207
AspectAvg	-0.0928	1	0.132	-0.0713	-0.181	0.153	-0.244	0.0922	0.145	0.0496	0.141	-0.0403	0.189	0.192	0.0961	0.176	0.0314	0.199	0.0435	-0.0781	0.242	0.168	0.0	-0.405	-0.136	-0.0844	0.136	0.093
Slope	0.148	0.132	1	-0.105	-0.0107	0.147	0.0692	0.0554	0.201	0.213	0.133	0.0739	0.208	0.335	0.154	0.336	0.0953	0.321	0.147	0.119	0.247	0.305	0.0	-0.2	-0.241	0.0743	0.308	0.124
SoilType	-0.185	-0.0713	-0.105	1	0.179	0.0016	0.0184	-0.0762	-0.002	-0.0394	-0.0575	0.067	0.0865	0.0446	0.101	0.0305	0.00066624	0.0855	-0.142	0.00783	0.00507	0.121	0.0	-0.138	-0.22	-0.0853	0.11	-0.0529
TOC	-0.0454	-0.181	-0.0107	0.179	1	-0.226	0.441	0.0895	0.0139	-0.00537	0.264	0.48	-0.0677	-0.0165	0.297	-0.147	0.369	-0.0785	0.0729	0.498	-0.0407	-0.117	0.0	0.122	-0.495	0.14	-0.191	0.237
Al	0.468	0.153	0.147	0.0016	-0.226	1	-0.302	0.188	0.483	0.761	-0.0302	0.177	0.406	0.673	0.357	0.797	-0.151	0.564	0.447	-0.0974	0.546	0.417	0.0	-0.415	0.333	-0.113	0.685	0.0121
Sb	-0.192	-0.244	0.0692	0.0184	0.441	-0.302	1	0.235	0.0852	-0.109	0.261	0.0918	-0.11	-0.211	0.246	-0.295	0.611	-0.171	-0.00426	0.703	-0.151	-0.111	0.0	0.729	-0.342	0.417	-0.278	0.392
As	-0.183	0.0922	0.0554	-0.0762	0.0895	0.188	0.235	1	0.0951	0.195	0.759	0.016	-0.0112	0.296	0.655	0.267	0.692	0.0751	0.472	0.557	0.199	0.0665	0.0	0.454	0.0486	0.655	0.0142	0.747
Ba	0.303	0.145	0.201	-0.002	0.0139	0.483	0.0852	0.0951	1	0.598	0.144	0.35	0.797	0.609	0.376	0.575	0.123	0.719	0.394	0.159	0.744	0.665	0.0	-0.0004348	0.0326	0.291	0.511	0.235
Be	0.474	0.0496	0.213	-0.0394	-0.00537	0.761	-0.109	0.195	0.598	1	0.075	0.272	0.464	0.679	0.466	0.715	-0.0634	0.515	0.486	0.00185	0.636	0.382	0.0	-0.267	-0.0355	-0.00974	0.512	0.0975
Cd	-0.209	0.141	0.133	-0.0575	0.264	-0.0302	0.261	0.759	0.144	0.075	1	0.3	-0.0007478	0.252	0.679	0.132	0.805	0.0537	0.449	0.668	0.18	0.0636	0.0	0.502	-0.0942	0.841	-0.0912	0.925
Ca	0.252	-0.0403	0.0739	0.067	0.48	0.177	0.0918	0.016	0.35	0.272	0.3	1	0.25	0.366	0.493	0.255	0.198	0.275	0.268	0.376	0.36	0.202	0.0	-0.00363	0.174	0.168	0.163	0.323
Cr	0.0726	0.189	0.208	0.0865	-0.0677	0.406	-0.11	-0.0112	0.797	0.464	-0.000748	0.25	1	0.655	0.336	0.562	-0.0134	0.93	0.0271	-0.0363	0.845	0.915	0.0	-0.0166	0.166	0.262	0.693	0.0362
Co	0.283	0.192	0.335	0.0446	-0.0165	0.673	-0.211	0.296	0.609	0.679	0.252	0.366	0.655	1	0.593	0.924	0.0593	0.793	0.497	0.0522	0.851	0.682	0.0	-0.168	0.0191	0.255	0.734	0.251
Cu	-0.0486	0.0961	0.154	0.101	0.297	0.357	0.246	0.655	0.376	0.466	0.679	0.493	0.336	0.593	1	0.478	0.644	0.426	0.377	0.609	0.534	0.395	0.0	0.498	0.0789	0.685	0.343	0.718
Fe	0.36	0.176	0.336	0.0305	-0.147	0.797	-0.295	0.267	0.575	0.715	0.132	0.255	0.562	0.924	0.478	1	-0.0561	0.745	0.506	-0.0591	0.741	0.607	0.0	-0.342	0.157	0.0749	0.787	0.141
Pb	-0.33	0.0314	0.0953	0.00067	0.369	-0.151	0.611	0.692	0.123	-0.0634	0.805	0.198	-0.0134	0.0593	0.644	-0.0561	1	0.00889	0.189	0.904	0.0182	0.0561	0.0	0.747	-0.16	0.879	-0.128	0.878
Mg	0.124	0.199	0.321	0.0855	-0.0785	0.564	-0.171	0.0751	0.719	0.515	0.0537	0.275	0.93	0.793	0.426	0.745	0.00889	1	0.117	-0.0169	0.833	0.94	0.0	-0.0846	0.208	0.274	0.852	0.08
Mn	0.367	0.0435	0.147	-0.142	0.0729	0.447	-0.00426	0.472	0.394	0.486	0.449	0.268	0.0271	0.497	0.377	0.506	0.189	0.117	1	0.221	0.332	0.00802	0.0	-0.124	-0.126	0.252	0.0947	0.435
Hg	-0.18	-0.0781	0.119	0.00783	0.498	-0.0974	0.703	0.557	0.159	0.00185	0.668	0.376	-0.0363	0.0522	0.609	-0.0591	0.904	-0.0169	0.221	1	0.0196	0.00156	0.0	0.788	-0.0815	0.778	-0.154	0.805
Ni	0.222	0.242	0.247	0.00507	-0.0407	0.546	-0.151	0.199	0.744	0.636	0.18	0.36	0.845	0.851	0.534	0.741	0.0182	0.833	0.332	0.0196	1	0.766	0.0	0.00329	0.0985	0.267	0.62	0.198
K	0.00129	0.168	0.305	0.121	-0.117	0.417	-0.111	0.0665	0.665	0.382	0.0636	0.202	0.915	0.682	0.395	0.607	0.0561	0.94	0.00802	0.00156	0.766	1	0.0	-0.0206	0.221	0.293	0.753	0.112
Se	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	0.0	0.0	0.0	0.0	0.0
Ag	-0.69	-0.405	-0.2	-0.138	0.122	-0.415	0.729	0.454	-0.00043	-0.267	0.502	-0.00363	-0.0166	-0.168	0.498	-0.342	0.747	-0.0846	-0.124	0.788	0.00329	-0.0206	0.0	1	-0.171	0.671	-0.369	0.672
Na	0.1	-0.136	-0.241	-0.22	-0.495	0.333	-0.342	0.0486	0.0326	-0.0355	-0.0942	0.174	0.166	0.0191	0.0789	0.157	-0.16	0.208	-0.126	-0.0815	0.0985	0.221	0.0	-0.171	1	-0.14	0.279	-0.0534
Tl	-0.517	-0.0844	0.0743	-0.0853	0.14	-0.113	0.417	0.655	0.291	-0.00974	0.841	0.168	0.262	0.255	0.685	0.0749	0.879	0.274	0.252	0.778	0.267	0.293	0.0	0.671	-0.14	1	-0.00724	0.889
V	0.232	0.136	0.308	0.11	-0.191	0.685	-0.278	0.0142	0.511	0.512	-0.0912	0.163	0.693	0.734	0.343	0.787	-0.128	0.852	0.0947	-0.154	0.62	0.753	0.0	-0.369	0.279	-0.00724	1	-0.0826
Zn	-0.207	0.093	0.124	-0.0529	0.237	0.0121	0.392	0.747	0.235	0.0975	0.925	0.323	0.0362	0.251	0.718	0.141	0.878	0.08	0.435	0.805	0.198	0.112	0.0	0.672	-0.0534	0.889	-0.0826	1

Black - correlation coefficient greater than 0.90; very strong correlation.
Blue - correlation coefficient between 0.7 and 0.9; strong correlation.
Green - correlation coefficient between 0.5 and 0.7; moderate correlation.
Gold - correlation coefficient between 0.3 and 0.5; weak correlation.
Red - correlation coefficient less than 0.3; no correlation.

Table E-7: Surface Soil Field Variability Sample Metal Concentration Relative Percent Differences

Sample	TOC	pH	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu
SA1-3C	39.3%	3.6%	14.5%	0.0%	21.8%	0.2%	0.0%	10.5%	3.2%	2.2%	8.3%	5.2%
SA2-4C	4.7%	1.0%	12.1%	66.7%	18.9%	15.4%	0.0%	68.5%	0.6%	8.4%	7.5%	28.2%
SA3-6C	77.0%	13.0%	11.5%	0.0%	2.3%	12.2%	11.8%	48.0%	2.0%	15.7%	4.4%	7.5%
SA4-6C	17.9%	0.5%	13.0%	40.0%	10.0%	2.4%	18.2%	19.0%	11.9%	21.8%	5.8%	6.1%
SA5-4C	15.2%	0.7%	1.7%	50.0%	17.8%	13.1%	0.0%	12.8%	14.8%	31.8%	7.4%	3.5%
SA6-2C	7.8%	5.2%	5.0%	28.6%	5.3%	1.3%	18.2%	21.5%	16.3%	17.4%	10.7%	8.5%
SA7-5C	27.5%	5.9%	14.3%	130.0%	35.1%	4.9%	18.2%	10.5%	0.9%	28.8%	29.7%	31.4%
SA8-3C	37.2%	1.9%	4.4%	0.0%	44.1%	9.1%	40.0%	66.7%	14.2%	1.2%	1.6%	7.0%
SA9-10C	33.3%	1.3%	14.3%	40.0%	32.7%	1.6%	0.0%	44.2%	13.2%	3.1%	1.2%	5.4%
SA10-3C	46.9%	1.0%	4.9%	46.2%	7.4%	14.9%	0.0%	11.4%	20.0%	0.7%	13.2%	6.4%
SA11-8C	46.6%	2.6%	0.5%	127.3%	59.5%	61.8%	0.0%	98.5%	31.6%	26.7%	3.8%	50.1%
SA12-7C	81.8%	1.9%	8.1%	0.0%	10.9%	35.1%	0.0%	15.4%	20.7%	7.8%	2.4%	18.1%
SA13-5C	38.0%	2.4%	0.9%	0.0%	6.2%	0.4%	0.0%	9.8%	1.4%	0.0%	0.0%	23.2%
Average RPD	**36.4%**	**3.2%**	**8.1%**	**40.7%**	**20.9%**	**13.3%**	**8.2%**	**33.6%**	**11.6%**	**12.7%**	**7.4%**	**15.4%**

Table E-7: Surface Soil Field Variability Sample Metal Concentration Relative Percent Differences

Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	V	Zn
4.9%	20.5%	5.1%	7.3%	4.1%	4.2%	8.4%	0.0%	0.0%	6.1%	0.0%	2.3%	1.5%
6.2%	61.0%	4.1%	2.4%	58.1%	4.5%	15.9%	0.0%	0.0%	0.0%	40.0%	17.3%	33.3%
7.4%	37.6%	15.6%	26.7%	16.1%	25.3%	9.3%	0.0%	0.0%	0.0%	18.2%	8.0%	33.6%
11.5%	28.1%	15.8%	26.0%	30.7%	13.2%	19.7%	0.0%	28.6%	13.3%	0.0%	9.9%	12.3%
1.4%	31.6%	0.8%	9.1%	37.6%	13.8%	8.1%	0.0%	40.0%	25.0%	0.0%	7.5%	18.2%
5.9%	11.1%	1.5%	19.0%	2.5%	8.9%	1.7%	0.0%	0.0%	5.4%	28.6%	13.8%	4.7%
3.1%	87.2%	3.1%	34.4%	63.9%	25.7%	10.9%	0.0%	57.1%	10.5%	40.0%	21.1%	2.1%
1.8%	69.5%	1.9%	21.2%	53.8%	2.1%	4.4%	0.0%	0.0%	15.4%	0.0%	3.6%	28.4%
7.5%	50.6%	4.4%	2.6%	18.4%	0.7%	21.1%	0.0%	0.0%	38.5%	28.6%	8.6%	34.7%
3.2%	19.8%	3.8%	20.3%	44.2%	4.3%	11.2%	0.0%	0.0%	5.1%	0.0%	2.8%	2.4%
3.7%	118.0%	10.7%	73.5%	89.1%	1.5%	6.7%	0.0%	66.7%	13.3%	66.7%	15.7%	84.5%
6.5%	2.9%	12.0%	24.5%	6.3%	2.5%	31.0%	0.0%	40.0%	34.8%	0.0%	0.0%	22.8%
4.8%	16.3%	8.5%	7.7%	11.2%	0.9%	4.3%	0.0%	28.6%	23.1%	0.0%	2.6%	9.5%
5.2%	**42.6%**	**6.7%**	**21.1%**	**33.5%**	**8.3%**	**11.7%**	**0.0%**	**20.1%**	**14.7%**	**17.1%**	**8.7%**	**22.2%**

Table E-8 - Soil Profile (12- to 24-Inch) Data Distribution Goodness of Fit Statistics

User Selected Options

From File	L:\1780036-UCR Sampling\Statistics\Profile Data ProUCL Input.wst
Full Precision	OFF
Confidence Coefficient	0.95

Arsenic Soil Profile Horizon 4 (12 to 24")

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	12	0	12	12	0	0.00%

	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Full: no NDs)	12	1.3	10	5.05	5.35	2.687

	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV
Statistics (Full: no NDs)	3.163	2.428	1.597	1.453	0.65	0.447

Normal Distribution Test Results

	No NDs	NDs = DL	NDs = DL/2	Normal ROS
Correlation Coefficient R	0.983	0.983	0.983	0.983

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Shapiro-Wilks (Full: no NDs)	0.957	0.859	Data Appear Normal
Lilliefors (Full: no NDs)	0.166	0.256	Data Appear Normal

Gamma Distribution Test Results

	No NDs	NDs = DL	NDs = DL/2	Gamma ROS
Correlation Coefficient R	0.969	0.969	0.969	0.969

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Anderson-Darling (Full: no NDs)	0.348	0.738	
Kolmogorov-Smirnov (Full: no NDs)	0.213	0.247	Data Appear Gamma Distributed

Lognormal Distribution Test Results

	No NDs	NDs = DL	NDs = DL/2	Log ROS
Correlation Coefficient R	0.965	0.965	0.965	0.965

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Shapiro-Wilks (Full: no NDs)	0.922	0.859	Data Appear Lognormal
Lilliefors (Full: no NDs)	0.216	0.256	Data Appear Lognormal

Note: Substitution methods such as DL or DL/2 are not recommended.

Table E-8 - Soil Profile (12- to 24-Inch) Data Distribution Goodness of Fit Statistics

Cadmium Soil Profile Horizon 4 (12 to 24")

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	12	0	12	12	0	0.00%

	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Full: no NDs)	12	0.1	0.8	0.336	0.25	0.232

	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV
Statistics (Full: no NDs)	2.666	2.055	0.126	-1.29	0.649	-0.503

Normal Distribution Test Results

	No NDs	NDs = DL	NDs = DL/2	Normal ROS
Correlation Coefficient R	0.905	0.905	0.905	0.905

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Shapiro-Wilks (Full: no NDs)	0.813	0.859	Data Not Normal
Lilliefors (Full: no NDs)	0.311	0.256	Data Not Normal

Gamma Distribution Test Results

	No NDs	NDs = DL	NDs = DL/2	Gamma ROS
Correlation Coefficient R	0.958	0.958	0.958	0.958

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Anderson-Darling (Full: no NDs)	0.657	0.74	
Kolmogorov-Smirnov (Full: no NDs)	0.239	0.248	Data Appear Gamma Distributed

Lognormal Distribution Test Results

	No NDs	NDs = DL	NDs = DL/2	Log ROS
Correlation Coefficient R	0.965	0.965	0.965	0.965

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Shapiro-Wilks (Full: no NDs)	0.925	0.859	Data Appear Lognormal
Lilliefors (Full: no NDs)	0.197	0.256	Data Appear Lognormal

Note: Substitution methods such as DL or DL/2 are not recommended.

Table E-8 - Soil Profile (12- to 24-Inch) Data Distribution Goodness of Fit Statistics

Lead Soil Profile Horizon 4 (12 to 24")

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	12	0	12	12	0	0.00%

	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Full: no NDs)	12	4.95	26	13.18	9.15	7.703

	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV
Statistics (Full: no NDs)	3.319	2.544	3.971	2.42	0.588	0.243

Normal Distribution Test Results

	No NDs	NDs = DL	NDs = DL/2	Normal ROS
Correlation Coefficient R	0.938	0.938	0.938	0.938

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Shapiro-Wilks (Full: no NDs)	0.859	0.859	Data Appear Normal
Lilliefors (Full: no NDs)	0.276	0.256	Data Not Normal

Gamma Distribution Test Results

	No NDs	NDs = DL	NDs = DL/2	Gamma ROS
Correlation Coefficient R	0.959	0.959	0.959	0.959

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Anderson-Darling (Full: no NDs)	0.597	0.738	
Kolmogorov-Smirnov (Full: no NDs)	0.243	0.247	Data Appear Gamma Distributed

Lognormal Distribution Test Results

	No NDs	NDs = DL	NDs = DL/2	Log ROS
Correlation Coefficient R	0.964	0.964	0.964	0.964

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Shapiro-Wilks (Full: no NDs)	0.908	0.859	Data Appear Lognormal
Lilliefors (Full: no NDs)	0.21	0.256	Data Appear Lognormal

Note: Substitution methods such as DL or DL/2 are not recommended.

