

ATTACHMENT 18 - HSI WORK PLAN TASK 2, MARCH 2007

	ACTIVITY 1	ACTIVITY 2	ACTIVITY 3	ACTIVITY 4
	Data Review	Imagery Analysis	Follow-on Results Verification	Present Findings
Description	<p><u>Washington County Re-Analysis</u> * Identify approx 10 points in Potosi and in Mineral Point for both Concern & Action Required (C&AR) levels of lead contamination, using SF survey data.</p> <p><u>Big River Deposition</u> * Identify locations, in existing ARCHER HSI, of a tailings pile or source area, and an area on the Big River where deposition is known to have occurred.</p> <p><u>Herculaneum Street Deposition</u> * Identify streets and haul roads, in existing ARCHER HSI of Herculaneum, where high concentrations of lead in dirt was known to have been detected.</p>	<p><u>Washington County Re-Analysis</u> * Using the points from Activity 1, develop two signatures, C&AR, and reapply the signatures to existing imagery. * Develop points for field verification from analysis for both levels of contamination.</p> <p><u>Big River Deposition</u> * Using the points from Activity 1, develop a source area and deposition signature and reapply to the imagery. * Develop points for potential deposition or tailings concentrations near the river. * Conduct End-Member analysis of imagery.</p> <p><u>Herculaneum Street Deposition</u> * Conduct an End-Member analysis of the Herculaneum imagery and compare results with Project Manager's knowledge of area.</p>	<p><u>Washington County Re-Analysis</u> * Collect field XRF readings of lead levels developed from activity 2 analysis.</p> <p><u>Big River Deposition</u> * If feasible, collect field XRF readings of river deposition or accessible areas near the river developed from activity 2 analysis.</p> <p><u>Herculaneum Street Deposition</u> * Review the potential use of End-Member and other analytical processes to monitor the continuing deposition of lead dust from ore transport and milling at Doe Run.</p>	<p>* Conduct internal review of findings. * Publish results.</p>
Tasks	<p>MDNR <u>Washington County Re-Analysis</u> * Develop GPS locations for C&AR readings from SF Residential Yard Field data sheets. * Plot data points for imagery analysis and field survey. * Provide file of data points & lead levels to MoRAP for analysis.</p> <p><u>Big River Deposition</u> * Coordinate with SF PM to develop locations for known source area, and river and adjacent area deposition. * Plot data points for imagery analysis and field survey. * Provide file of data points to MoRAP for analysis.</p> <p><u>Herculaneum Street Deposition</u> * Coordinate with SF PM to identify streets where high levels of lead were detected during fieldwork.</p>	<p>MDNR <u>Washington County Re-Analysis</u> * Site PMs and HSI personnel participate in analysis at MoRAP. * Plot verification points for C&AR from MoRAP analysis & generate points for field survey. * Develop field survey plan.</p> <p><u>Big River Deposition</u> * Site PMs and HSI personnel participate in analysis at MoRAP.</p> <p><u>Herculaneum Street Deposition</u> * Site PMs and HSI personnel participate in analysis at MoRAP.</p>	<p>MDNR <u>Washington County Re-Analysis</u> * Collect field XRF and GPS readings of lead levels developed from activity 2 analysis. * Plot results of field survey. * Develop recommendations.</p> <p><u>Big River Deposition</u> * Collect field XRF and GPS readings of lead levels developed from activity 2 analysis. * Plot results of field survey. * Develop recommendations.</p> <p><u>Herculaneum Street Deposition</u> * Develop recommendations.</p>	<p>MDNR * Coordinate reviews and briefings as appropriate. * Publish results.</p>

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	<p>MoRAP <u>Washington County Re-Analysis</u> * Support data review where feasible.</p> <p><u>Big River Deposition</u> * Support data review as appropriate.</p> <p><u>Herculaneum Street Deposition</u> * Support data review where feasible.</p>	<p>MoRAP <u>Washington County Re-Analysis</u> * Based on MDNR data points, re-analyze ARCHER imagery using separate colors & overlays for C&AR levels. * Provide analysis in overlay files to MDNR for field survey.</p> <p><u>Big River Deposition</u> * Based on MDNR data points and PM inputs, re-analyze ARCHER imagery using separate colors & overlays for source and deposition areas. * Provide analysis in overlay files to MDNR for field survey. * Conduct End-Member analysis.</p> <p><u>Herculaneum Street Deposition</u> * Conduct End-Member analysis.</p>	<p>MoRAP <u>Washington County Re-Analysis</u> * Support field verification as appropriate. * Provide inputs to recommendations.</p> <p><u>Big River Deposition</u> * Support field verification as appropriate. * Provide inputs to recommendations.</p> <p><u>Herculaneum Street Deposition</u> * Provide inputs to recommendations.</p>	<p>MoRAP * Participate in review and briefings as requested.</p>
Outputs	<p>MDNR <u>Washington County Re-Analysis</u> * Data file of UTM coordinates and lead levels for Potosi and Mineral Point.</p> <p><u>Big River Deposition</u> * Data file of UTM coordinates for source & deposition areas.</p> <p><u>Herculaneum Street Deposition</u> * Chart of Herculaneum with haul roads & streets with potential high lead level.</p>	<p>MDNR <u>Washington County Re-Analysis</u> * Chart & coordinate file of verification points with lead levels for field survey. * Field survey plan.</p> <p><u>Big River Deposition</u> * Chart and coordinate file of verification points with lead levels for field survey. * Field survey plan.</p> <p><u>Herculaneum Street Deposition</u> * Chart of Herculaneum and End-Member analysis overlay.</p>	<p>MDNR <u>Washington County Re-Analysis</u> * Chart & coordinate file of field survey data with lead levels. * Report of field survey.</p> <p><u>Big River Deposition</u> * Chart & coordinate file of field survey data with lead levels. * Report of field survey.</p> <p><u>Herculaneum Street Deposition</u> * Chart provided under Activity 2. * Comments/recommendations on the potential for ARCHER to support monitoring of lead re-contamination from hauling and processing ore.</p>	<p>MDNR * Report. * Recommendations for follow-on analysis and applications.</p>

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	<p>MoRAP <u>Washington County Re-Analysis</u> * None anticipated.</p> <p><u>Big River Deposition</u> * None anticipated.</p> <p><u>Herculaneum Street Deposition</u> * None anticipated.</p>	<p>MoRAP <u>Washington County Re-Analysis</u> * C&AR overlays for ArcView.</p> <p><u>Big River Deposition</u> * Source & deposition overlays for ArcView.</p> <p><u>Herculaneum Street Deposition</u> * End-Member analysis overlay for ArcView.</p>	<p>MoRAP <u>Washington County Re-Analysis</u> * Comments/recommendations on the applicability of HSI to lead mining field surveys. * Comments/recommendations on times of the year, spectral bands, soil types and other variables that would enhance collection and analysis.</p> <p><u>Big River Deposition</u> * Comments/recommendations on the applicability of HSI, and environmental and collection variables that would enhance results.</p> <p><u>Herculaneum Street Deposition</u> * Comments/recommendations on the applicability of End-Member and other analytical approaches to routine monitoring of lead contamination from hauling and processing ore.</p>	<p>MoRAP * Materials for reports as requested.</p>
Outcomes	* Develop sample data and positional information for follow-on analysis.	* Generate graphics and positional data to support follow-on Activity 3 verification.	* Evaluation of HSI analysis.	* Additional field data to evaluate applications of ARCHER HSI.