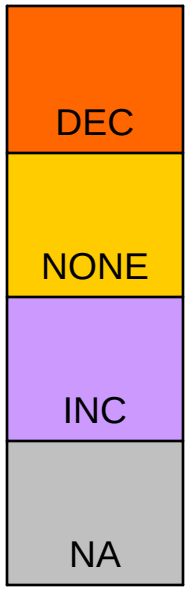
Trend Analysis of South Minneapolis Surface Soil Results

South Minneapolis Neighborhood Residential Soil Contamination Site
WA No. 016-RICO-B5BY, Contract No. EP-S5-06-01

Assumptions

- Air dispersion is the primary transport mechanism for arsenic from the CMC Site.
- Site activities at the CMC Site were limited to summer months.
- In the Minneapolis area, winds prevail from SE to NW from May through October (except September when they come from S) and from NW to SE between November and April.
- There is an extended period since activities at the CMC Site have ceased. Extensive land disturbance in the SMNRSCS has occurred after activities at the CMC Site ceased and after remediation of the CMC Site.

Color-coded Evaluation of Conditioning Plots



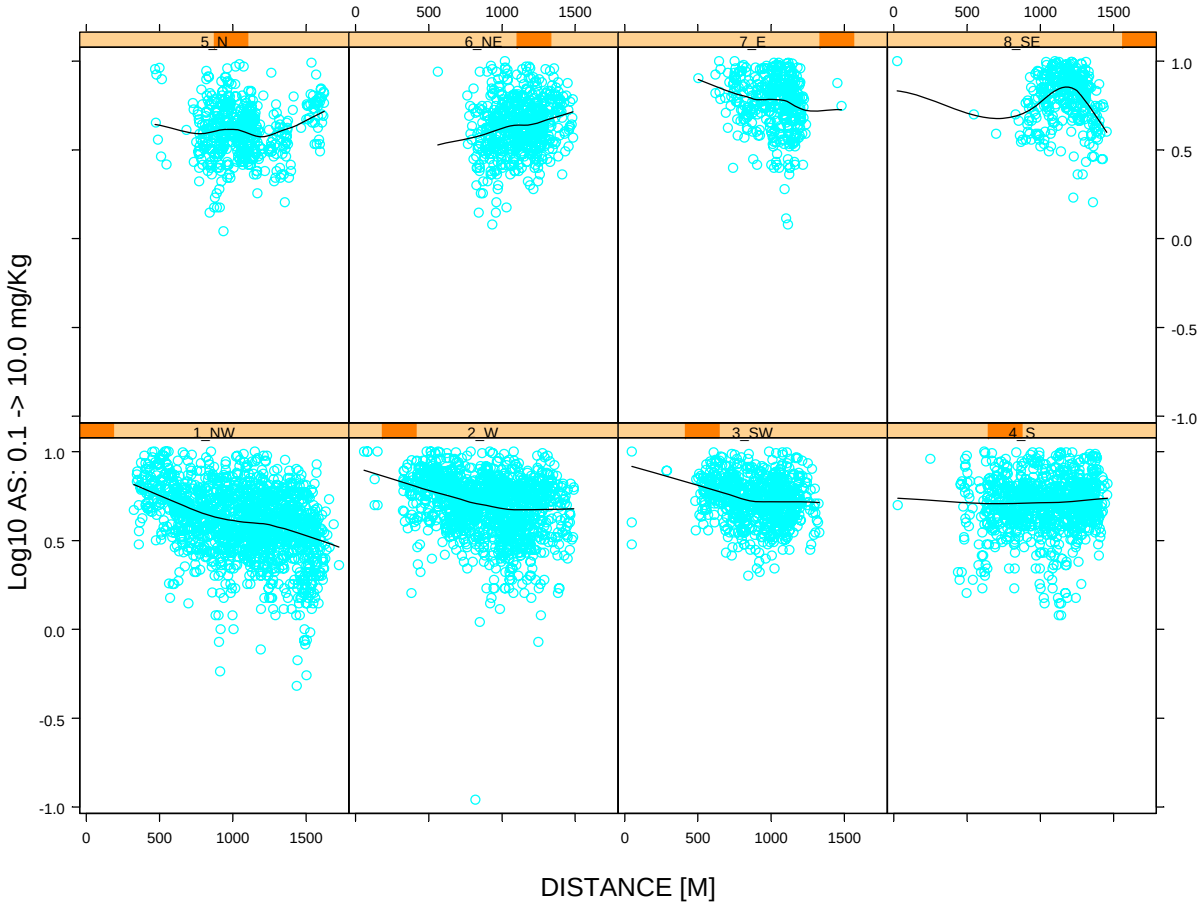
DECREASING CONCENTRATION WITH DISTANCE SUPPORTS CMC SITE AS A SOURCE

NO CHANGE IN CONCENTRATION WITH DISTANCE DOES NOT PRECLUDE CMC SITE AS A SOURCE

INCREASE IN CONCENTRATION WITH DISTANCE DOES NOT SUPPORT CMC SITE AS A SOURCE

NOT APPLICABLE, INSUFFICIENT INFORMATION TO MAKE CONCLUSION

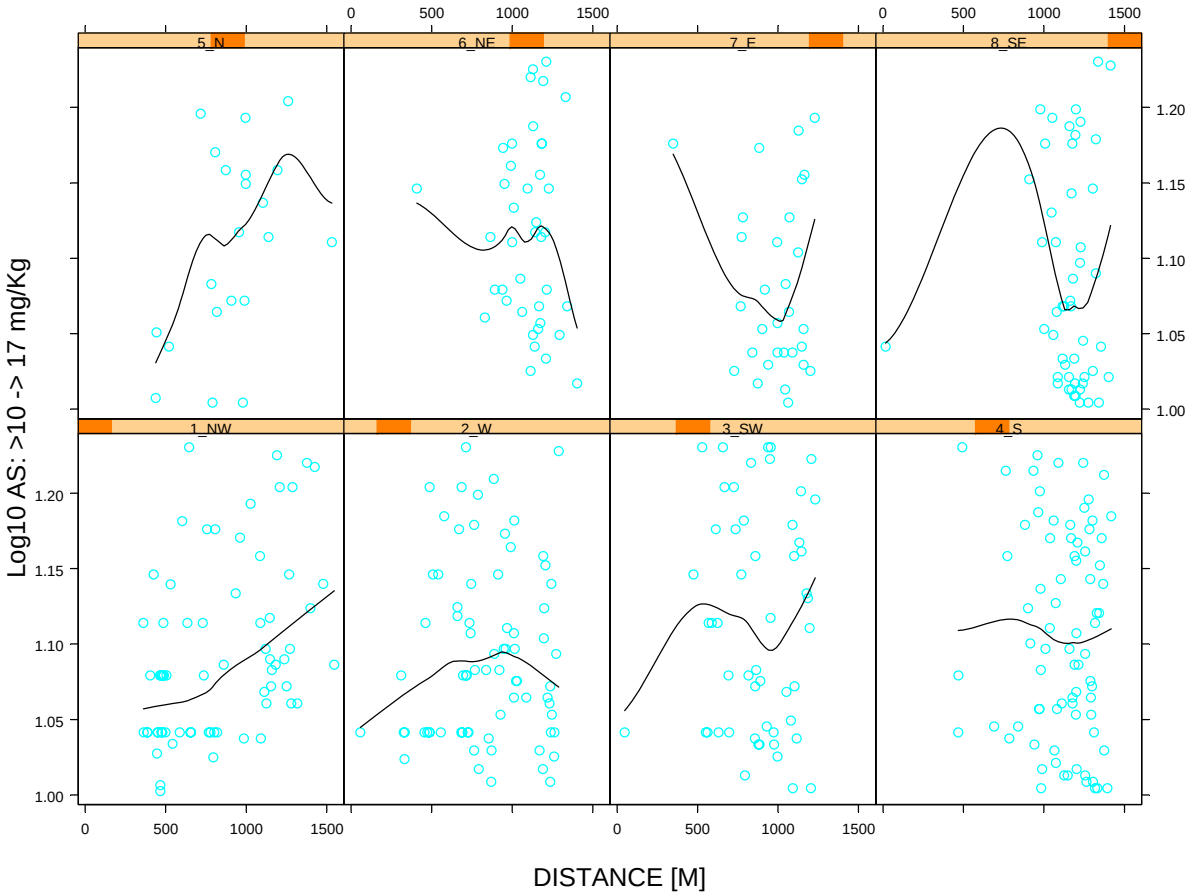
Low Level Arsenic Concentrations
(0.1 – 10 mg/Kg)



BACKGROUND 0.1 - 10 mg/Kg			
N 92% NONE	NE 78% INC	E 79% DEC	SE 73% NA
NW 84% DEC	W 82% DEC	SW 76% DEC	S 68% NONE

Suggests that the CMC Site is at least partially attributable for arsenic levels in this concentration range.