Table E-8 - Soil Profile (12- to 24-Inch) Data Distribution Goodness of Fit Statistics

Mercury Soil Profile Horizon 4 (12 to 24")

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	12	0	12	10	2	16.67%

	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	2	0.007	0.007	0.007	0.007	0
Statistics (Detects Only)	10	0.009	0.058	0.0231	0.0165	0.0155
Statistics (All: NDs treated as DL value)	12	0.007	0.058	0.0204	0.0145	0.0154
Statistics (All: NDs treated as DL/2 value)	12	0.0035	0.058	0.0198	0.0145	0.016
Statistics (Normal ROS Estimated Data)	12	-0.0171	0.058	0.0171	0.0145	0.0199
Statistics (Gamma ROS Estimated Data)	12	0.0001079	0.058	0.0197	0.0145	0.0161
Statistics (Lognormal ROS Estimated Data)	12	0.00353	0.058	0.02	0.0145	0.0158

	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV
Statistics (Detects Only)	2.884	2.219	0.00801	-3.951	0.628	-0.159
Statistics (NDs = DL)	2.344	1.814	0.00871	-4.12	0.691	-0.168
Statistics (NDs = DL/2)	1.737	1.358	0.0114	-4.235	0.873	-0.206
Statistics (Gamma ROS Estimates)	1.029	0.828	0.0192	--	--	--
Statistics (Lognormal ROS Estimates)	--	--	--	-4.205	0.824	-0.196

Normal Distribution Test Results

	No NDs	NDs = DL	NDs = DL/2	Normal ROS
Correlation Coefficient R	0.92	0.908	0.931	0.975

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Shapiro-Wilks (Detects Only)	0.849	0.842	Data Appear Normal
Lilliefors (Detects Only)	0.229	0.28	Data Appear Normal
Shapiro-Wilks (NDs = DL)	0.827	0.859	Data Not Normal
Lilliefors (NDs = DL)	0.229	0.256	Data Appear Normal
Shapiro-Wilks (NDs = DL/2)	0.871	0.859	Data Appear Normal
Lilliefors (NDs = DL/2)	0.212	0.256	Data Appear Normal
Shapiro-Wilks (Normal ROS Estimates)	0.962	0.859	Data Appear Normal
Lilliefors (Normal ROS Estimates)	0.176	0.256	Data Appear Normal

Gamma Distribution Test Results

	No NDs	NDs = DL	NDs = DL/2	Gamma ROS
Correlation Coefficient R	0.981	0.981	0.99	0.986

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Anderson-Darling (Detects Only)	0.385	0.733	
Kolmogorov-Smirnov (Detects Only)	0.185	0.269	Data Appear Gamma Distributed
Anderson-Darling (NDs = DL)	0.448	0.741	

Kolmogorov-Smirnov (NDs = DL)	0.172	0.248	Data Appear Gamma Distributed
Anderson-Darling (NDs = DL/2)	0.239	0.744	
Kolmogorov-Smirnov (NDs = DL/2)	0.12	0.249	Data Appear Gamma Distributed
Anderson-Darling (Gamma ROS Estimates)	0.47	0.756	
Kolmogorov-Smirnov (Gamma ROS Est.)	0.194	0.252	Data Appear Gamma Distributed

Lognormal Distribution Test Results

	No NDs	NDs = DL	NDs = DL/2	Log ROS
Correlation Coefficient R	0.975	0.974	0.98	0.991

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Shapiro-Wilks (Detects Only)	0.936	0.842	Data Appear Lognormal
Lilliefors (Detects Only)	0.154	0.28	Data Appear Lognormal
Shapiro-Wilks (NDs = DL)	0.935	0.859	Data Appear Lognormal
Lilliefors (NDs = DL)	0.137	0.256	Data Appear Lognormal
Shapiro-Wilks (NDs = DL/2)	0.952	0.859	Data Appear Lognormal
Lilliefors (NDs = DL/2)	0.126	0.256	Data Appear Lognormal
Shapiro-Wilks (Lognormal ROS Estimates)	0.978	0.859	Data Appear Lognormal
Lilliefors (Lognormal ROS Estimates)	0.123	0.256	Data Appear Lognormal

Note: Substitution methods such as DL or DL/2 are not recommended.

Zinc Soil Profile Horizon 4 (12 to 24")

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	12	0	12	12	0	0.00%

	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Full: no NDs)	12	24	166	65.83	57.5	39.02

	K Hat	K Star	Theta Hat	Log Mean	Log Stdv	Log CV
Statistics (Full: no NDs)	3.763	2.878	17.49	4.048	0.54	0.133

Normal Distribution Test Results

	No NDs	NDs = DL	NDs = DL/2	Normal ROS
Correlation Coefficient R	0.919	0.919	0.919	0.919

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Shapiro-Wilks (Full: no NDs)	0.858	0.859	Data Not Normal
Lilliefors (Full: no NDs)	0.175	0.256	Data Appear Normal

Table E-8 - Soil Profile (12- to 24-Inch) Data Distribution Goodness of Fit Statistics

Gamma Distribution Test Results

	No NDs	NDs = DL	NDs = DL/2	Gamma ROS
Correlation Coefficient R	0.977	0.977	0.977	0.977

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Anderson-Darling (Full: no NDs)	0.232	0.737	
Kolmogorov-Smirnov (Full: no NDs)	0.121	0.247	Data Appear Gamma Distributed

Lognormal Distribution Test Results

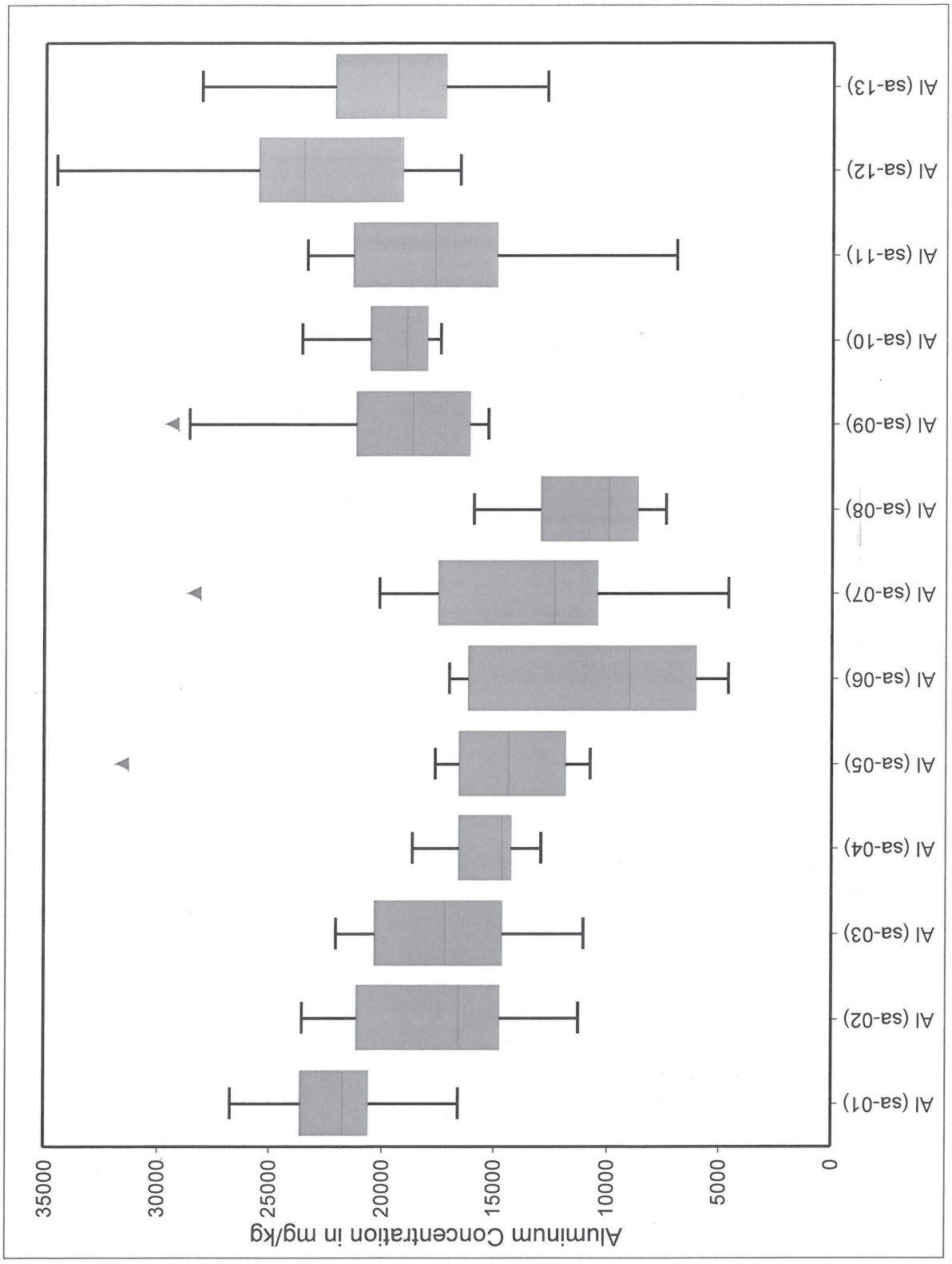
	No NDs	NDs = DL	NDs = DL/2	Log ROS
Correlation Coefficient R	0.99	0.99	0.99	0.99

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Shapiro-Wilks (Full: no NDs)	0.983	0.859	Data Appear Lognormal
Lilliefors (Full: no NDs)	0.11	0.256	Data Appear Lognormal

Note: Substitution methods such as DL or DL/2 are not recommended.

Table E-9 - Pooled 12- to 24-Inch Soil Profile Data Distributions and Means for Smelter Related Metals

Metal	12- to 24-inch Soil Profile Distribution	Arithmetic Mean	Geometric Mean
Arsenic	normal	5.05	4.28
Cadmium	lognormal	0.336	0.275
Lead	lognormal	13.2	11.2
Mercury	lognormal	0.020	0.016
Zinc	lognormal	65.8	57.3



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

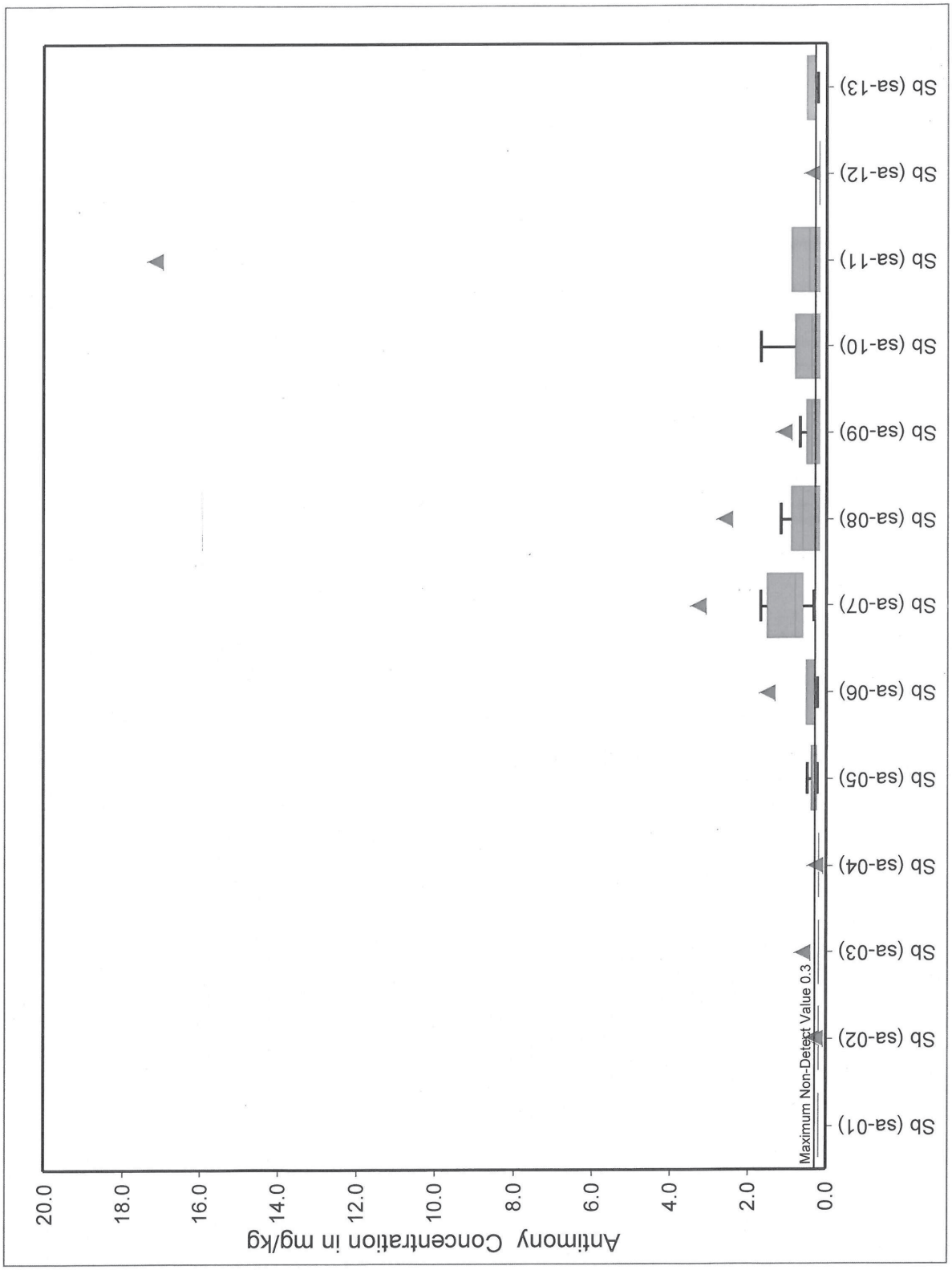
Surface Soil Aluminum Box and Whisker Plot by Subarea

17800-36 4/13

HARTCROWSER

Figure
E-1

EAL 04/08/13 1780036-AH.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

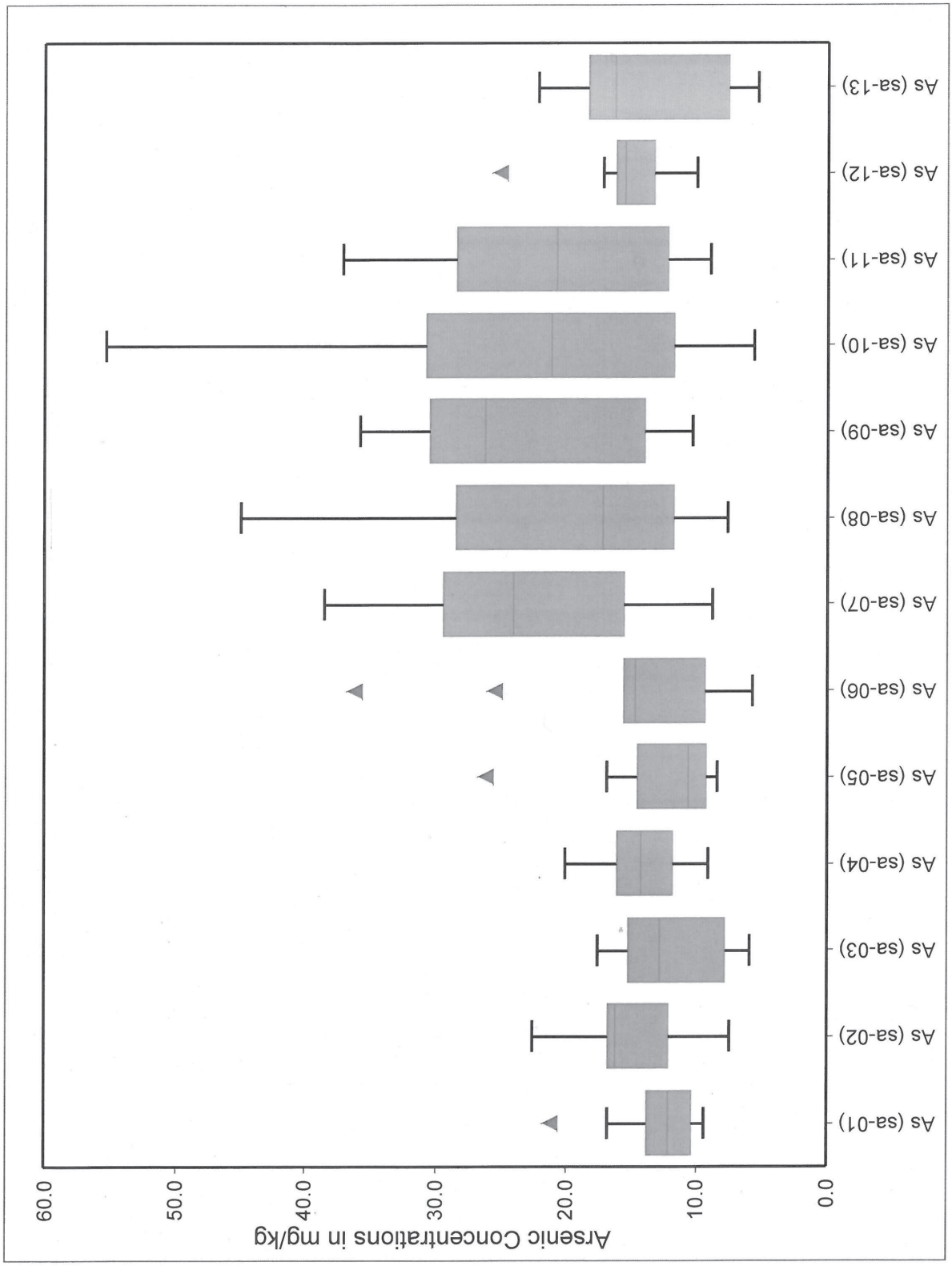
Surface Soil Antimony Box and Whisker Plot by Subarea

17800-36 4/13

HARTCROWSER

Figure
E-2

EAL 04/08/13 1780036-AI.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

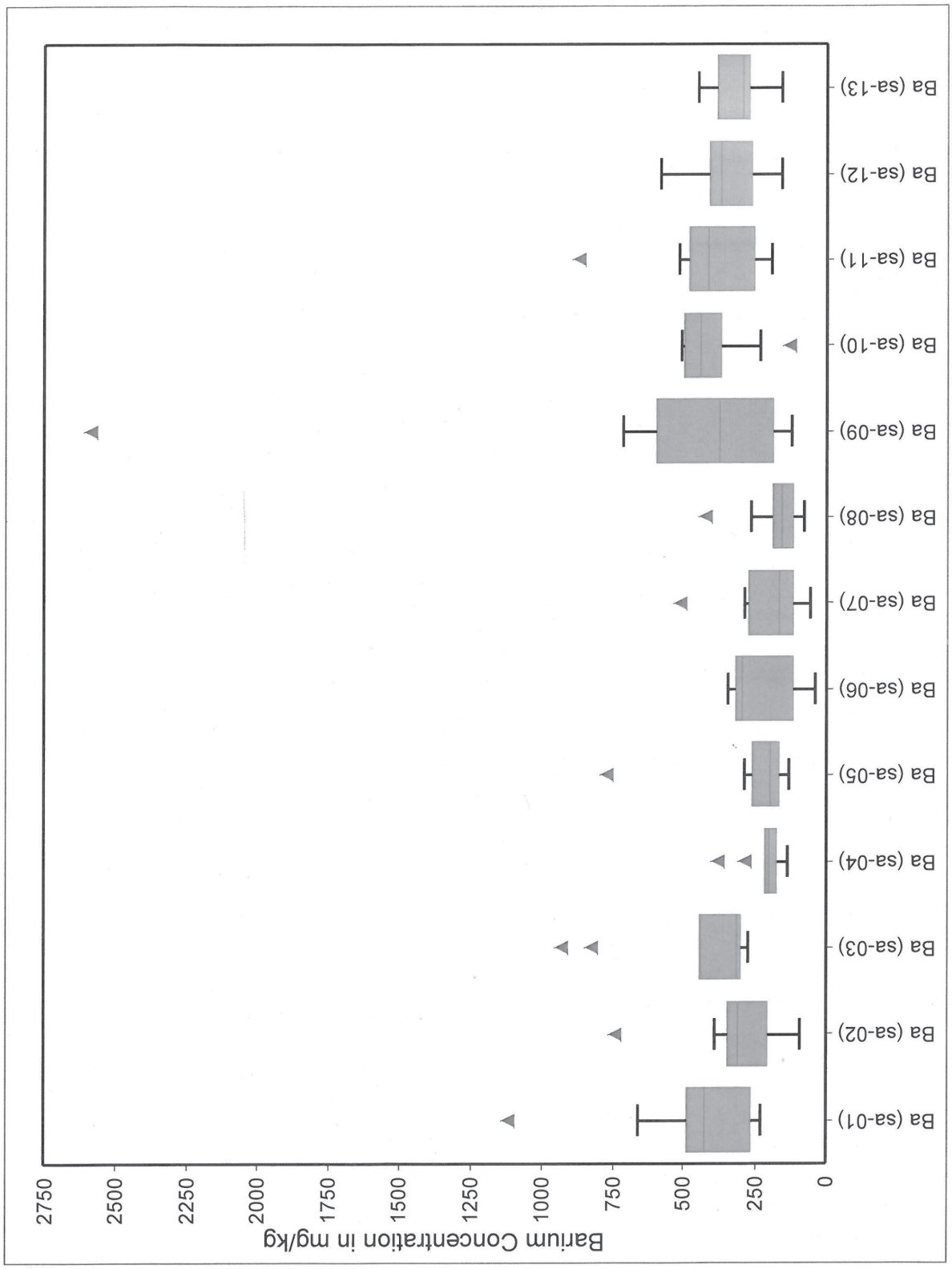
Surface Soil Arsenic Box and Whisker Plot by Subarea

