

Current PERF Proposals

2009-02: PM Methods Sharing Cooperative - BP, ExxonMobil, Shell

2009-01: Performance Evaluation of In Situ Chemical Oxidation of Petroleum Impacts in GW - ExxonMobil - Scott Bushroe – *scott.buschroe@exxonmobil.com* or Chad Shockley *chad.e.shockley@exxonmobil.com*

2008-07: Water Free Desalting - Chevron

2008-06: Tools to Monitor Remediation Performance - Chevron - Tim Buscheck – *timbuscheck@chevron.com*

A variety of tools (e.g. Compound Specific Isotope Analysis and Molecular Biological Tools) can potentially distinguish between biological and physical removal processes in groundwater remediation. These tools have the potential to significantly improve selection of remedial technologies, monitoring and optimization of remediation performance, and recommendation on timing to terminate remediation. Following project kick-off discussions with interested member companies, Chevron and UC Davis attorneys are currently revising the existing Chevron-UC Davis contract to be consistent with the PERF contract template. BP has expressed an interest in the project

2008-05: Chemical Sensors to Monitoring BTEX in GW – Karen Synowiec – *kasy@chevron.com*

There is a huge potential to reduce future groundwater monitoring analytical costs and improve site characterization by deployment and remote monitoring of sensitive, inexpensive, selective chemical sensors. Currently such chemical sensors are not commercially available however there are some sensor designs reported in the literature that show potential for reaching the desired sensor goals. This project is aimed at evaluating the performance of such sensor devices to ascertain their sensitivity and selectivity in the presence of interferents in groundwater and soil, with an end result of commercialization. Chevron is currently developing the detailed scope and cost for this project with Marquette University and CSIRO and discussing contracting issues. Interested member companies should contact Karen Synowiec (*Kasy@chevron.com*).

2008-04: Pulsed Gas Injection w/o Concurrent Soil Vapor Extraction: Field Experiment - Chevron - Tom Peargin – *tpeargin@chevron.com*

This is a funded project to evaluate the effectiveness of pulsed gas injection in smear zone soils at lower operating cost through elimination of concurrent soil vapor extraction (SVE). Chevron and Shell are interested in pursuing this work and Arizona State University will perform the experiment(s). The scope and cost are currently being discussed.

2008-03: Produced Water Technology Treatment Options – BP (side by side evaluation of different media to treat water – James Robinson proposed and now is consultant)

2008-02: Novel Techniques for Sensing BTEX - ExxonMobil - Chad Shockley –
chad.e.shockley@exxonmobil.com

2008-01: Next Generation Optical Sensors for Gas & Vapor Detection- BP - Dave Fashimpaur –
fashimdn@bp.com

2007-06: EU Refinery Effluent Assessment - ExxonMobil - Frank Kerze –
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Perform an assessment on refinery wastewater effluent substances that are the focus of EU legislation (i.e Water Framework Directive (WFD) & European Pollutant Release & Transfer Register (EPRTR)). The objective of this project is to build a comprehensive database of effluent quality to inform the petroleum industry and provide benchmarking opportunities. The project will use results and guidance of a CONCAWE project studying effluent sampling techniques and analytical test methods of these targeted substances. This project will aim to identify substances of regulatory concern that are non-detectable in refinery effluents as well as those detected which may be of future study.

2007-05: Membrane Bioreactor Demonstration- ExxonMobil – James Phelan –
james.m.phelan@exxonmobil.com - (703) 846-3611

Evaluation of membrane bioreactor (MBR) technology as a competitive alternative to conventional systems. The study will determine if the wastewater treatment technology is comparable or superior in operability and effluent quality. The project will complete bench or pilot scale testing of a membrane bioreactor with side-by-side comparison to a conventional activated sludge system. Effluent from the MBR will also be analyzed for potential reuse applications in water utility systems.