

Wickham, Jerry, Env. Health

From: Richard Makdisi [Rmakdisi@stellar-environmental.com]
Sent: Tuesday, April 07, 2009 4:40 PM
To: Wickham, Jerry, Env. Health
Subject: EPRPD Redwood Site
Attachments: MW-8 Trendline.pdf; MW-8 December Trendline.pdf

Hi Jerry

This follows up on our phone conversation today

Just to clarify again, the intention of the limited ORC injection around MW-2 was just to address what seem to be the recent critical increases in that one well, not the overall issue of continued source input.

I did want to point out that we think some benefit continues to be derived from the bioventing, and the ORC injection before it had more than several months benefit, as illustrated in the plots.

The two attached figures, one showing the broad trend of all of the data leading up to the bioventing (not breaking out the 2001 -02 ORC component) and post bioventing shows the positive benefits of the bioventing.

The second plot only takes one consistent quarterly data period --that of December monitoring, comparing a trend line of same time each year data—and breaks down the trend analyses into three parts: the pre-and near post ORC injection period that shows the short term effectiveness (over a year) of the ORC before the source contamination flux flowed downgradient to replace it (and the ORC lost its "activity" factor). Then the second trend (post ORC effectiveness) shows an increase in concentration when the ORC was no longer effective and no new remedy was being done. The third (post bioventing) trend in the figure shows the reductive effect of the bioventing.

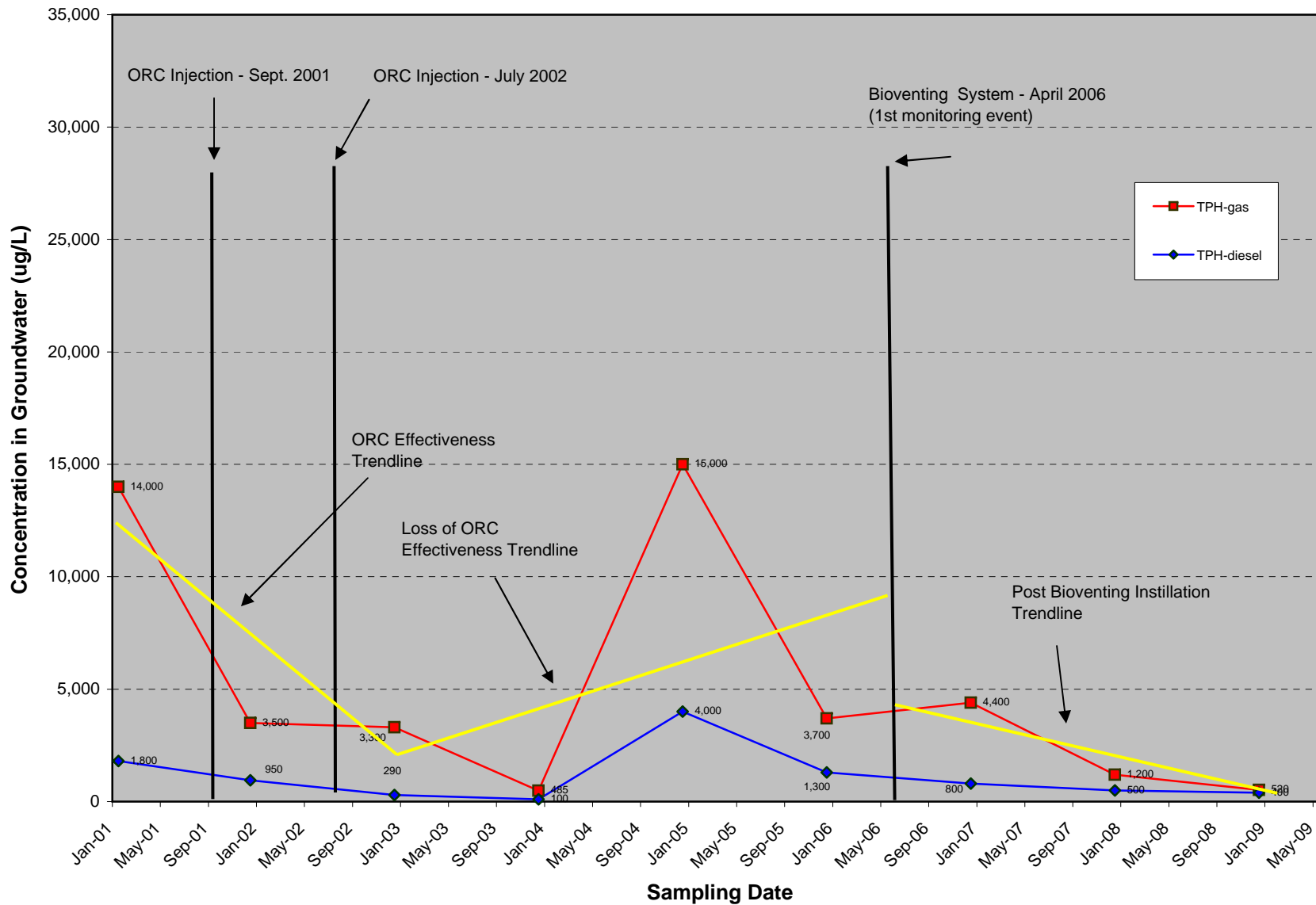
The attached plot data is drawn from the critical well MW-08 which is located in the center of the plume and has shown the highest gasoline concentration of any well (33,000 µg/L TVPH). This well is also closest to the best operating bioventing well (in fact between two of them) and reflects a better reduction trend line in the post-bioventing timeframe compared with other wells.

What we need is to design and implement a more aggressive remedy in the original source area. We will be talking to Neal Fujita soon and will likely be discussing our thoughts on the best way to move the project forward with you before the submission of the "Pilot Test Work Plan or CAP" requested May 27, 2009.

Best Regards—Richard

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Gasoline and Diesel Hydrochemical Trends in December: Well MW-8 Redwood Regional Park Service Yard, Oakland, California



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