17800-36 4/13

HARTCROWSER

Figure
E-3

EAL 04/08/13 1780036-AJ.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

Surface Soil Barium Box and Whisker Plot by Subarea

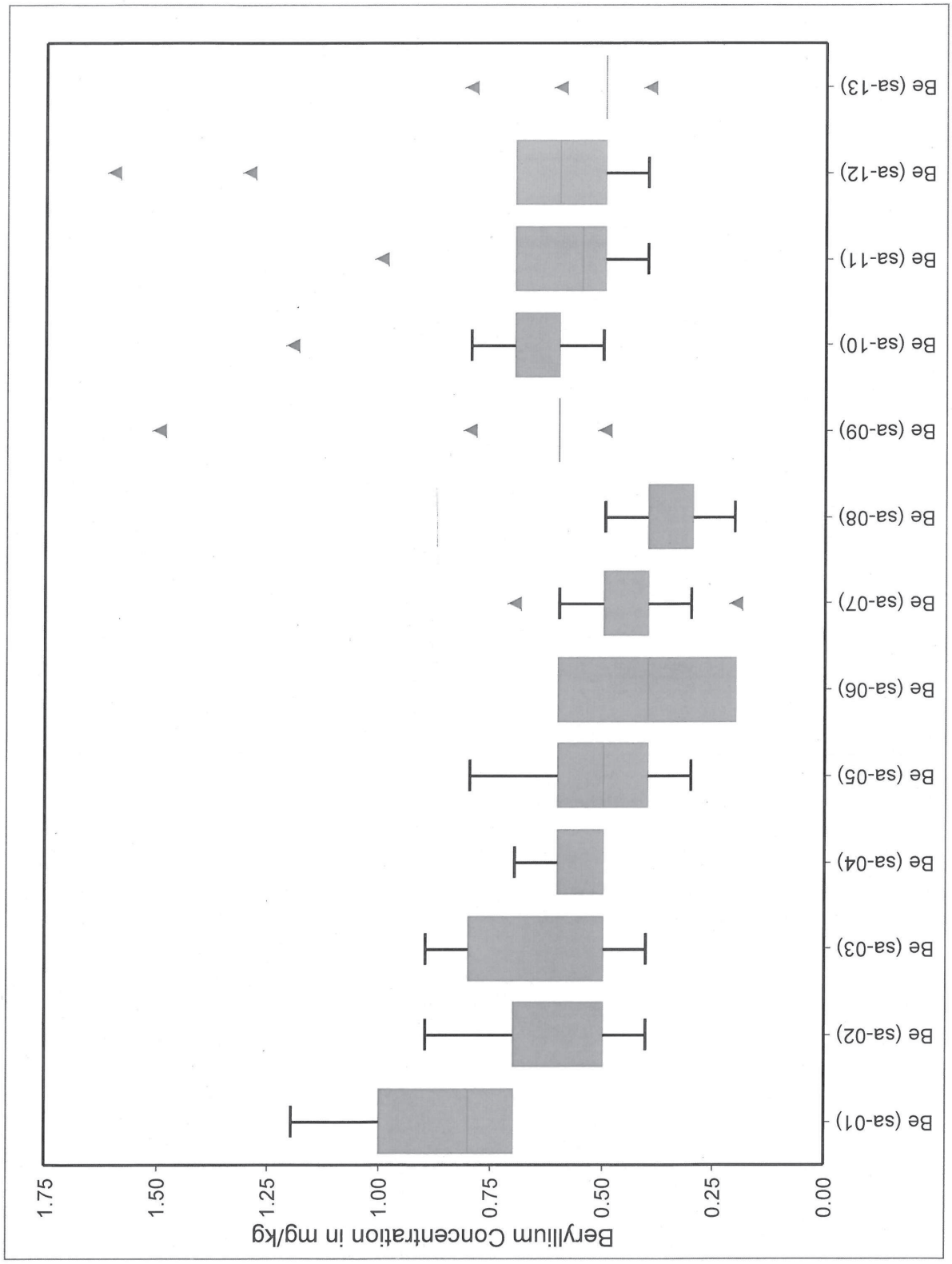
17800-36 4/13

HARTCROWSER

Figure

E-4

EAL 04/08/13 1780036-AK.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

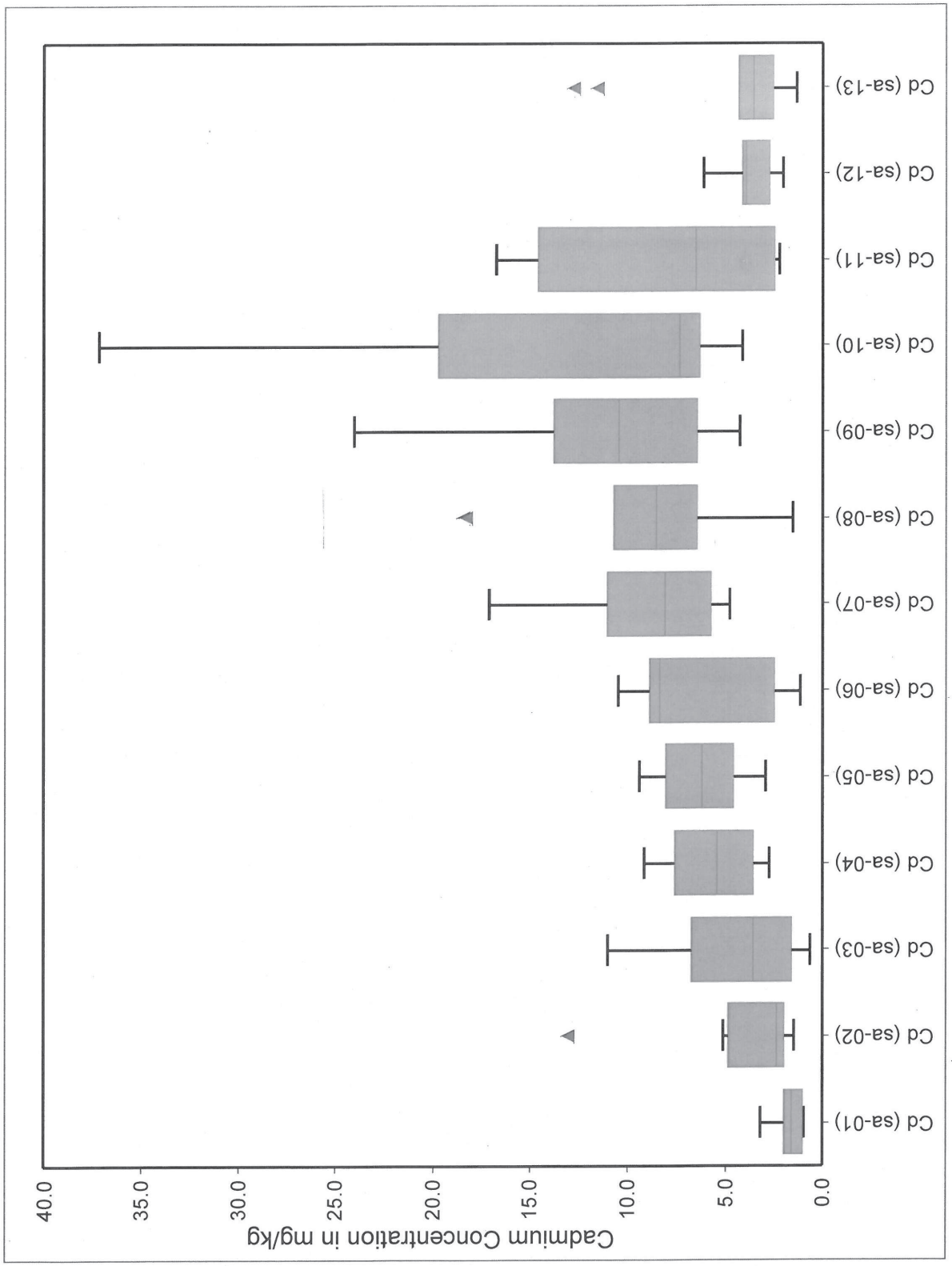
Surface Soil Beryllium Box and Whisker Plot by Subarea

