

Table 1. Alternative Evaluation Table

Evaluation Criteria	Alternative 1 No Action	Alternative 2 Monitored Natural Attenuation	Alternative 3 Additional <i>In-situ</i> Treatment and Monitored Natural Attenuation
Overall Protection of Human Health and the Environment	Does not meet criteria	Fully meets criteria	Fully meets criteria
Compliance with ARARs	Does not meet criteria	Fully meets criteria	Fully meets criteria
Long-term Effectiveness and Permanence	Does not meet criteria	Fully meets criteria	Fully meets criteria
Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment	Does not include any treatment	Does not meet criteria as MNA relies on natural processes to reduce toxicity, mobility, and volume, not treatment.	Fully meets criteria – Uses <i>In-situ</i> treatment to reduce mobility of arsenic
Short-term Effectiveness	Does not meet criteria	Partially meets criteria	Fully meets criteria
Implementability	No implementability issues	Fully meets criteria	Fully meets criteria
Cost	\$0	\$414,995	\$299,740
State Acceptance	The State Agencies concur with the selected remedy and submitted a concurrence letter to EPA on March 30, 2007.		
Community Acceptance	No comments were received opposing the proposed remedy during the public comment period. Additionally, no comments were received recommending a different alternative.		

Table 2. Applicable or Relevant & Appropriate Requirements

Standard, Requirement, Criteria or Limitation	Citation	Category (Applicable, Relevant & Appropriate)	Description	Comments
California Safe Drinking Water Act, Title 22, CCR 64400 et. Seq.	California Health & Safety Code, Sections 4010 et. Seq.	Relevant & Appropriate	Requirements for public water systems. Includes Maximum Contaminant Level (MCL) for Chromium of 50 ug/L which is more stringent than the federal MCL.	Groundwater sources beneath the site are not statutorily excluded from use as a "public water system" therefore this citation is relevant and appropriate to the groundwater remedies examined in the FFS.
RWQCB, CVR (Basin Plan), "Policy for Investigation and Cleanup of Contaminated Sites."	Porter Cologne Water Quality Control Act (California Water Code Sections 13304, Section III G only)	Applicable	Establishes and describes policy for investigation and remediation of contaminated sites. Also includes implementation actions for setting groundwater and soil cleanup levels.	Cleanup levels for chemicals of potential concern should be compared to those that will not exceed applicable groundwater quality objectives
RWQCB, CVR Basin Plan, "Policy for Application of Water Quality Objectives."	Porter Cologne Water Quality Control Act (California Water Code Sections 13304, Section III G only)	Applicable	This policy defines water quality objectives and explains how the RWQCB applies numerical and narrative water quality objectives to ensure the reasonable protection of beneficial uses of water and how the RWQCB applies Resolution No. 68-16 to promote the maintenance of existing high quality waters.	Applicable to cleanups where releases (or discharges) may affect water quality.
State Water Resources Control Board Resolution No. 68-16 ("Antidegradation Policy")	Porter Cologne Water Quality Control Act (California Water Code Sections 13304, Section III G only)	Applicable	Requires that high quality surface and groundwater be maintained to the maximum extent possible. Degradation of waters will be allowed (or allowed to remain) only if it is consistent with the maximum benefit to the people of the state, will not unreasonably affect present and anticipated beneficial uses, and will not result in water quality less than that prescribed in RWQCB and SWRCB policies. If degradation is allowed, the discharge must meet best practicable treatment or control, which must prevent pollution or nuisance and result in the highest water quality consistent with the maximum benefit to the people of the state.	Applicable, establishes that the remaining contaminants will not be degrade the quality of the waters of the state of California, unless degradation is consistent with the maximum benefit of the people of the state. In no case may water quality objectives be exceeded. Where degradation is not remedied, the Board may not concur with the ROD.
State Water Resources Control Board Resolution No. 92-49 (As amended April 21, 1994)	Porter Cologne Water Quality Control Act (California Water Code Sections 13304, Section III G only)	Applicable	Establishes policies and procedures applicable to all investigations, and cleanup and abatement activities, for all discharges which affect or threaten water quality.	Applies to all cleanups of discharges that may affect water quality.
State Water Resources Control Board Resolution No. 88-63 ("Sources of Drinking Water Policy") (as contained in the RWQCB's Water Quality Control Plan)	Porter Cologne Water Quality Control Act (California Water Code Sections 13304, Section III G only)	Applicable	Specifies that, with certain exceptions, all ground and surface waters have the beneficial use of municipal or domestic water supply.	Applies to groundwater response actions as the RWQCB considers all groundwater in the state a potential municipal or drinking water source.
Federal Maximum Contaminant Level for Arsenic	Safe Drinking Water Act and implementing regulations (40CFR Part 141)	Applicable	The Federal MCL for arsenic is 10 micrograms per liter (ug/L)	The Arsenic Rule (66 Fed. Reg. 6976) was published on January 22, 2001

Table 3. Chemical-Specific Groundwater Cleanup Standards

<u>Constituent of Concern</u>	<u>Maximum Contaminant Level</u>
Total Chromium (including hexavalent chromium)	50 micrograms per liter ($\mu\text{g/L}$) ¹
Arsenic	10 $\mu\text{g/L}$ ²

¹ The chromium cleanup goal of 50 $\mu\text{g/L}$ is the California primary drinking water MCL for total chromium since no specific drinking water standard for hexavalent chromium currently exists.

² The cleanup goal for arsenic in the shallow and deeper confined aquifer of 10 $\mu\text{g/L}$ is the new federal drinking water maximum contaminant level (MCL). The 1991 ROD originally specified a cleanup goal of 16 $\mu\text{g/L}$ based on Site background (at that time, the MCL for arsenic was 50 $\mu\text{g/L}$). The EPA-approved report *Lithological Implications of Background Concentrations of Arsenic in Groundwater* (MWH, 2005) provides the basis for new background determinations for arsenic depending on the aquifer zone due to natural redox variations. In particular, background for arsenic is in the range of 0.015 to 0.025 mg/L in the naturally-reduced aquitard separating the upper saturated zone, or shallow aquifer, and the deeper confined aquifer.