

January 2011 Update

Libby Ground Water Contamination Superfund Site

Libby, Montana

(Five-Year Review date: March 31, 2010)

Issues and Recommendations Update

Issues	Recommendations/ Follow-up Actions	Follow-up Actions (Status/Due Date)	Status of Follow-up Actions January 2011	Responsible Party
<p>1. The City ordinance is not fully prohibiting the installation of new water wells. During a recent drought, anecdotal evidence indicated that residents were installing wells, or putting into use wells that had not been closed. The use of wells should be prohibited (irrespective of property boundaries) and enforceable.</p>	<p>Public awareness efforts should be made to prevent residents from using existing wells for irrigation or installing new wells.</p>	<p>9/1/2015</p>	<p>Under discussion.</p>	<p>City of Libby EPA</p>
<p>2. The City ordinance does not include the Stimson property, which lies to the east of the corporate limits of Libby and is currently being considered for redevelopment. The Stimson property also overlies a portion of the groundwater PCP plume. The designation of a CGWUA may correct this issue, since it will identify the area where the plume has impacted upper aquifer groundwater.</p>	<p>The City ordinance should be expanded to include the Stimson mill property and potentially limited to the CGWUA.</p>	<p>9/1/2015</p>	<p>Under discussion.</p>	<p>IP, City of Libby, EPA</p>

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<p>3. The toxicity factors and exposure assumptions used to calculate risk-based cleanup levels for soil have changed. It appears that the dermal exposure pathway was not considered in the 1997 risk-based soil cleanup levels. The soil remedy will need to be evaluated to determine if the revised cleanup levels are attainable.</p>	<p>Soil cleanup levels should be reevaluated in light of changes to toxicity factors and exposure assumptions used to calculate risk-based cleanup levels. New cleanup levels should be issued in an ESD to the ROD for OU2.</p>	<p>6/1/2011</p>	<p>Ongoing sampling being conducted.</p>	<p>EPA</p>
<p>4. The toxicity factors and exposure assumptions used to calculate risk-based cleanup levels for groundwater have changed. It appears that the age-adjusted scenario for the ingestion of water by a child was not included in the 1997 ESD cleanup levels for groundwater. When risk based cleanup levels for the non-carcinogenic PAHs are recalculated using an age-adjusted residential exposure scenario, they are lower than the cleanup levels in the 1997 ESD. For the carcinogenic PAHs that do not have MCLs, some recalculated risk-based cleanup levels are higher and some are lower than the 1997 ESD cleanup levels depending on the specific changes to the toxicity factors.</p>	<p>Groundwater cleanup levels should be re-evaluated in light of changes to toxicity factors and exposure assumptions used to calculate risk-based cleanup levels. New cleanup levels should be issued in an ESD to the ROD for OU2.</p>	<p>6/1/2011</p>	<p>Ongoing</p>	<p>EPA</p>

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<p>5. The MCL for arsenic has changed from 50 µg/L to 10 µg/L. While it does not appear the arsenic contamination in upper aquifer groundwater is as widespread as the PAH and PCP contamination, the data set is more limited and warrants additional investigation. The maximum concentration of total arsenic from the 2008 sampling event was 26.4 µg/L in well 3041.1, and this was the only sampled well that had a concentration that exceeded the drinking water standard.</p>	<p>Additional arsenic data should be collected in monitoring wells to determine if the groundwater remedy is protective.</p>	<p>6/1/2011</p>	<p>Ongoing</p>	<p>IP EPA</p>
<p>6. MDEQ has issued Numeric Water Quality Standards that are, in some cases, more stringent than the risk-based cleanup levels for groundwater (MDEQ, 2008).</p>	<p>MDEQ's Numeric Water Quality Standards should be evaluated relative to calculated risk-based levels. If the more stringent values are not warranted, an ARAR waiver should be issued through an ESD for OU2.</p>	<p>6/1/2011</p>		<p>EPA MDEQ</p>

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<p>7. Due to the presence of mobile and residual NAPL in the source area that will continue to act as a long-term contaminant source, and the lateral extent of the dissolved groundwater contamination, certain areas of contaminated groundwater cannot effectively be remediated by the current pump and treat remedy. It is expected that operation of the SAETS will be necessary for several decades to remediate a portion of the onsite PCP plume and will not be fully effective. The remediation of the offsite portion of the PCP plume, and the extent of the source area, warrants further evaluation.</p>	<p>Additional source characterization should be performed and remedial technologies should be evaluated for the upper aquifer.</p>	<p>12/31/2013</p>	<p>Ongoing</p>	<p>IP EPA</p>
<p>8. The current extent of the groundwater monitoring well network does not appear to be adequate to monitor the extent of NAPL in the source area and the upper aquifer groundwater plume to ensure public health and safety.</p>	<p>Additional wells should be installed to better delineate the NAPL source area and extent of the dissolved contaminant plume.</p>	<p>12/31/2011</p>	<p>Complete</p>	<p>IP EPA</p>
<p>9. Vapor intrusion is a newly identified pathway. Ethylbenzene and naphthalene were detected at concentrations exceeding vapor intrusion screening criteria at 4 locations within the Stimson property.</p>	<p>Additional sampling should be performed in the source area, and a risk evaluation should be performed.</p>	<p>6/1/2011</p>	<p>Ongoing</p>	<p>IP EPA</p>

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10. The potential presence of 1,4-dioxane in groundwater at the site is considered to be a data gap. Although there is no MCL for 1,4-dioxane, the health-based benchmark is 6.2 µg/L.	The analysis for 1,4-dioxane should be included in future groundwater sampling events, particularly for samples collected in well located in the NAPL source area.	6/1/2011	Complete	IP EPA