

14 June 2006
Project 3923.20.1000

Ms. Marie McCrink
Private Sites Cleanup Group
California Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive, #200
Rancho Cordova, California 95670-6114

Subject: Phase I Dual Phase Extraction Well Work Plan
Central Plume, City of Lodi
CAO No. R5-2004-0043

Dear Ms. McCrink:

On behalf of the City of Lodi, Treadwell & Rollo, Inc., presents this work plan to design, install, and operate a dual phase extraction (DPE) well in the source area of the Central Plume in Lodi, California. Using this technology was discussed with you and Duncan Austin in late February during a progress meeting held in Lodi. This work plan presents the general rationale and design parameters of the Phase I DPE program.

OBJECTIVES

The two objectives for this work are to increase the efficiency of the sub-slab depressurization, and to demonstrate the effectiveness of DPE as a source area remedial method. Currently, three soil vapor extraction wells are operating at the locations shown on Figure 1. Extracted soil vapor is treated at the former Guild treatment system, under permit from the San Joaquin County Air district. By adding the DPE well at the location indicated on Figure 1, additional vacuum will be induced under the Pleasant Avenue buildings.

DPE is a proven technology for the remediation of soil and groundwater impacted by volatile organic compounds (VOCs) present above and below the water table. We believe that the operation of the initial Phase I DPE well will demonstrate that multiple DPE wells located in the source area will effectively remediate the perchloroethene (PCE) and other volatile organic compounds that have been found in soil and groundwater, and hydraulically contain the flow of contaminated groundwater from the source area. The Phase I operation will produce production and operation data that will be required to design the full, Phase II DPE system.

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SCOPE

The proposed location for the Phase I DPE well is shown on Figure 1. The well is estimated to be 100 feet deep, constructed with 4-inch diameter PVC casing and well screen. We have assumed that the well will be equipped with 90 feet of well screen. The well will be permitted by San Joaquin County Environmental Health, and installed using hollow stem augers by a licensed well driller. It will be visually logged by the field geologist, and up to five soil samples will be collected for VOC analysis. After installation the well will be developed and groundwater and soil vapor will be sampled for VOCs. Subgrade discharge lines will be constructed to carry water and soil vapor to the treatment systems.

Based on work performed by us and others, we have assumed that approximately 10 gallons per minute of water will be extracted at the well. Discharge water will be sent to a closed air stripper located in the north side of the alley, where a treatment pad and sound-proofed enclosure will be constructed. The treated water will be discharged to the sanitary sewer and vapor from the air stripper will be piped to the former Guild treatment system. All treatment systems will be fully permitted by San Joaquin Air District and the City.

The following data will be collected during the operation of the Phase I DPE: volume of discharge in gallons per minute and total; vacuum at the well head; water level. In addition to data collected at the Phase I DPE, we will continue to collect vacuum and vapor chemistry data required by the San Joaquin County Air District permit, and vacuum data for selected monitoring wells.

Well performance data will be collected for approximately three weeks. When sufficient data have been collected and analyzed, the well performance will be evaluated and a full-scale Phase II DPE treatment system will be designed. We anticipate preparing a summary of the performance of the Phase I DPE for your review, and will design the Phase II DPE system in accordance with the revised Cleanup and Abatement Order. The Phase I DPE will continue to operate during the Phase II DPE design and construction tasks.

PUBLIC PARTICIPATION ACTIVITIES

To keep the community informed about activities being conducted in the Central Plume Area, the City is issuing a Fact Sheet regarding the Dual Phase Extraction Well Work Plan. This Fact sheet describes the work and provides contact information for citizens to make inquiries. The Fact Sheet will be distributed to property owners in the immediate area, and will also be posted at the City's web site, www.Lodi.gov. In addition, copies of the Work Plan and the Fact Sheet will be placed in the Document Depository at the Lodi Public Library.

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SCHEDULE

City has requested that the well design and installation work begin immediately, and expects to begin the Phase I DPE startup testing in mid-July. The City has asked that Phase II construction begin in October-November 2006.

Please call with any questions.

Sincerely,
TREADWELL & ROLLO, INC.



Christopher N. Glenn, P.E.
Senior Project Engineer



Philip G. Smith, REA II
Vice President