

Restoration Advisory Board (RAB) Meeting Minutes

**Sierra Army Depot (SIAD)**

**26 October 2011, 6:00 p.m.**

# Skedaddle Inn - Herlong, California

**Herlong, California**

**Attendee Organization**

Cortney Carrier SIAD, RAB Co-Chair

Duane Schlusler SIAD (retiree)

Scott Armstrong

Rich Mendoza Army Environmental Command

Michael Dukes ARCADIS

Xin Song ARCADIS

Francesca D’Onofrio Department of Toxic Substances Control

James Brathovde Lahontan Regional Water Quality Control Board

1. **Roll Call – Cortney Carrier, SIAD, RAB Co-Chair**

Ms. Carrier opened the meeting by welcoming the RAB members and attendees. Ms. Carrier asked for approval of the last RAB meeting minutes. \_\_\_\_ stated his approval. \_\_\_\_ seconded the approval.

1. **Groundwater Remedial Sites – Xin Song, ARCADIS**

Ms. Song introduced herself as the technical lead and Mr. Dukes as the project manager at ARCADIS present at the meeting.

**Bldg 210 Area:** Presentation

Ms. Song presented the status of the enhanced reductive dechlorination (ERD) remedy in place for the Building 210 Area. The groundwater plume treatment areas consist of six transects at the Building 210 Area as shown on the slide presentation. Injections have been completed at Transect 1 (three events), Transect 2 (two events) and Transects 3, 4 North and 6 (one event each).

ARCADIS received fully signed Agreements between the Corps of Engineers and UPRR on August 29, 2011 (email authorization on August 24, 2011), and started drilling on August 30, 2011 to complete the remaining wells, jack and bore underneath the tracks, and install the conveyance system. Completion of these tasks allowed the injections to start on October 14 and 24, 2011 at Transects 4 South and 5, respectively.

ARCADIS presented the ERD results for the performance wells located downgradient of Transects 1, 2, 3 and 4 North through the August 2011 sampling event. Most of the wells at Transect 1 showed reductions of trichloroethene (TCE) followed by the production and then reduction of the daughter product cis-1,2-dichloroethene (DCE). TCE reduction was observed at wells located 65 feet away from an injection well, and the results are better than anticipated. Very good results were also observed in performance wells located downgradient of Transects 2, 3, and 4 North.

Mr. Brathovde asked about the grade of molasses and whether it contained sulfur. Mr. Dukes responded that ARCADIS uses feed-grade molasses. ARCADIS did not have the data handy regarding the sulfur content, but does have the analysis data for the molasses used at the site. (Added for the minutes - Based on the analysis results of various molasses products from different countries and terminals provided by ARCADIS’s molasses supplier -Westway Feed Product, the average sulfur content for pure molasses is 0.86%).

Mr. Brathovde also asked about the total dissolved solids (TDS) related to molasses reagent injection and sodium hydroxide application. ARCADIS responded that ARCADIS has been looking into the TDS issue. Currently ARCADIS is taking TDS samples at selected ERD performance wells to evaluate the impact of TDS due to molasses reagent injection.

**ALF/SSA:** Presentation.

ARCADIS is continuing with the ERD remedy injections and monitoring, and adjustments have been made to the injection volume to improve performance in some of the wells. ARCADIS will continue to operate and maintain ERD injections and monitoring for the remedy in place, performing about 2-3 injection events per year. The second injection event was completed in June 2011 and third injection is scheduled for November 2011. The annual ERD sampling is scheduled for November 2011 and ARCADIS will provide quarterly updates on the progress and prepare annual reports.

Mr. Schlusler asked about the groundwater quality issue in the water supply wells in the ALF/SSA area. ARCADIS responded that the groundwater quality issue is not related to the TCE plume that the Army/ARCADIS is treating in the area. There are guard wells located between the site plume and the two water supply wells. The concentrations in the guard wells are generally non-detects, with a few low detects at some shallow guard wells, such as the 3.2 μg/L TCE concentration at SSA-01-MWA, shown on one of the plume maps (November 2010) in the presentation.

**DRMO:** Presentation.

ARCADIS completed confirmation soil sampling related to the shallow soil vapor extraction (SVE) system in November 2010. Because some results exceeded the Record of Decision (ROD) cleanup levels, the soil vapor extraction (SVE) system was restarted on April 13, 2011 after approval from the regulators. In addition, ARCADIS has implemented the ERD/SVE Treatability Test by installing six injection wells in November 2010 to remediate the highest groundwater concentrations; and the first injection was completed in March 2011.

