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By Alameda County Environmental Health at 4:03 pm, Mar 03, 2014

February 28, 2013

To: Mr. Jerry Wickham
Senior Hazardous Materials Specialist
Alameda County Department of Environmental Health
Health Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: Perjury Statement
Operations and Maintenance Plan Addendum
Bill Chun Service Station
2301 Santa Clara Avenue
Alameda, California 94501
SLIC # RO0000382
Geotracker Global ID # T0600100980

I declare, under penalty of perjury, that the information or recommendations contained in the attached report are true and correct to best of my knowledge.

Carolyn C. Fong, Trustee

Ms. Carolyn Fong
Trustee for Lily A. Chun 1991 Trust
711 E. Hermosa Drive
San Gabriel, California 91775

February 27, 2014
Project No. 401896004

Ms. Carolyn C. Fong
Trustee, Lily A. Chun 1991 Trust
720 East Hermosa Drive
San Gabriel, California 91775

Subject: Operations and Maintenance Plan Addendum
Bill Chun Service Station
2301 Santa Clara Avenue
Alameda, California 94501
SLIC # RO0000382
Geotracker Global ID # T0600100980

Dear Ms. Fong:

Ninyo & Moore has prepared this Operations and Maintenance (O&M) Plan Addendum for the Bill Chun Service Station site located at 2301 Santa Clara Avenue in Alameda, California. This O&M Plan Addendum has been prepared to address technical comments from Alameda County Environmental Health (ACEH) received in a directive letter dated January 13, 2014 relating to the proposed groundwater recirculation system used to remediate the impacted soil and groundwater on site. The technical comments included the following:

- **Injection Rates.** Please provide a description of how groundwater will be injected and what proportion of the injected water will go to the injection wells versus the horizontal piping, and

- **Monitoring of Injection.** Please describe how the groundwater injection system will be monitored over the short-term level to assure that groundwater is injected as planned and that individual injection wells are capable of injecting water at the required rates. Please also describe how the injection system will be monitored over the long-term to assess potential fouling of the wells or aquifer.

The Dissolved Oxygen In-Situ Treatment (DO-IT) remediation system will pump treated groundwater from the final equalization tank and will be programmed to inject the treated groundwater into each vertical injection well and horizontal injection pipe. Initially, 50% of the treated groundwater will be injected into the vertical injection wells and 50% will be injected into the horizontal injection piping. However, monitoring may reveal changes in the plume shape or con-

centration which will be addressed by delivering a greater volume of treated groundwater to areas with higher concentrations of impacts.

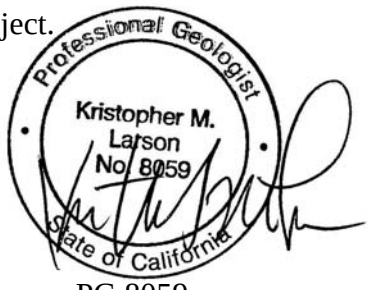
Treated groundwater will be injected into each vertical injection well and horizontal injection pipe at a specific injection rate and pressure. Each vertical injection well and horizontal injection pipe will have a separate pressure gauge and gate valve for flow rate control. The injection rates will be determined during system startup by observing flow rates in each vertical injection well and horizontal injection pipe at gradually increasing injection pressures of 2 pounds per square inch (psi), 5 psi, and 10 psi. The lowest injection pressure which achieves the desired 2 to 3 gallon per minute (gpm) flow rate will be programmed into the DO-IT system.

Regarding short-term monitoring of the injection system, each vertical injection well and horizontal injection pipe will be connected to an injection manifold with independent flow meter/totalizer and pressure gauge. During bi-weekly site visits, the information on the flow meter/totalizer and pressure gauge will be recorded for each vertical injection well and horizontal injection pipe and presented in monitoring reports. The flow rate, flow volume and pressures will be reviewed to evaluate if the established parameters (during system startup) have been met. If design flow rates are not met, then the injection pressure will be adjusted to reach the design flow rate by opening or closing the gate valve of the underperforming vertical injection well or horizontal injection pipe at the injection manifold. Injection pressures will not be increased beyond 10 psi at a flow rate of 3 gpm because this may compromise the integrity of the well's bentonite seal.

Regarding long-term injection system monitoring, if an unanticipated decrease in flow rate and/or increase in injection pressure is recorded in specific injection wells during bi-weekly site visits, fouling may be the cause. If this is the case, the underperforming vertical injection well or horizontal injection pipe will be inspected for fouling. Treatment for fouling of injection wells, horizontal injection piping, and/or the aquifer may consist of applying a 2-3% solution of peroxide for biofouling or muriatic acid for mineral fouling. In addition, surging of wells with a surge block followed by pumping may be needed to return the well to operating condition.

We appreciate the opportunity to be of service to you on this project.

Sincerely,
NINYO & MOORE



Peter Sims
Project Environmental Geologist

Kris M. Larson, PG 8059
Principal Environmental Geologist

PDS/KML/caa

Distribution: (1) Addressee
(1) CC: Jerry Wickham, ACEH