17800-36 4/13

HARTCROWSER

Figure
E-5

EAL 04/08/13 1780036-AL.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

Surface Soil Cadmium Box and Whisker Plot by Subarea

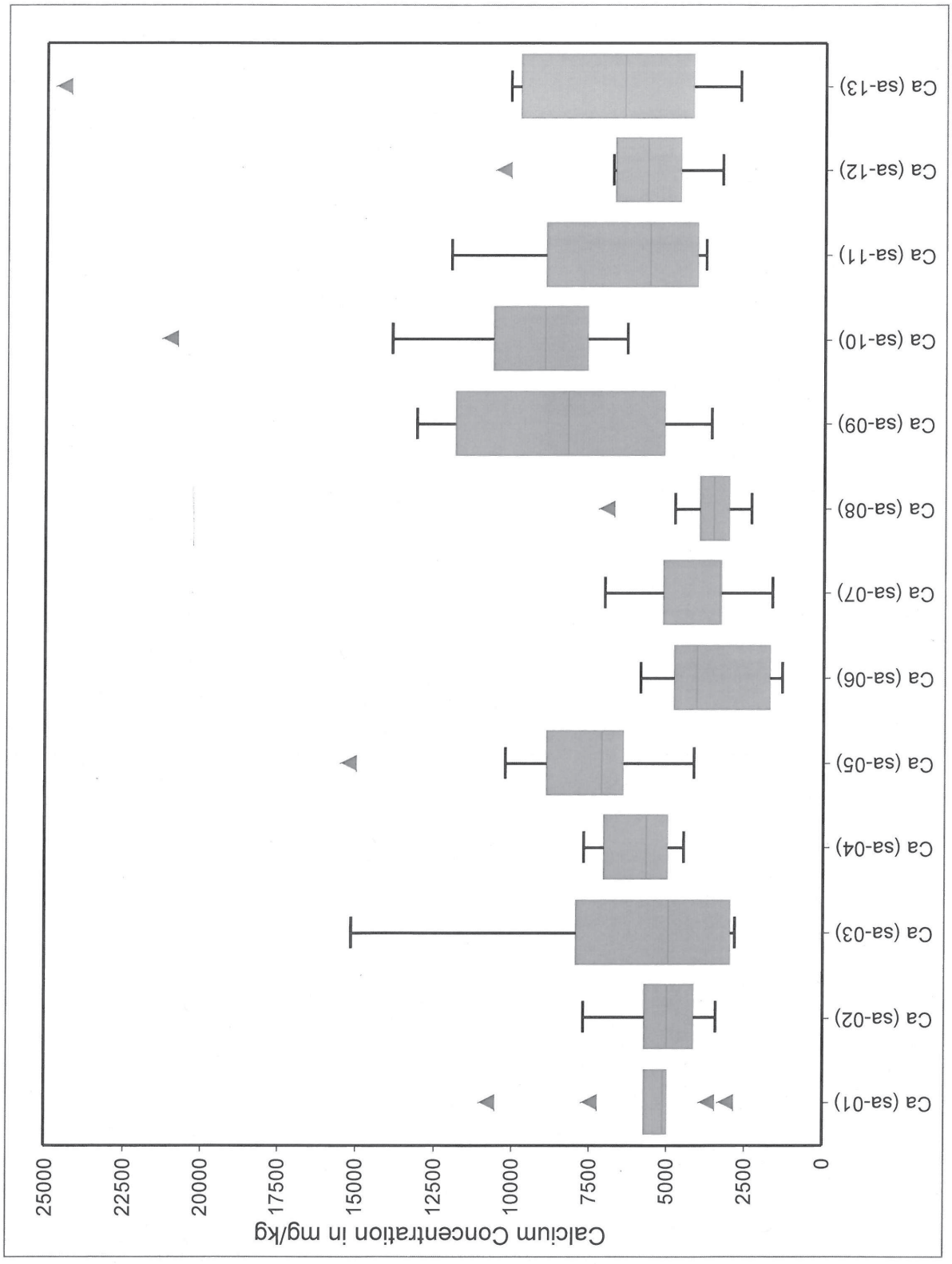
17800-36 4/13

HARTCROWSER

Figure

E-6

EAL 04/08/13 1780036-AN.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

Surface Soil Calcium Box and Whisker Plot by Subarea

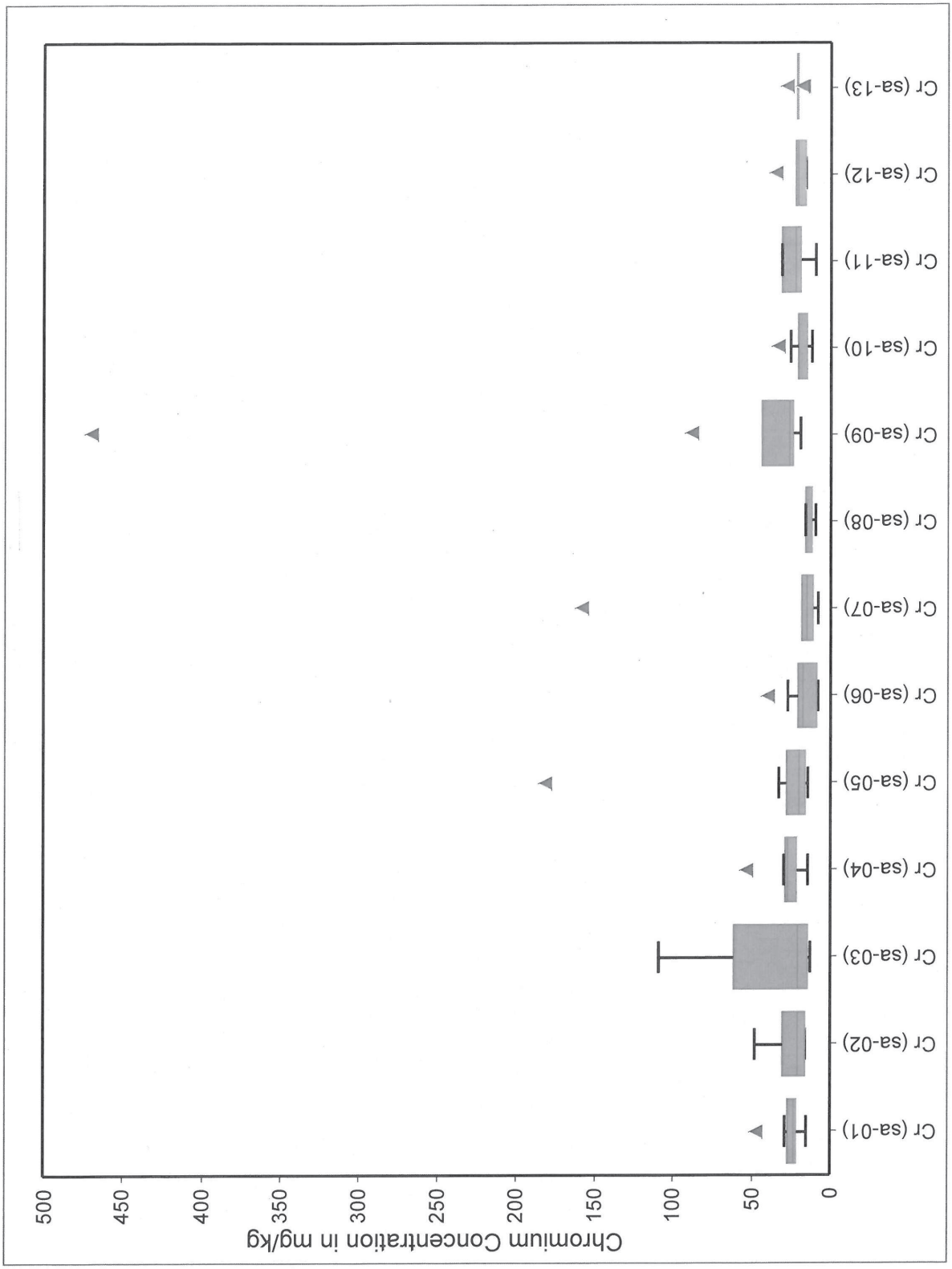
17800-36 4/13

HARTCROWSER

Figure

E-7

EAL 04/08/13 1780036-AO.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

Surface Soil Chromium Box and Whisker Plot by Subarea

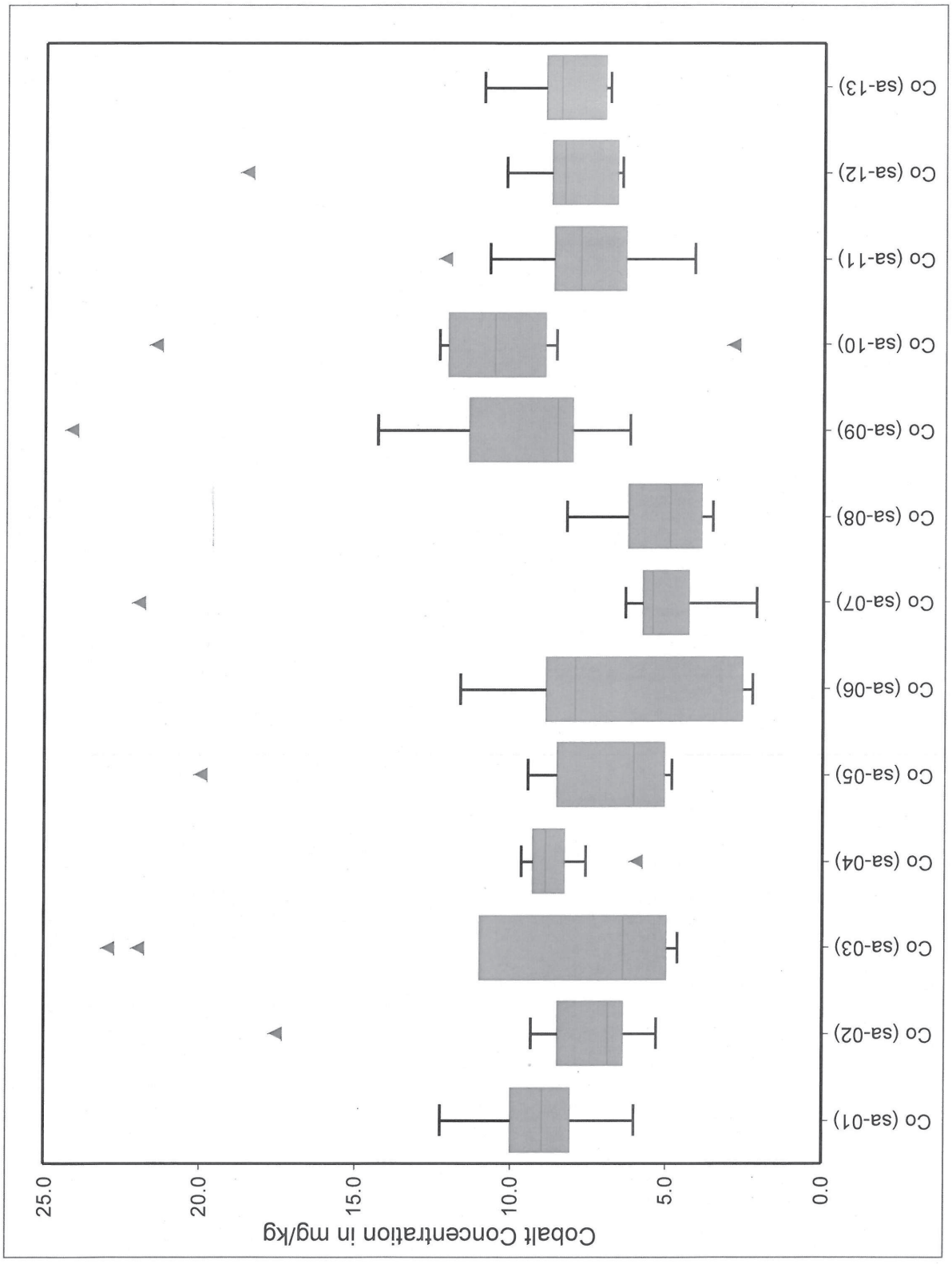
17800-36 4/13

HARTCROWSER

Figure

E-8

EAL 04/08/13 1780036-AP.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

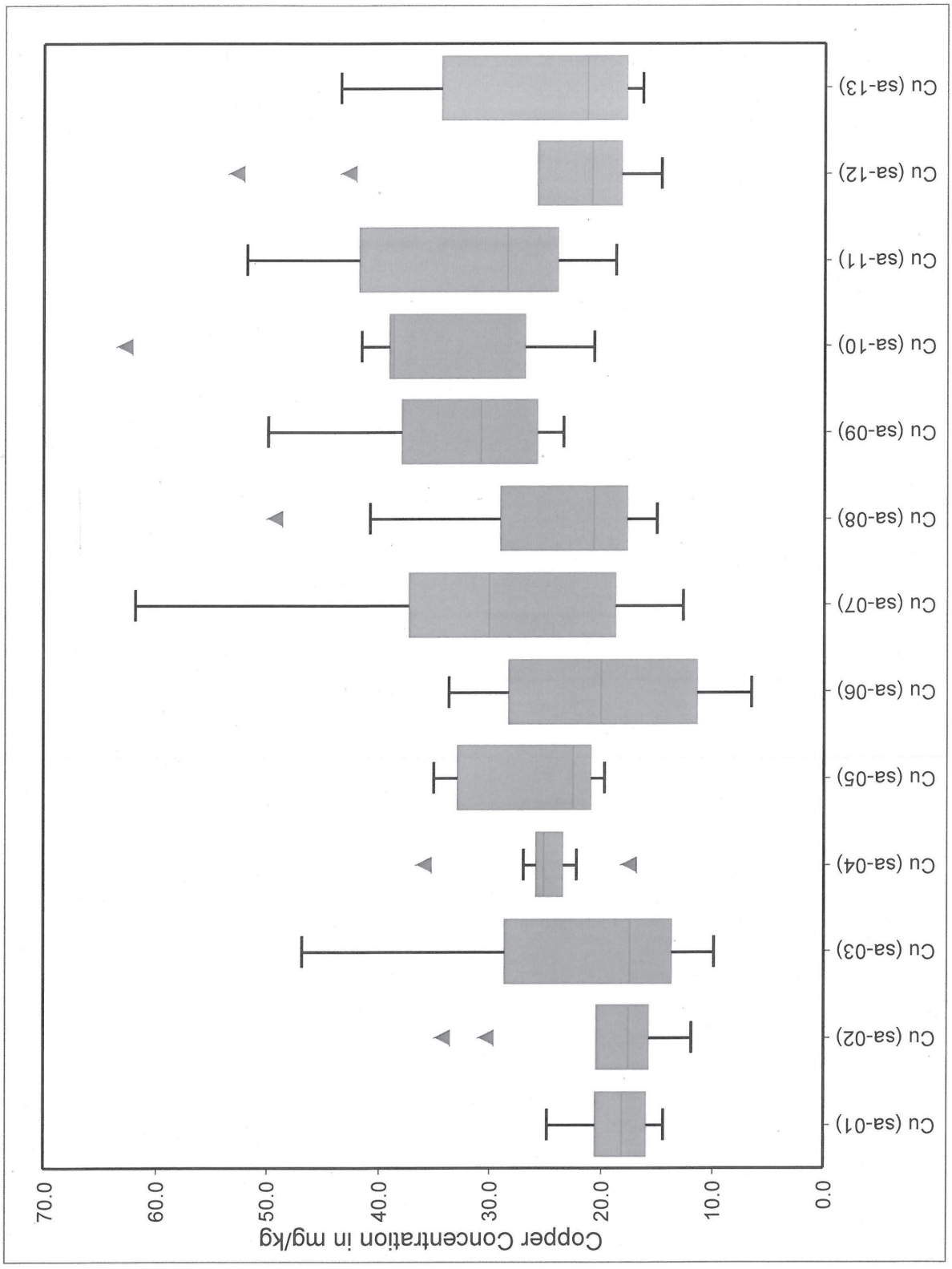
Surface Soil Cobalt Box and Whisker Plot by Subarea

17800-36 4/13

HARTCROWSER

Figure
E-9

EAL 04/08/13 1780036-AQ.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

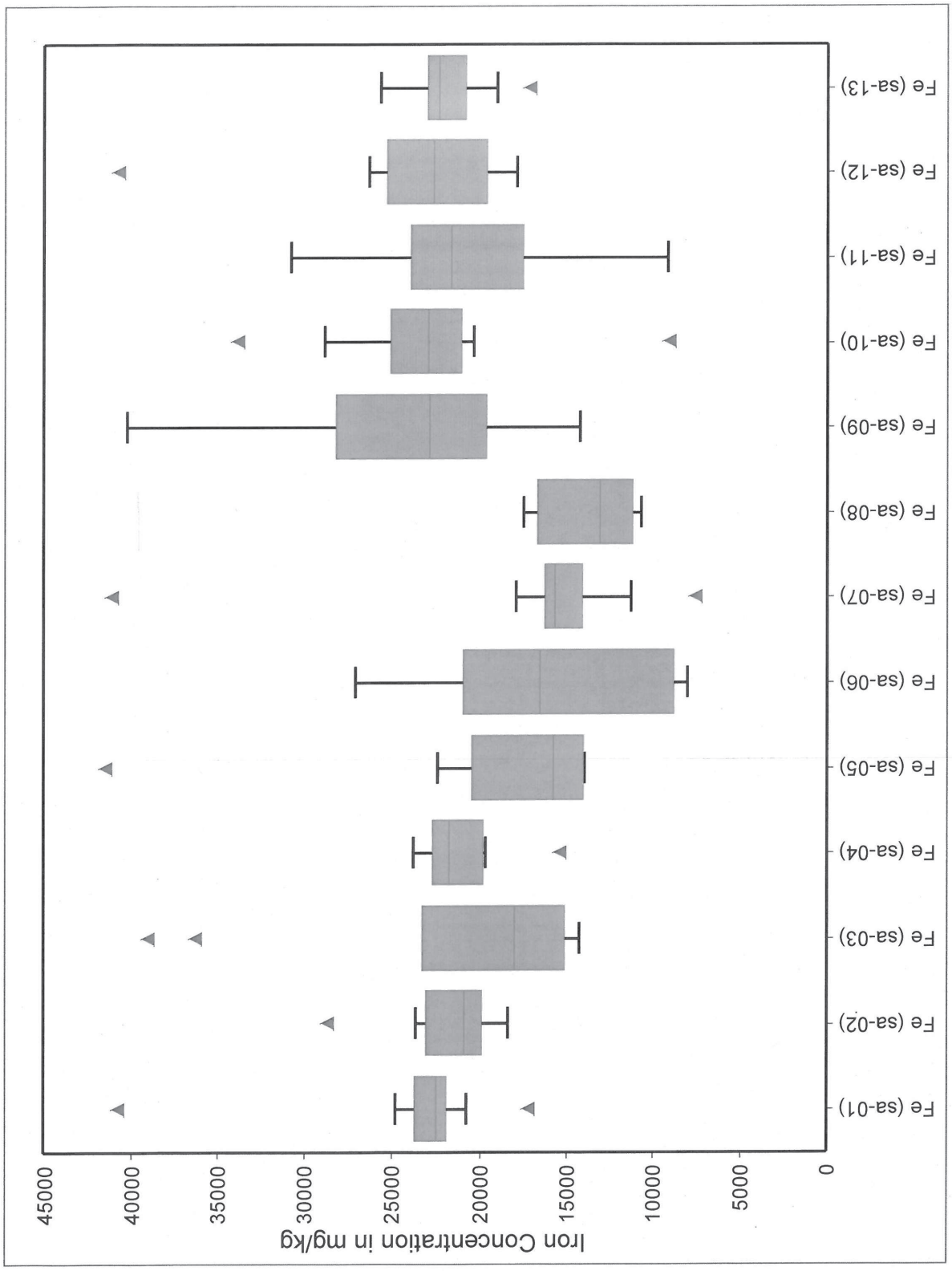
Surface Soil Copper Box and Whisker Plot by Subarea

17800-36 4/13

HARTCROWSER

Figure
E-10

EAL 04/08/13 1780036-AR.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

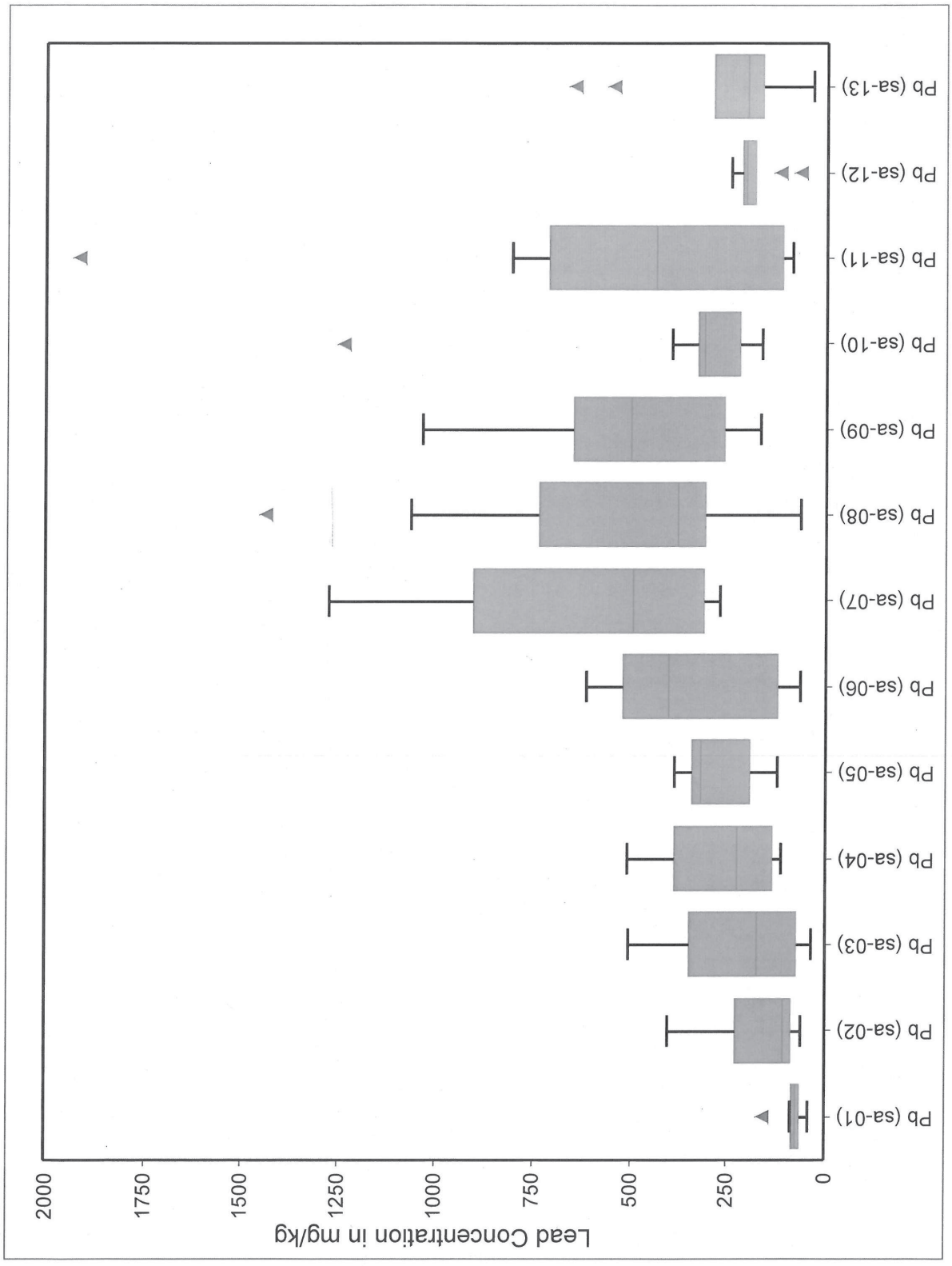
Surface Soil Iron Box and Whisker Plot by Subarea

17800-36 4/13

HARTCROWSER

Figure
E-11

EAL 04/08/13 1780036-AS.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

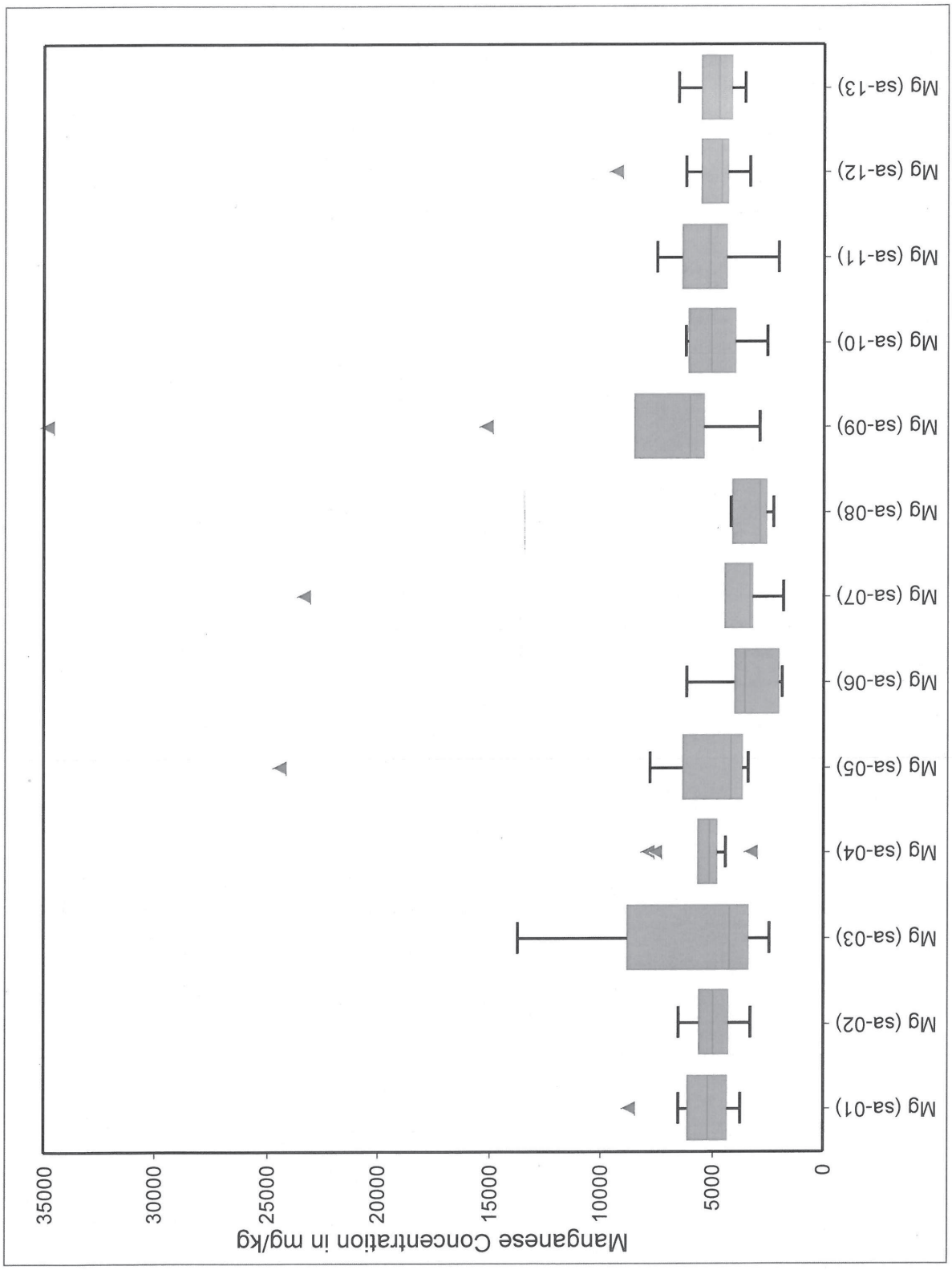
Surface Soil Lead Box and Whisker Plot by Subarea