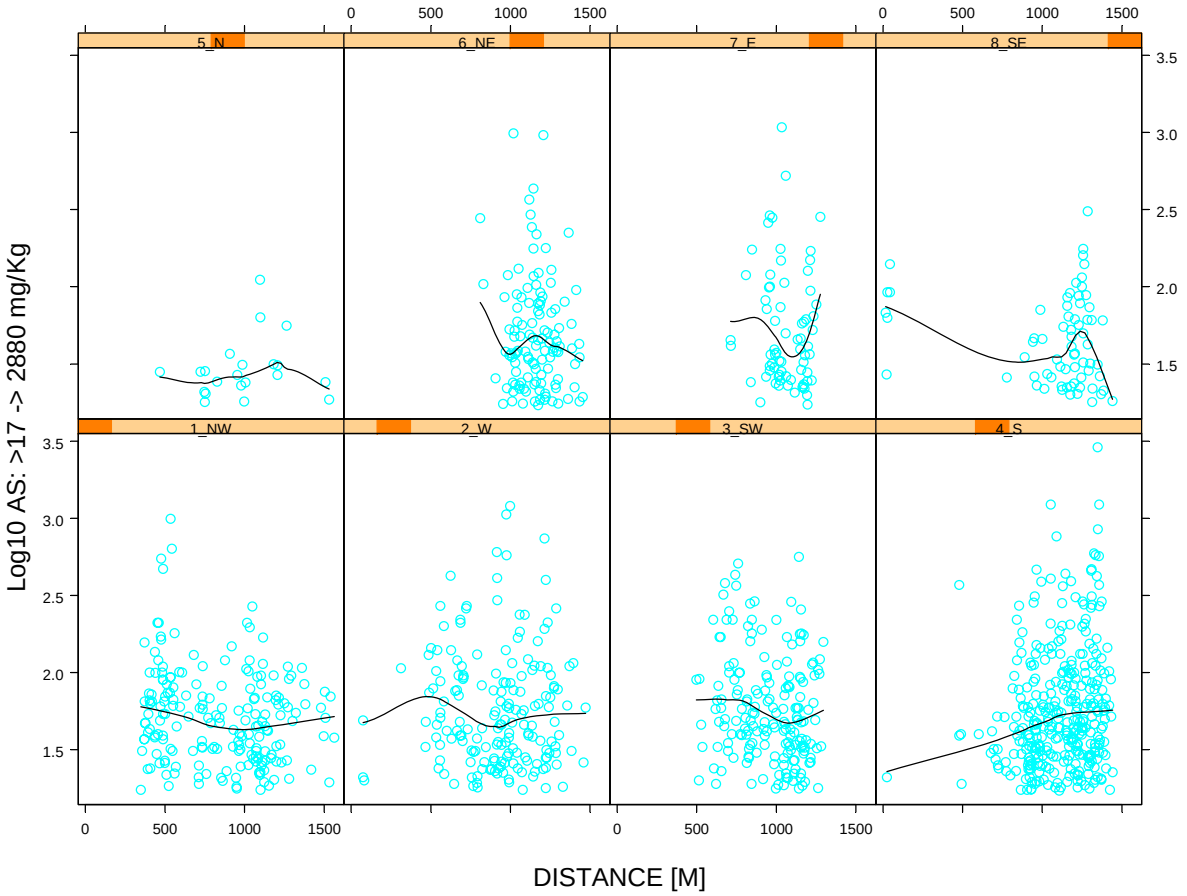
Mixed Level Arsenic Concentrations (10 to 17 mg/Kg)



MIXED 10 – 17 mg/Kg			
N 4% NONE to INC	NE 5% NONE to DEC	E 6% NONE	SE 11% NONE to NA
NW 5% INC	W 6% NONE	SW 6% NONE to NA	S 6% NONE

Arsenic at these levels in samples in all directions and at virtually all distances from the CMC Site does not support the hypothesis of CMC attribution at these levels.

Upper Level Arsenic Concentrations
(17 to 2880 mg/Kg)



EXCEEDANCE 17 - 2880 mg/Kg			
N 4% NONE	NE 16% NONE	E 15% NONE	SE 16% NONE to NA
NW 11% NONE	W 12% NONE	SW 19% NONE	S **26%** INC

Support for the hypothesis of the CMC Site as source of arsenic contamination in this concentration range is further reduced.

Interpretation - Conclusions

- These results suggest that the likely effect of the CMC Site on the South Minneapolis Site is limited to comparatively low-level increases in arsenic soil and is only seen in the concentration range of 0.1 to 10 mg/Kg.