

Jakub, Barbara, Env. Health

From: Jakub, Barbara, Env. Health
Sent: Thursday, February 16, 2012 1:13 PM
To: 'Brandt, Katherine'; Kambin , Roya [EMC]
Cc: Kappes, Richard; Nowell, Keith, Env. Health
Subject: RE: RO450 located at 1629 Webster Street, Alameda, CA

Dear Ms. Kambin,

Thank you for the notification of the intent to modify the corrective action plan. Please submit a Pilot Test Work Plan by April 16, 2012 to the ACEH ftp site and Geotracker. You should be aware of the following:

- A change to an approved corrective action plan may require public participation
- ACEH does not approve injection into a well used for monitoring purposes so you may need to modify your monitoring well network to include additional monitoring points
- Your caseworker has changed to Keith Nowell. His e-mail is included above (and he is listed as the caseworker for this site in Geotracker)

Regards,
Barb Jakub

From: Brandt, Katherine [<mailto:Katherine.Brandt@arcadis-us.com>]
Sent: Monday, February 06, 2012 3:08 PM
To: Jakub, Barbara, Env. Health
Cc: Kambin , Roya [EMC]; Kappes, Richard
Subject: RO450 located at 1629 Webster Street, Alameda, CA

Barbara,

As we have mentioned before, Chevron requires all sites go through a mandatory Remediation System Review Team (RSRT) prior to implementation of remedial strategies for sites under their control. The RSRT was completed for this site and concurrence was reached that oxygen injection would effectively address the dissolved plume at the site. A modification to the current plan was discussed during the meeting. The proposed modification will enable faster implementation of the remedial option and will also enable enhanced oxygen delivery with a longer residence time (increased remedial efficiency).

ARCADIS requests to perform periodic high flow rate oxygen injection events into MW-7, MW-8, and MW-11 using oxygen canisters to deliver oxygen to the impacted groundwater during site visits.

- Oxygen, within atmospheric air, has limited solubility in groundwater. The injection of pure oxygen into the heterogeneity subsurface will entrain pure oxygen into the aquifer pores spaces and dissolve into the groundwater. The higher concentration of dissolved oxygen will more effectively treat the dissolved plume.
- Direct application of pure oxygen to the well heads have shown to increase the residence time of dissolved oxygen in the aquifer to effectively treat the dissolved plume.
- Direct injection of oxygen will increase LNAPL dissolution and supply dissolved oxygen, thereby enhancing aerobic biodegradation rates at the site.

Oxygen injection event occurrences during the pilot test time period would be determined based on dissolved oxygen concentration trends.

After reviewing current well construction and dissolved plume concentrations (along with post pilot sampling results), it was noted that monitoring wells MW-7 , MW-8 and MW-11 are constructed in a way that could facilitate direct oxygen

injection. The monitoring wells are submerged discretely screened wells (20-25 ft below the water table). This well construction makes these wells ideal as oxygen injection points.

If you have questions or would like to discuss the situation further, we can be available for a telephone call.

Thank you

Kathy

Katherine Brandt | Geologist, Certified Project Manager | katherine.brandt@arcadis-us.com

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