17800-36 4/13

HARTCROWSER

Figure
E-12

EAL 04/08/13 1780036-AT.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

Surface Soil Magnesium Box and Whisker Plot by Subarea

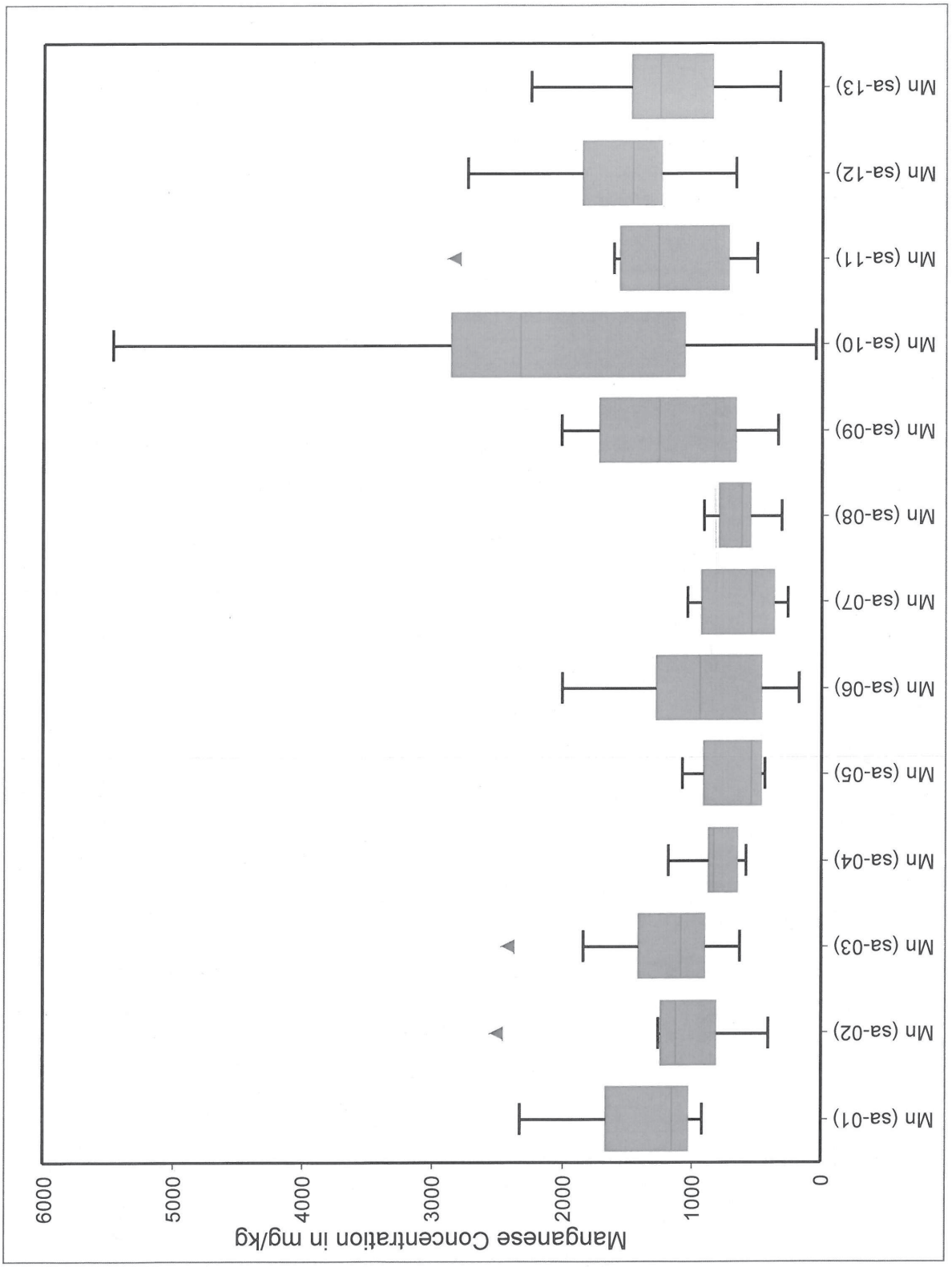
17800-36 4/13

HARTCROWSER

Figure

E-13

EAL 04/08/13 1780036-AU.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

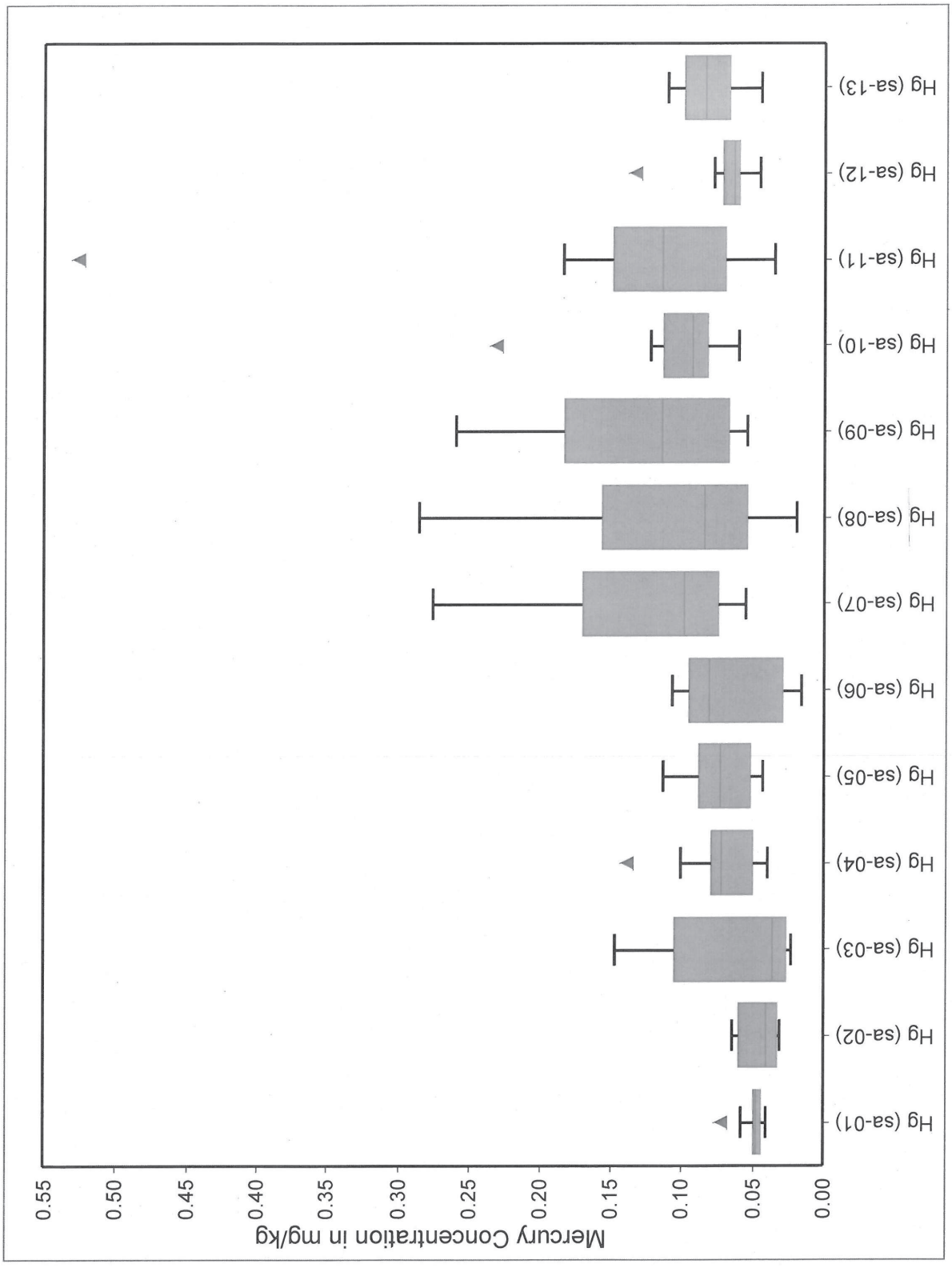
Surface Soil Manganese Box and Whisker Plot by Subarea

17800-36 4/13

HARTCROWSER

Figure
E-14

EAL 04/08/13 1780036-AV.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

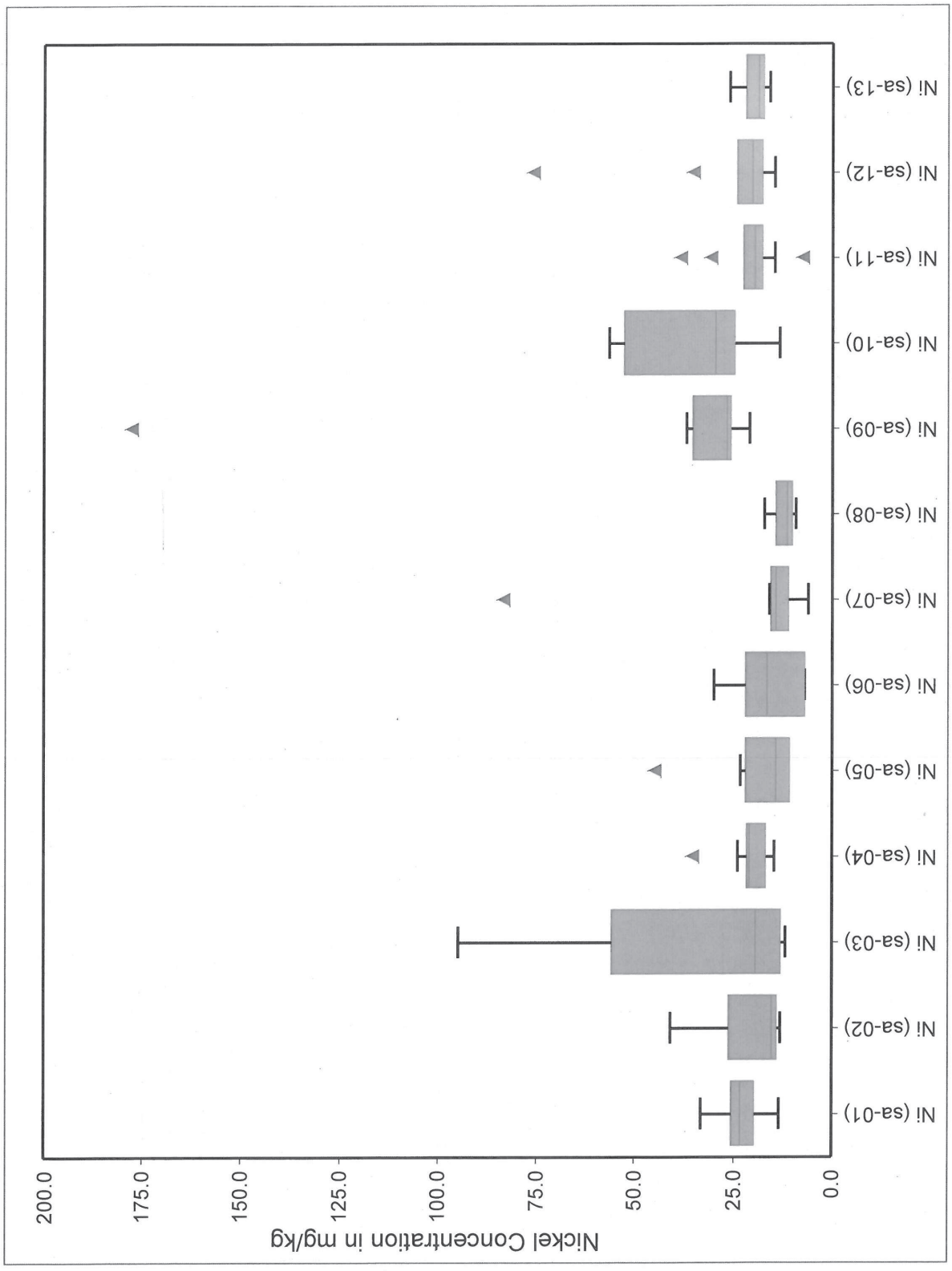
Surface Soil Mercury Box and Whisker Plot by Subarea

17800-36 4/13

HARTCROWSER

Figure
E-15

EAL 04/08/13 1780036-AW.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

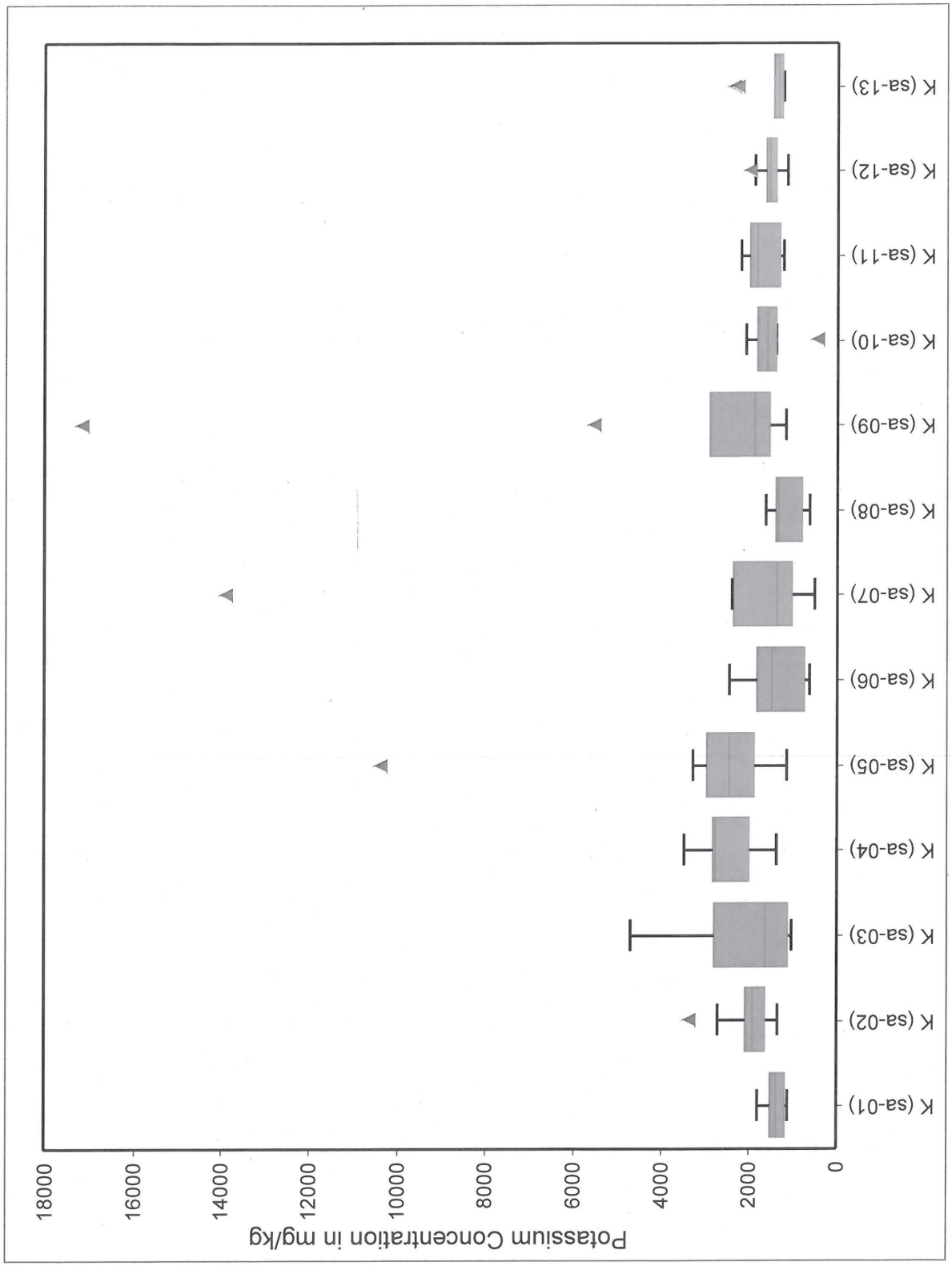
Surface Soil Nickel Box and Whisker Plot by Subarea

17800-36 4/13

HARTCROWSER

Figure
E-16

EAL 04/08/13 1780036-AX.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

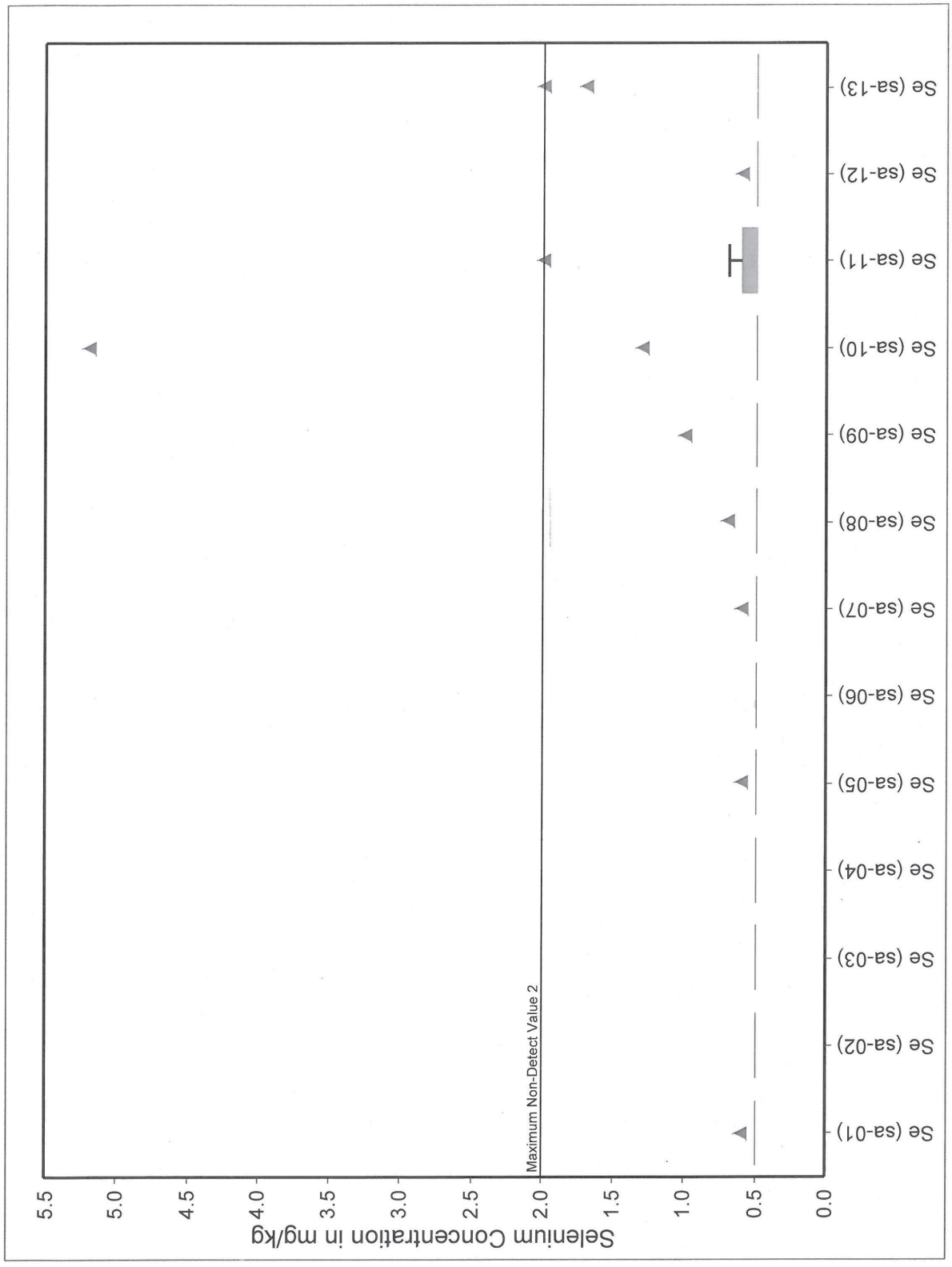
Surface Soil Potassium Box and Whisker Plot by Subarea