ARCADIS will continue to do annual monitoring of the natural attenuation remedy in place, continue quarterly monitoring at the newly added treatability test ERD wells, and continue periodic molasses solution injections to maintain ERD.

Mr. Brathovde questioned the language of “Treatability Test” at the DRMO area. ARCADIS responded that the “demonstration program” was initiated in the area to demonstrate that ERD is effective in reducing TCE concentrations should they increase. With the continuous increasing concentrations trend at the three wells located in the plume core, a “Treatability Test” to address the increasing TCE concentrations was implemented within the existing ROD framework.

Mr. Mendoza asked how much soil was excavated at DRMO Trench Area.  Mr. Dukes replied with approximately 3,500 cubic yards.

**TNT:** Presentation.

ARCADIS continues to conduct annual monitoring of the remedy in place and semiannual monitoring of the ERD Demonstration Program. Overall, concentrations continue to decrease, and the remedy is working. There are a total 4 injection wells and ARCADIS injects approximately 1,000 gallons of clean water per well to help dilute the high concentrations of molasses from previous injections events in 2005/2006. Since reduction of the molasses concentrations during the recent sampling events, ARCADIS resumed molasses substrate injection in September 2011 at two injection wells based on the residual TOC concentrations at the performance wells, while 1,000 gallons of clean water was injected into the other two injection wells.

ARCADIS will continue annual monitoring of the natural attenuation remedy in place, continue semiannual monitoring of the ERD wells, and continue periodic clean water/molasses solution injections to maintain ERD.

Mr. Mendoza suggested that clean water injections and molasses injections be differentiated in the TNT ERD performance well charts. ARCADIS agreed.

1. **HONEY LAKE STATUS (BRAC) - Scott Armstrong**

Mr. Armstrong provided an update the Honey Lake BRAC status. He announced to DTSC that a 5-year review will be completed in FY12 and funding may become available in FY16 for clean-up.

Mr. Schlusler inquired about an article in the Lassen Times, expressing concerns of munitions and explosives of concern (MEC) along SIAD fence line.  Ms. Carrier follow-up and could not find anything about this issue in the Lassen Times and with SIAD security staff. DTSC and BRAC performed the annual inspection of the fencing.

1. **Military Munitions Response Program (MMRP) Status – Michael Dukes, ARCADIS**

Mr. Dukes presented the status of the eight MMRP sites and the one underground storage tank (UST) site. He summarized the field work that was completed last fall to address regulatory concerns about unexploded ordnance (UXO)/MEC and munitions constituents (MC) in soil from past munitions/explosives treatment activities. Completed activities included 100% surface sweeps to characterize the explosive hazard; soil and groundwater characterization to assess the risk of MC leaching to groundwater; and fence repair/installation and warning sign installation.

ARCADIS completed the Draft Remedial Investigation/Feasibility Study (RI/FS) in June 2011 and, based on the risk assessment, has recommended land use controls (LUCs) which include maintaining existing engineering controls (fencing, signage), implementing administrative measures, and conducting periodic surface sweeps/inspections. On August 11, 2011, DTSC approved the recommended alternative presented in the Draft RI/FS with a couple of comments.

Pending documents and actions include the Draft Final RI/FS to DTSC (after addressing Army comments) in November 2011, the Draft Proposed Plan to DTSC in November 2011, public review period from December 2011 to January 2012, and the Draft ROD during the 1Q2012.

Mr. Dukes discussed the Building 640 UST site. In the fall of 2010 and winter of 2011, ARCADIS advanced 14 direct push borings to collect and analyze soil and groundwater samples (November 2010); installed/developed 6 new wells (February 2011); and sampled the new and existing wells (February 2011). Based on the sampling event, there are two wells with free product (wells 640-3 and 640-4) and one well with methyl tert-butyl ether (MTBE) above the cleanup level (well 640-5). These three wells are located adjacent to the former UST. ARCADIS submitted a Report with the findings and conclusions on May 31, 2011 and received regulatory approval on September 8, 2011.

1. **Open Discussion**

**5.1 Schedule next meeting**

Ms. Carrier discussed holding the next RAB meeting in conjunction with the public meeting for the MMRP Proposed Plan in December 2011 or January 2012. Date and time will be determined and sent out.

RAB meeting was adjourned at \_\_\_ PM.