

APPLICATION OF THE LAND RECLAMATION VALUATION SYSTEM TO DISTURBED LANDS AT THE ANACONDA SMELTER NPL SITE¹

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Abstract. Large areas of metal contaminated land surrounding the town of Anaconda, Montana will be reclaimed as mandated by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Barren and sparsely vegetated soils enriched in Cu, Zn, Cd, As, and Zn are common, and have been implicated as unacceptable health risks to both human and ecological receptors. Complex patterns of contaminant deposition by aerial and fluvial processes has resulted in extraordinary variability in ecological function over short distances. The need for refinement of treatment acreage and cost was jointly recognized by government regulators and by the Responsible Party. The Land Reclamation Evaluation System (LRES) was subsequently created as a data predicated decision-making tool designed to determine the location and intensity of remedial action across the site. The system includes several components including guidance criteria driven by statute, quantitative scoring of soil and vegetation condition and modifying criteria reflective of unique physical and cultural conditions observed. Application of the LRES process was initiated in 1998 and continues to guide remedial design for thousands of acres at the site.

Additional Key Words: Smelter fallout, mine tailing, Superfund

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