17800-36 4/13

HARTCROWSER

Figure
E-17

EAL 04/08/13 1780036-AY.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

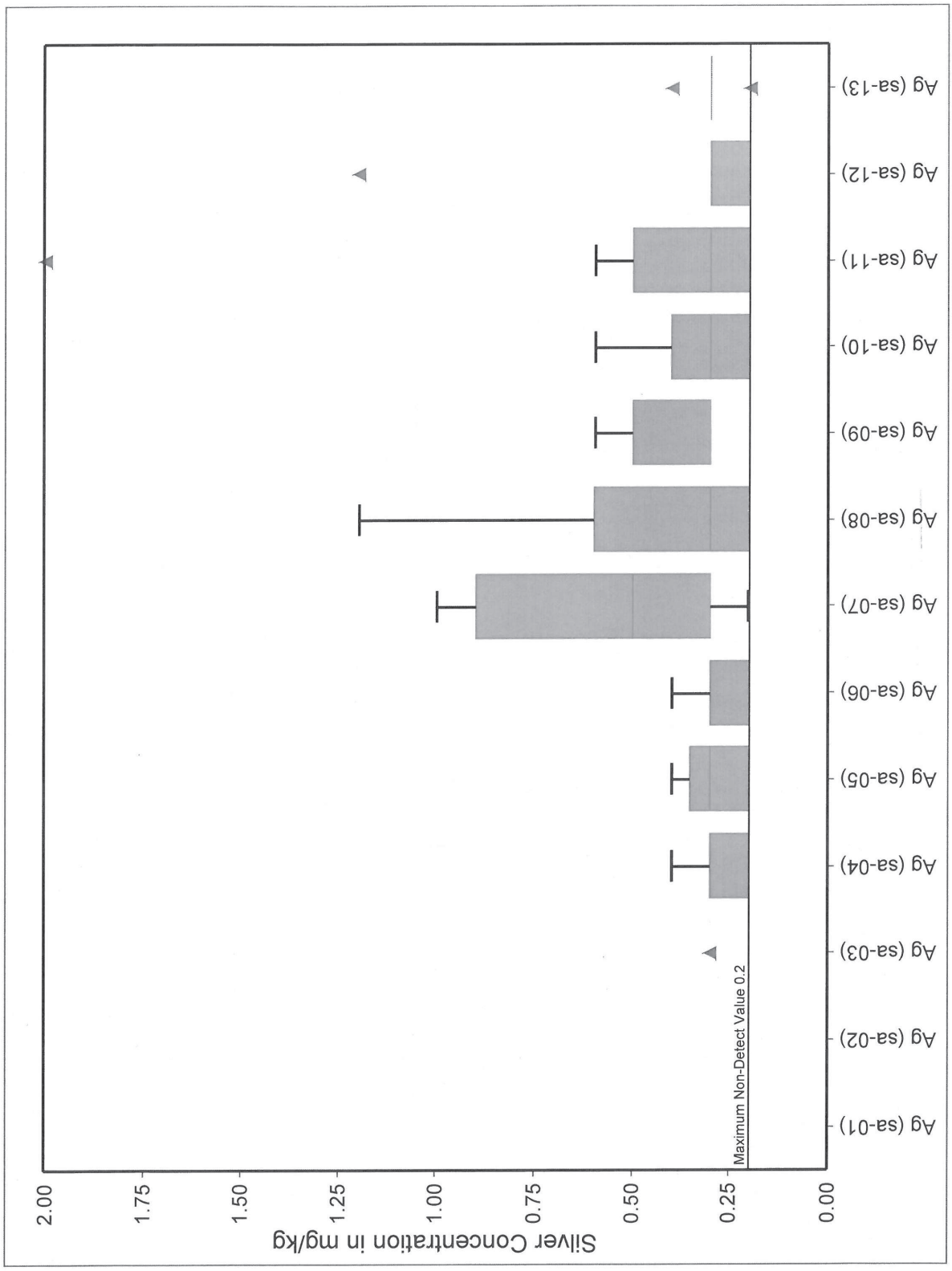
Surface Soil Selenium Box and Whisker Plot by Subarea

17800-36 4/13

HARTCROWSER

Figure
E-18

EAL 04/08/13 1780036-AZ.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

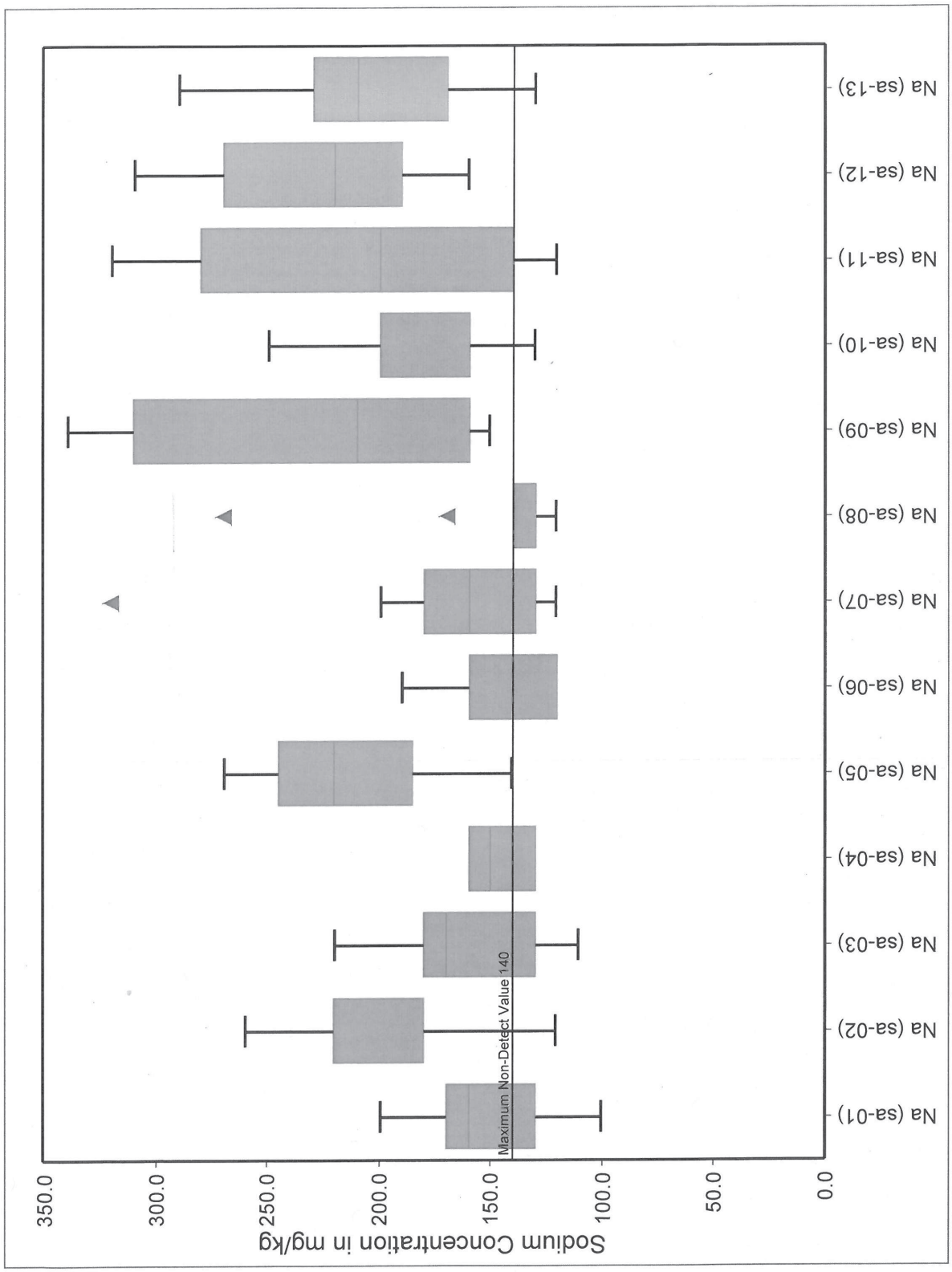
Surface Soil Silver Box and Whisker Plot by Subarea

17800-36 4/13

HARTCROWSER

Figure
E-19

EAL 04/08/13 1780036-BA.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

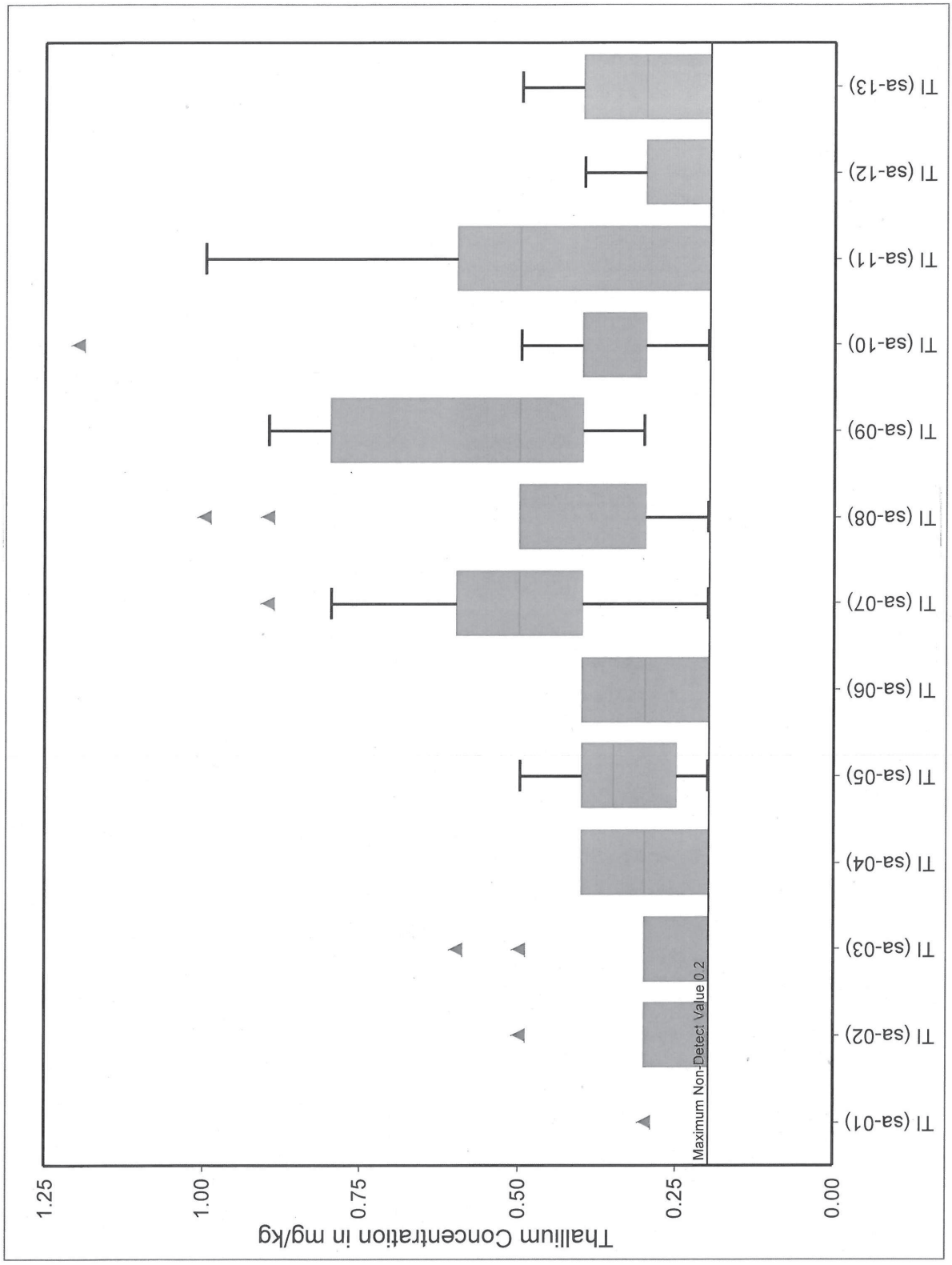
Surface Soil Sodium Box and Whisker Plot by Subarea

17800-36 4/13

HARTCROWSER

Figure
E-20

EAL 04/08/13 1780036-BB.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

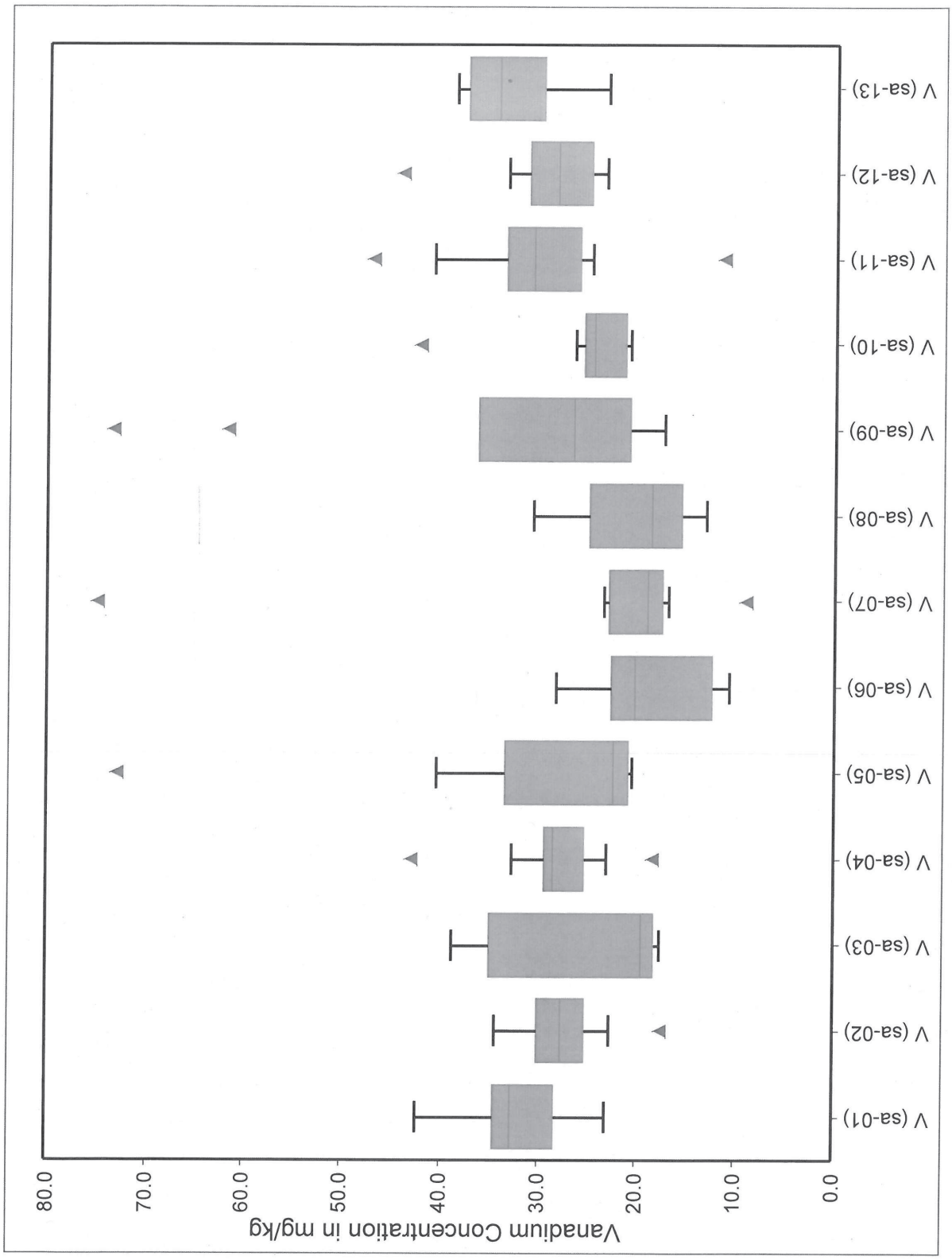
Surface Soil Thallium Box and Whisker Plot by Subarea

17800-36 4/13

HARTCROWSER

Figure
E-21

EAL 04/08/13 1780036-BC.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

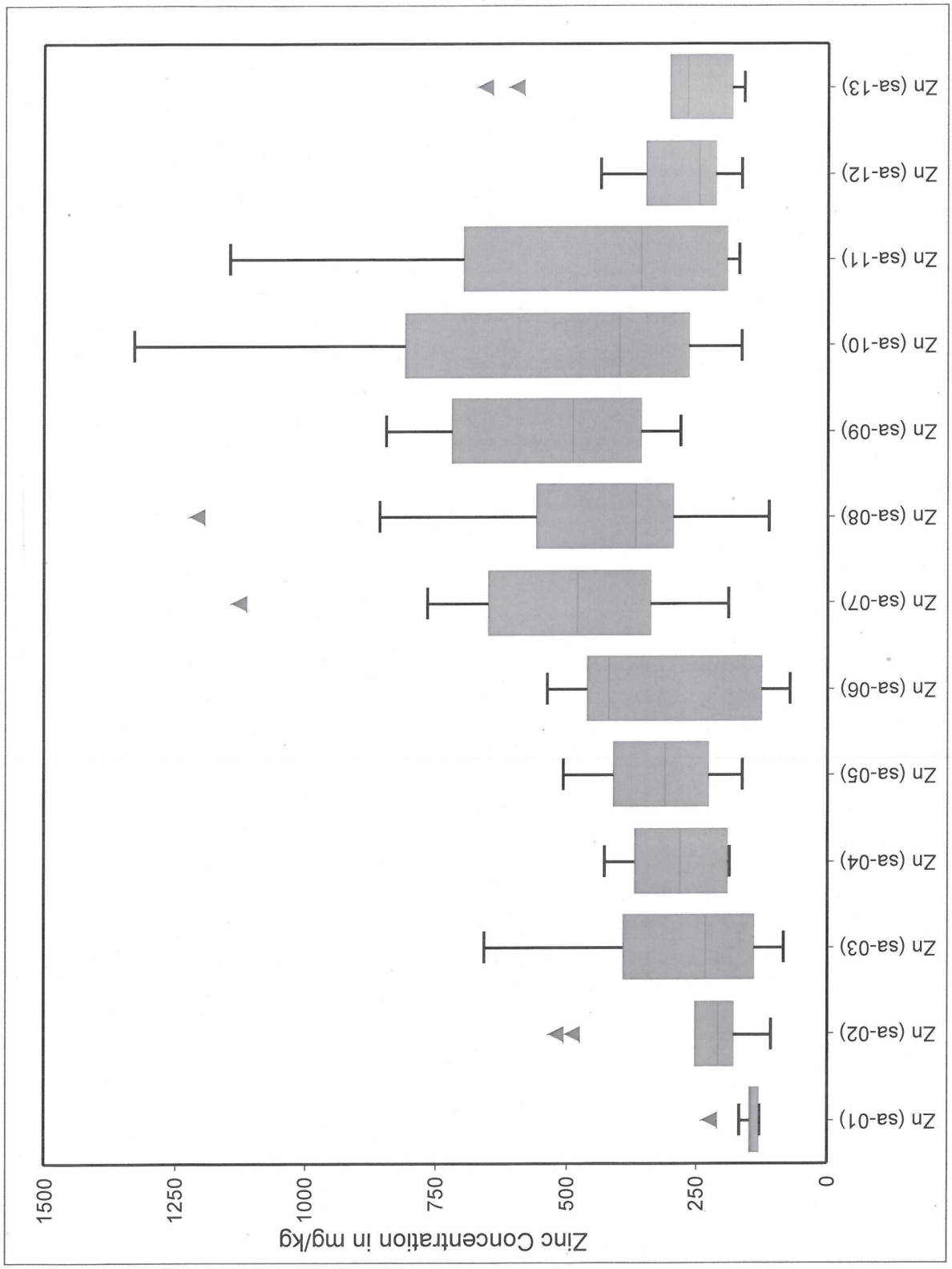
Surface Soil Vanadium Box and Whisker Plot by Subarea

