

**January 2011 Update**

**Silver Bow Creek/Butte Area Superfund Site**

Butte, Montana

(Five-Year Review date: 9/30/2005)

Additional Site Progress: The draft of the 2011 five-year review is expected to be finalized by the end of the second quarter of fiscal year 2011.

**Issues & Recommendations Update**

<b>Issues</b>	<b>Recommendations/ Follow-up Actions</b>	<b>Status of Follow-up Actions January 2011</b>	<b>Responsible Party</b>
<p>1. Continual seasonal exceedances of arsenic concentrations in effluent. Meeting arsenic standards for surface water will require an additional treatment step.</p> <p>WSP Active and Inactive OUs.</p>	<p>EPA may conduct arsenic mass loading studies (seasonal) to determine the significance of the arsenic load from the WSP as compared to other sources of arsenic loading in the basin.</p> <p>EPA may initiate additional wildlife studies to determine whether bioaccumulation of arsenic in birds requires mitigation.</p>	<p>First recommendation – complete. 1/31/2009</p> <p>EPA may conduct arsenic mass loading studies (seasonal) to determine the significance of the arsenic load from the WSP as compared to other sources of arsenic loading in the basin. Status of follow-up actions - Additional mass loading studies were performed by Atlantic Richfield Company at EPA’s request. Several technical meetings were conducted for the purpose of interpreting new data (both influent and effluent water quality, plus other physical and chemical parameters). It was concluded that an additional treatment step would not reduce arsenic concentrations to levels needed to achieve compliance. Therefore, continued twice-weekly monitoring is recommended, and additional data analysis and interpretation will occur each six months to one year. These evaluations continue to occur.</p> <p>Second recommendation – evaluated and not implemented. 1/31/2009</p> <p>EPA may initiate additional wildlife studies to determine whether bioaccumulation of arsenic in birds requires mitigation. Status of follow-up actions – EPA and U.S. Fish and Wildlife Service concluded that additional wildlife studies, above the biomonitoring program that is already conducted on an ongoing basis, by Atlantic Richfield Company, would not likely reveal any new information. EPA agrees that additional fisheries, aquatic nvertebrates, or wildlife studies, above those being conducted on a periodic basis, are not necessary at this time.</p>	<p>EPA</p>

Issues	Recommendations/ Follow-up Actions	Status of Follow-up Actions January 2011	Responsible Party
<p>2. Increasing trend in benthic macroinvertebrate tissue metal concentrations.</p> <p>WSP Active and Inactive OUs.</p>	<p>Continue periodic monitoring of trends in tissue metal concentrations should be performed to determine if risks are significant to WSP fish or wildlife.</p>	<p>Complete. 2/1/2010</p> <p>This issue was evaluated and was not confirmed. Biologic monitoring continues. It is important to note that neither the WSP-specific biomonitoring effort of recent years nor the annual benthic macroinvertebrate surveys along the adjacent creeks and river below support the statement that there is an increasing trend. There is biological variability, for certain; however, we cannot verify an increasing trend in tissue metal concentrations. We have therefore called this matter to the attention of both the U.S. Fish and Wildlife Service and the contractor that performs biomonitoring. The current biomonitoring effort and stream surveys of benthic invertebrates, in fact, indicate that benthic "biointegrity" is trending toward a nonimpacted status (from moderately to slightly impacted status), which indicates that risks are decreasing over time. Thus, status of follow-up actions as of this time should read: Biological monitoring continues according to agreed upon protocols and schedules. Twice-per-year data evaluations and technical reviews are conducted.</p>	<p>EPA</p>
<p>3. Rebound of arsenic concentrations at Rocker OU below repository is greater than expected.</p>	<p>Atlantic Richfield will continue quarterly groundwater sampling and operation and maintenance activities so that any changes in site conditions will be detected.</p>	<p>On going. ARCO continues to sample and no changes have been detected in site conditions Planned current completion date: 3/31/2016</p>	<p>ARCO</p>
<p>4. Same as above.</p>	<p>EPA to evaluate the protectiveness and continuation of the ¼ mile radius well ban.</p>	<p>Ongoing. Status unchanged. Planned current completion date: 3/31/2016</p>	<p>EPA</p>
<p>5. Horseshoe Bend WTP did not meet the final cadmium performance criterion.</p>	<p>Atlantic Richfield and Montana Resources to conduct additional performance testing</p>	<p>Complete. 2/1/2010</p> <p>Subsequent testing of the water treatment plant in 2009 was in compliance with cadmium standards.</p>	<p>ARCO/ MDEQ</p>