17800-36 4/13

HARTCROWSER

Figure
E-22

EAL 04/08/13 1780036-BD.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

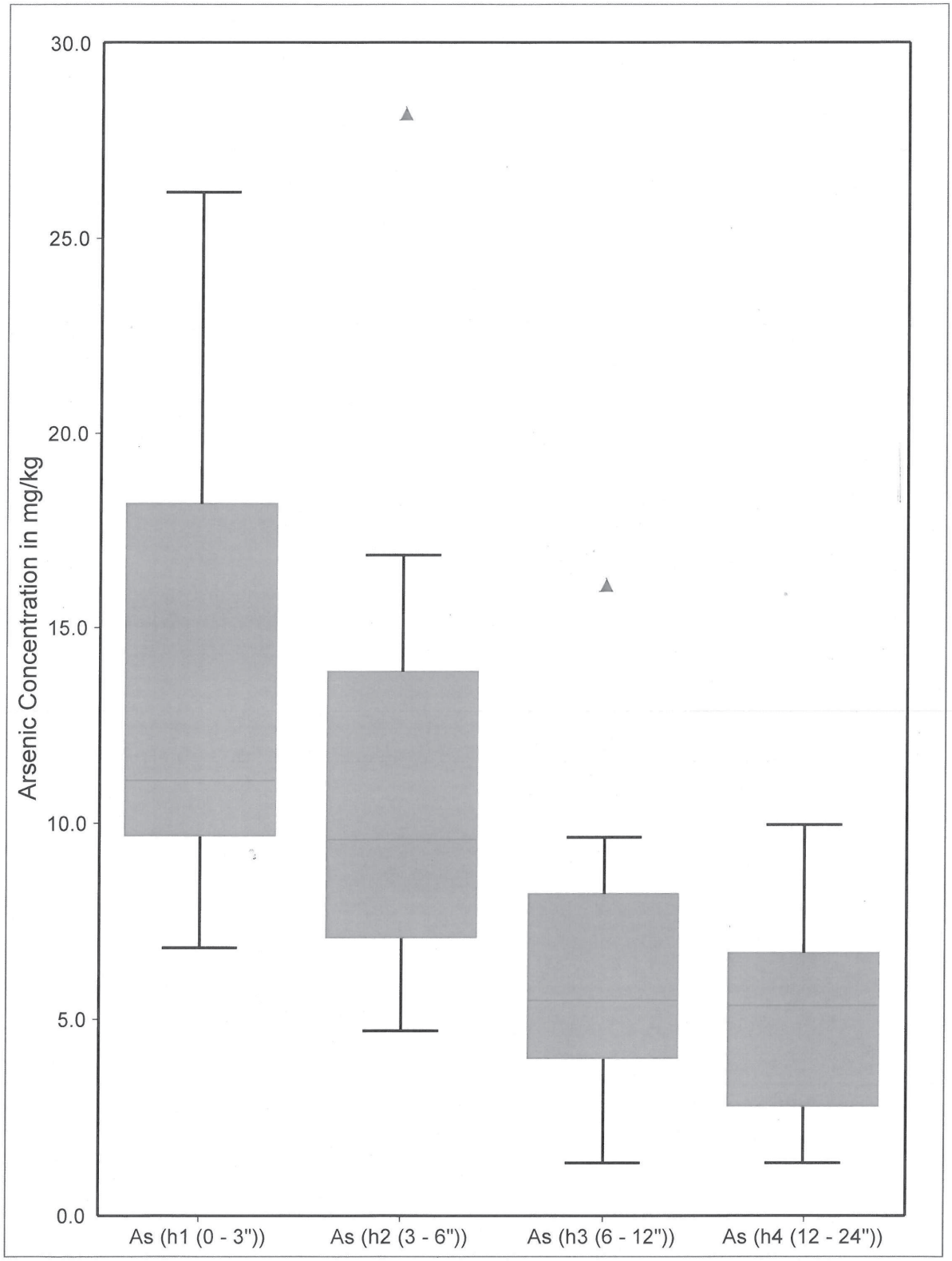
Surface Soil Zinc Box and Whisker Plot by Subarea

17800-36 4/13

HARTCROWSER

Figure
E-23

EAL 04/08/13 1780036-BE.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

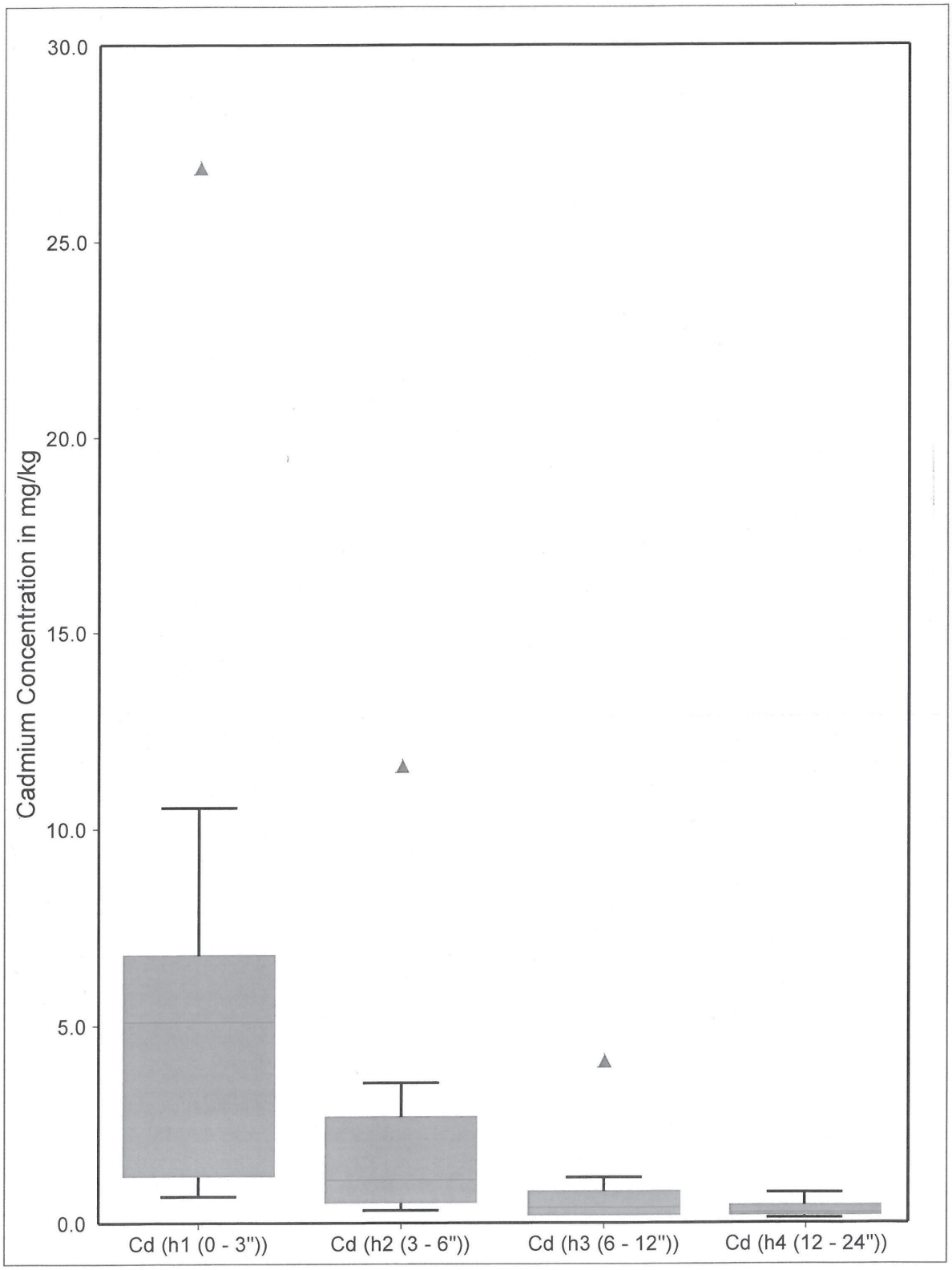
Arsenic Soil Profile Box and Whisker Plot by Depth Interval

17800-36 4/13

HARTCROWSER

Figure
E-24

EAL 04/08/13 1780036-BF.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

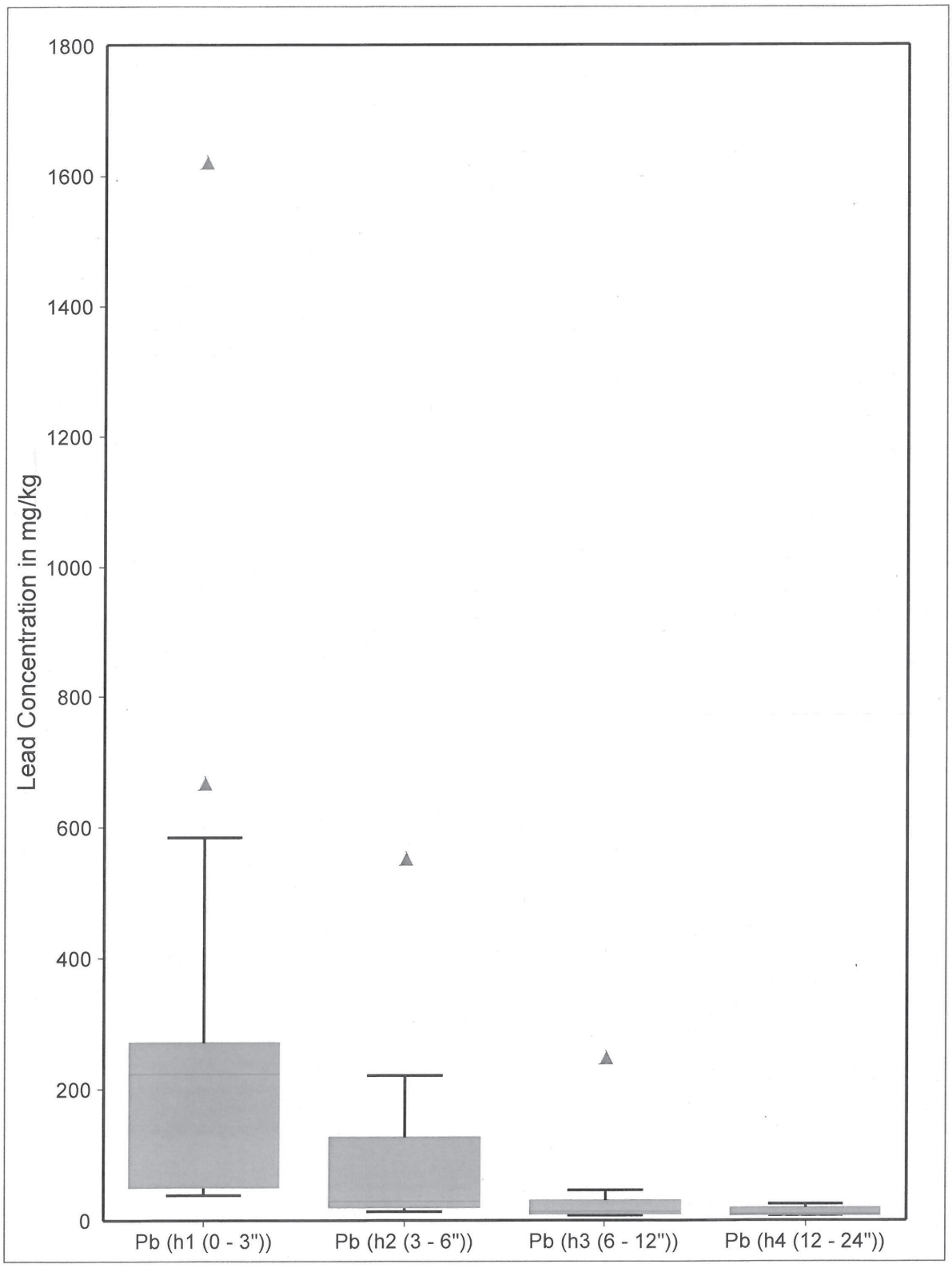
Cadmium Soil Profile Box and Whisker Plot by Depth Interval

17800-36 4/13

HARTCROWSER

Figure
E-25

EAL 04/08/13 1780036-BG.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

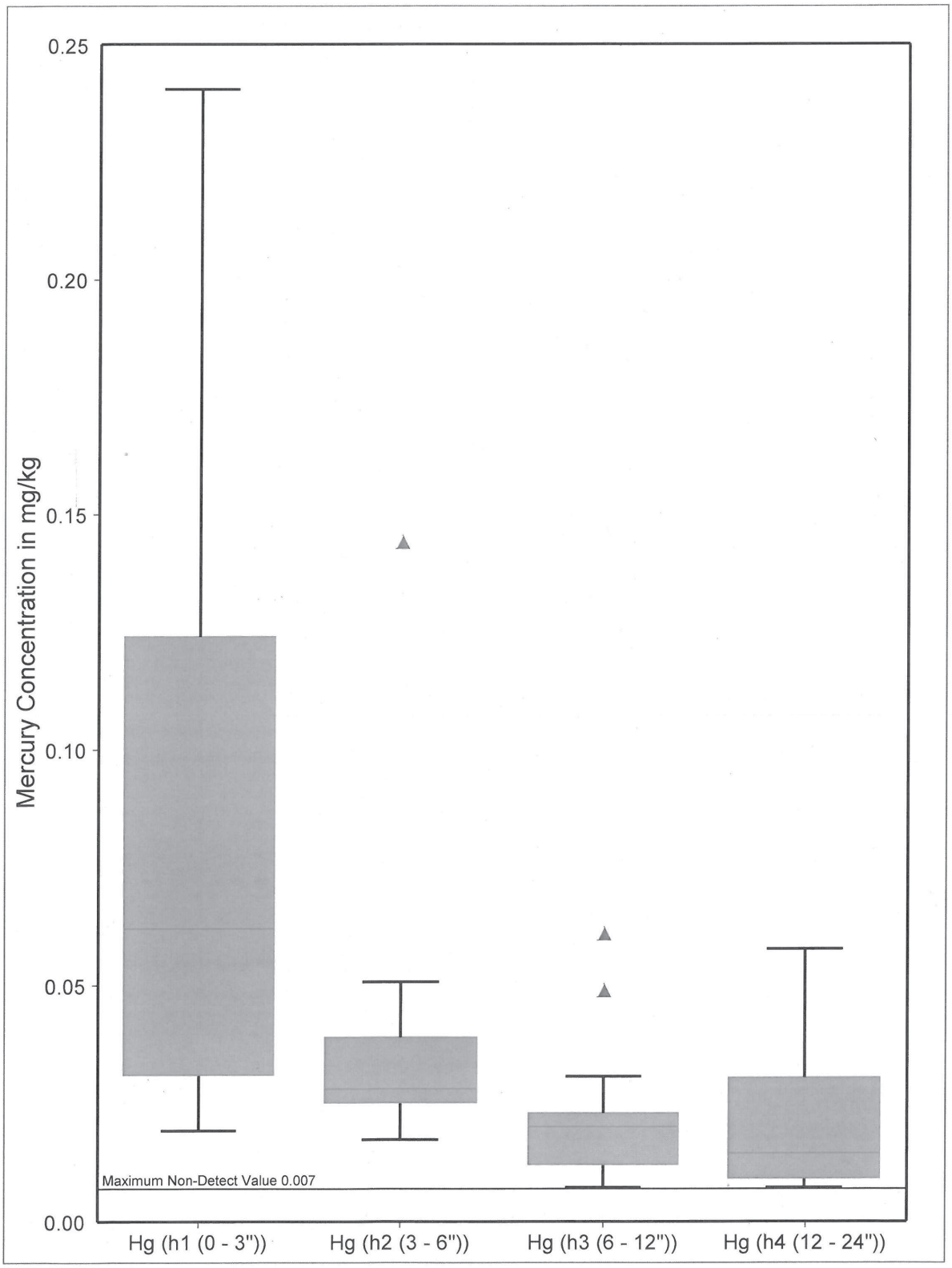
Lead Soil Profile Box and Whisker Plot by Depth Interval

17800-36 4/13

HARTCROWSER

Figure
E-26

EAL 04/08/13 1780036-BH.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

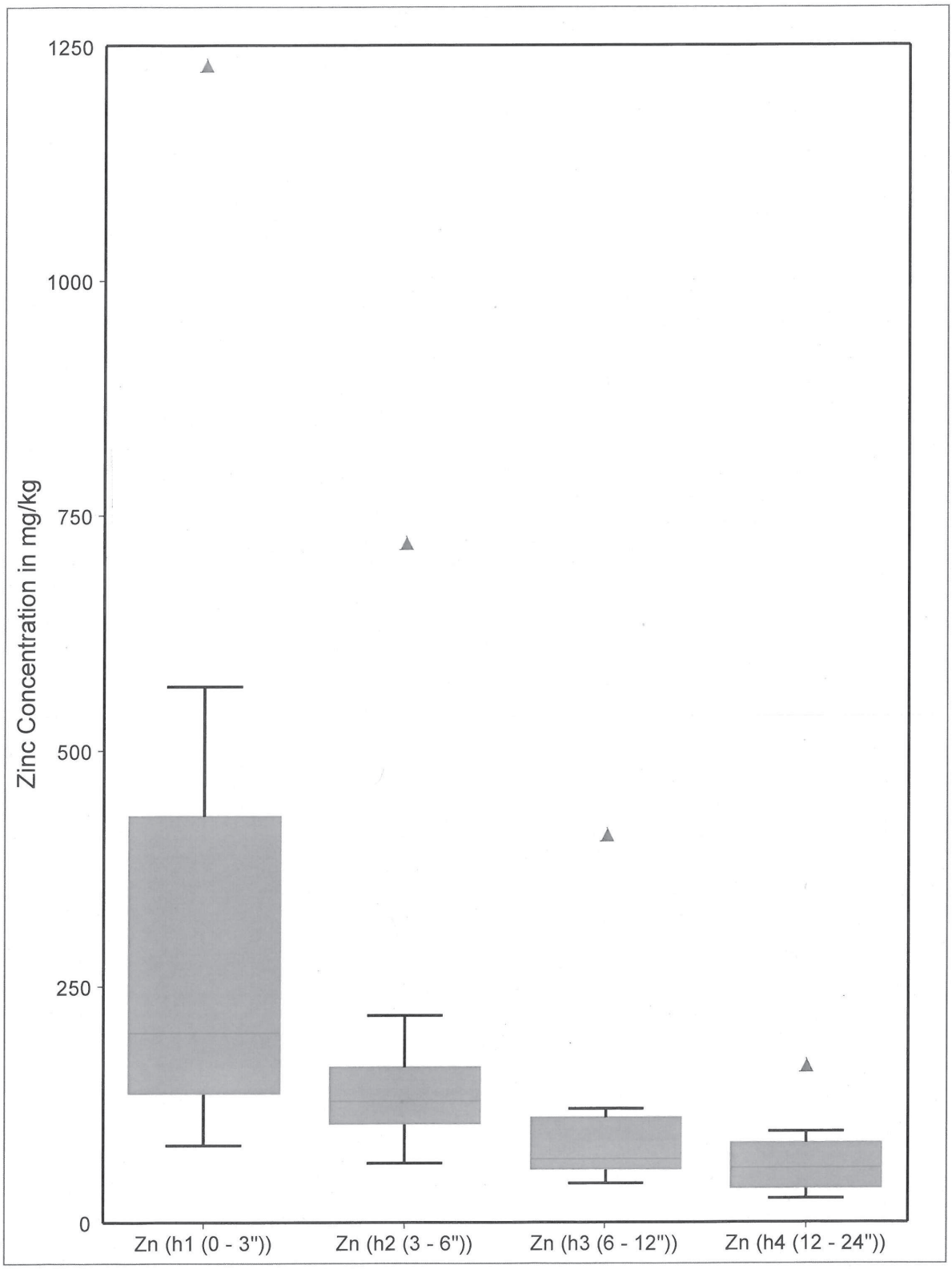
Mercury Soil Profile Box and Whisker Plot by Depth Interval

17800-36 4/13

HARTCROWSER

Figure
E-27

EAL 04/08/13 1780036-BI.cdr



Upper Columbia River Surface Soil Sampling
Stevens County, Washington

Zinc Soil Profile Box and Whisker Plot by Depth Interval

17800-36 4/13

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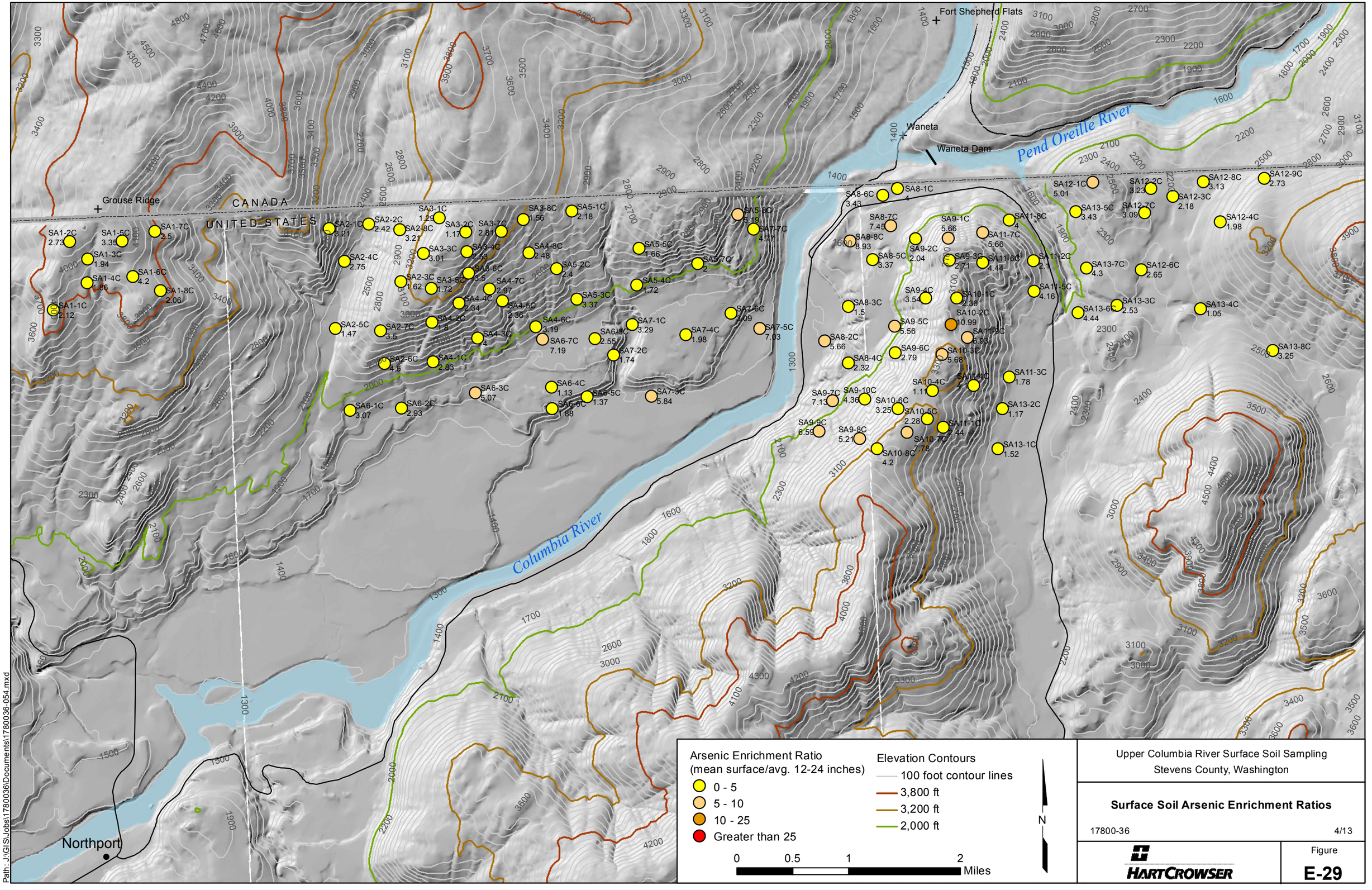
Figure
E-28

EAL 04/08/13 1780036-BJ.cdr


Fort Shepherd Flats
Waneta
Waneta Dam
Pend Oreille River
Grouse Ridge
CANADA
UNITED STATES
Columbia River
Northport
SA1-2C 2.73
SA1-5C 3.35
SA1-7C 2.5
SA1-3C 1.94
SA1-4C 1.86
SA1-6C 4.2
SA1-8C 2.06
SA1-1C 2.12
SA2-1C 3.21
SA2-2C 2.42
SA2-8C 3.21
SA2-4C 2.75
SA2-3C 1.62
SA3-5C 1.72
SA2-5C 1.47
SA2-7C 3.5
SA2-6C 4.5
SA3-1C 1.29
SA3-2C 1.17
SA3-7C 2.81
SA3-3C 3.01
SA3-4C 2.53
SA3-6C 3.5
SA4-7C 2.97
SA4-4C 2.34
SA4-5C 2.36
SA4-2C 1.8
SA4-3C 4
SA4-1C 2.83
SA3-8C 1.56
SA4-8C 2.48
SA5-2C 2.4
SA5-1C 2.18
SA5-3C 3.37
SA4-6C 3.19
SA6-7C 7.19
SA6-1C 3.07
SA6-2C 2.93
SA6-3C 5.07
SA6-4C 1.13
SA6-5C 1.37
SA6-6C 1.88
SA6-8C 2.55
SA7-2C 1.74
SA5-5C 1.66
SA5-7C 2
SA5-4C 1.72
SA5-8C 5.18
SA7-7C 4.77
SA7-6C 5.09
SA7-1C 3.29
SA7-4C 1.98
SA7-5C 7.03
SA7-3C 5.84
SA8-6C 3.43
SA8-1C 4
SA8-7C 7.45
SA8-8C 8.93
SA8-5C 3.37
SA8-3C 1.5
SA8-2C 5.66
SA8-4C 2.32
SA9-1C 5.66
SA9-2C 2.04
SA9-3C 2.71
SA9-4C 3.54
SA9-5C 5.56
SA9-6C 2.79
SA9-7C 7.13
SA9-10C 4.36
SA9-9C 6.59
SA9-8C 5.21
SA10-6C 3.25
SA10-8C 4.2
SA10-1C 2.36
SA10-2C 10.99
SA10-3C 5.68
SA10-4C 1.11
SA10-5C 2.28
SA10-7C 7.78
SA11-8C 4
SA11-7C 5.66
SA11-6C 4.44
SA11-2C 2.1
SA11-9C 6.93
SA11-4C 4.1
SA11-5C 4.16
SA11-3C 1.78
SA11-10 2.44
SA12-1C 5.01
SA12-2C 3.23
SA12-8C 3.13
SA12-9C 2.73
SA12-3C 2.18
SA12-4C 1.98
SA12-7C 3.09
SA12-6C 2.65
SA13-5C 3.43
SA13-7C 4.3
SA13-6C 4.44
SA13-3C 2.53
SA13-4C 1.05
SA13-8C 3.25
SA13-2C 1.17
SA13-1C 1.52
Arsenic Enrichment Ratio
(mean surface/avg. 12-24 inches)
0 - 5
5 - 10
10 - 25
Greater than 25
Elevation Contours
100 foot contour lines
3,800 ft
3,200 ft
2,000 ft
0 0.5 1 2
Miles
N
Upper Columbia River Surface Soil Sampling
Stevens County, Washington
Surface Soil Arsenic Enrichment Ratios
17800-36
4/13
HARTCROWSER
Figure
E-29
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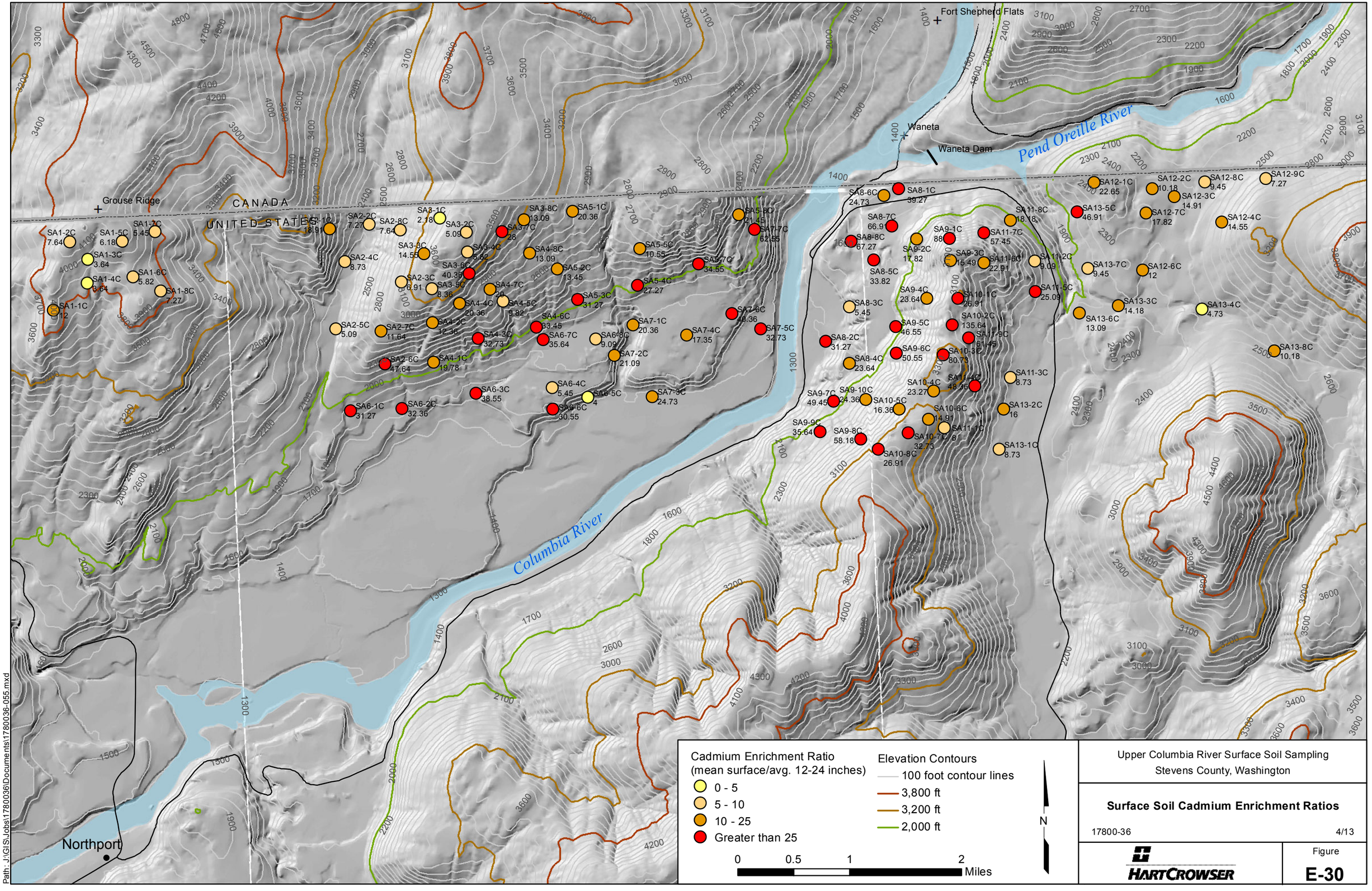

Upper Columbia River Surface Soil Sampling
Stevens County, Washington

Surface Soil Cadmium Enrichment Ratios

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Figure
E-30

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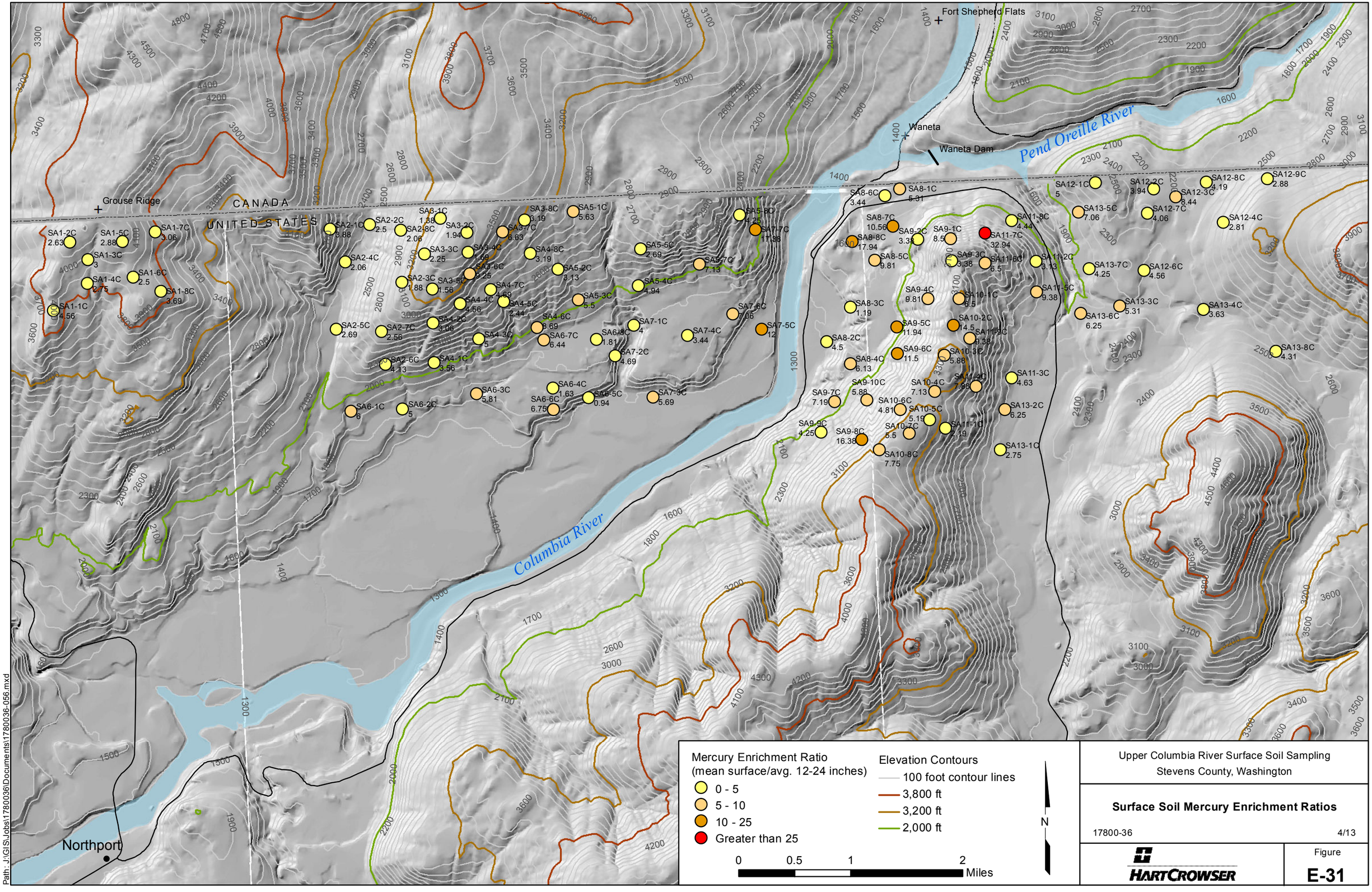
Fort Shepherd Flats
Waneta
Waneta Dam
Pend Oreille River
Grouse Ridge
CANADA
UNITED STATES
Columbia River
Northport
Mercury Enrichment Ratio
(mean surface/avg. 12-24 inches)
0 - 5
5 - 10
10 - 25
Greater than 25
Elevation Contours
100 foot contour lines
3,800 ft
3,200 ft
2,000 ft
0 0.5 1 2
Miles
N
Upper Columbia River Surface Soil Sampling
Stevens County, Washington
Surface Soil Mercury Enrichment Ratios
17800-36
4/13
HARTCROWSER
Figure
E-31
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Fort Shepherd Flats

Waneta

Waneta Dam

Pend Oreille River

Grouse Ridge

CANADA

UNITED STATES

Columbia River

Northport

Zinc Enrichment Ratio
(mean surface/avg. 12-24 inches)
- 0 - 5
- 5 - 10
- 10 - 25
- Greater than 25

Elevation Contours
- 100 foot contour lines
- 3,800 ft
- 3,200 ft
- 2,000 ft

0 0.5 1 2 Miles

N

Upper Columbia River Surface Soil Sampling
Stevens County, Washington

Surface Soil Zinc Enrichment Ratios

17800-36 4/13

HARTCROWSER

Figure
E-32

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