Chevron

Global Gas

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May 4, 2006

VIA OVERNIGHT MAIL
Way Bill# 16025610554

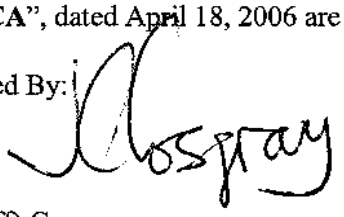
Mr. Jerry Wickham
Department of Environmental Health
Alameda County Health Agency
1131 Harbor Bay Parkway
Alameda, CA 94502

DECLARATION – CASE NO RO0002892

Dear Mr. Wickham,

I declare, under penalty of perjury, that the information and/or recommendations contained in URS' memorandum, "**Re: SLIC Case No. RO0002892, Chevron Sunol Pipeline, 2793 Calaveras Road, Sunol, CA**", dated April 18, 2006 are true and correct to the best of my knowledge at the present time.

Submitted By:



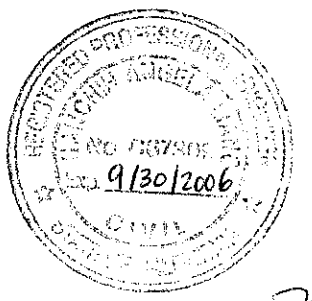
J. C. (Jeff) Cosgray

URS

DISCLOSURE

This memorandum ("**Re: SLIC Case No. RO0002892, Chevron Sunol Pipeline, 2793 Calaveras Road, Sunol, CA**") was prepared under my direct supervision. The information presented in this memo is based on our review of available data obtained during our previous subsurface investigation efforts and remedial actions, discussions with qualified drillers regarding site conditions, and our professional expertise pertaining to the feasibility and safety of advancing additional borings on the steep hillside at the site. To the best of our knowledge, we have incorporated into our recommendations all relevant information pertaining to the Chevron Pipeline Release site in Sunol, California.

The recommendations for continued remedial efforts at the site, discussed herein, was developed in accordance with the standard of care used to develop this type of memorandum. The assumptions that were made and the recommendations for additional field activities were based on our professional experience and protocols reported in the literature for similar investigations.



URS Corporation
Approved by:

Hanchih Angela Liang, Ph.D., P.E.

URS

RECEIVED
By lopprojectop at 1:26 pm, May 04, 2006

April 18, 2006

Mr. Jerry Wickham
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502

Re: SLIC Case No. RO0002892, Chevron Sunol Pipeline, 2793 Calaveras Road, Sunol, CA

Dear Mr. Wickham:

On behalf of Chevron Pipe Line Company (CPL), URS Corporation (URS) has prepared this letter in response to the ACEH comment letter to CPL dated March 14, 2006. In the letter, ACEH requested the Soil Vapor Extraction (SVE) system be expanded to include additional new SVE wells downslope from the release location. URS has explored various options to accommodate ACEH's request and has concluded that due to technical difficulties and serious safety concerns, it is not feasible to install one or more new SVE wells on the hillside downslope from the release location. Instead, based on the excellent SVE system performance to date and the site conditions, URS proposes to operate the SVE system for additional six months and also to cover the hillside with plastic in efforts to increase the radius of influence of each SVE well.

INTRODUCTION

In response to a gasoline pipeline release that occurred on August 14, 2005, in Sunol, California, URS, on behalf of CPL, installed and operated a soil vapor extraction (SVE) system as an interim remedial measure from November 8, 2005 through February 13, 2006. URS submitted an Interim Remediation (IR) Report to Alameda County Environmental Health (ACEH) on March 1, 2006. The IR Report discussed the design and operation of the SVE system, the sampling results, and evaluated the performance of the system. A total of 7,286 pounds (approximately 1,041 gallons) of petroleum hydrocarbons were removed at the completion of the 3-month operational period. Based on the results, URS recommended, in the IR Report, that CPL continue to operate the SVE system for an additional 2 months.

In the ACEH comment letter to CPL dated March 14, 2006, ACEH requested the SVE system be expanded to include SVE wells downslope from the release location. URS acknowledges that the ideal location for additional SVE wells would be in the area surrounding boring CP-SB-19 because the highest petroleum hydrocarbon concentrations were detected at this location.

URS has explored the feasibility of installing additional SVE well(s) near boring CB-SB-19. The limiting factor for installing SVE wells at the recommended locations is the very steep hillside. Photo 1 was taken during the revegetation effort. Straw wattles were installed for erosion control. The photo showed the pipeline release location, the dirt road, and the steep hillside. Photos 2 and 3 show the steep 84-percent slope immediately below the pipeline release location. The location of boring CP-SB-19 is also shown on both photos. The steepness of the hillside hinders the employment of a Geoprobe™ rig; therefore, borings CP-SB-15 through CP-SB-19 were hand augered. The field crew used a shovel to create temporary "steps" and conducted hand augering on the hillside. Even with the temporary steps, the hill slope was very slippery and URS ended CP-SB-19 at 2.5 feet below ground surface due to unsafe conditions. Based on the experience from hand augering borings at this location, URS has researched alternative drilling methods to install SVE wells on the hillside.

ALTERNATIVE DRILLING OPTIONS

HORIZONTAL DRILLING AND WELL INSTALLATION

After contacting several drilling contractors, Clearheart Drilling, Inc. was the only drilling company found capable of performing horizontal drilling and well installation. Clearheart is familiar with the site and safely advanced the hollow stem auger borings during URS' initial phases of subsurface investigation. After discussing horizontal drilling with Clearheart, URS determined that this is not an option for installing an additional well downslope from the release location. Drilling horizontally from Calaveras Road would not allow us to advance a boring close enough or high enough to CP-SB-19 to be effective. Portable or limited access horizontal rigs are also not practical because they cannot be used on the existing slope without cutting a substantial shelf into the slope (i.e., a road, which could compromise the stability of the existing dirt roadway). In addition, difficult drilling conditions that may be encountered at the site (i.e. gravels and tight silts/sands) would limit how deep the horizontal rigs could advance into the hillside. In the case that advancing a horizontal boring into the hillside was achieved, installing a horizontal well would be very difficult. Vertical wells are typically installed through the augers. The well casing is inserted through the augers into the borehole and a sand pack is built around

the well casing by slowly lifting the augers as sand is added down the augers and around the well. Horizontal wells, however, are typically installed into an open borehole after the augers have been removed. Without the augers to act as an outer casing around the well as the sand pack is being built, the borehole may partially collapse prior to well installation. Because sand cannot be gravity-fed into a horizontal boring as it is in a vertical boring, pre-packed filter sand is placed around the well casing prior to installation. The well and filter pack are then installed into the borehole. If any collapse occurs in the borehole, proper placing of the well screen would not be possible.

LIMITED ACCESS VERTICAL DRILLING

URS also looked into limited access vertical drilling options. Again, Clearheart was the only driller found with the capability of drilling and installing a well along the steep slope. Prior to drilling, a 3-foot-by-6-foot platform would be constructed on the hillside. Creating the shelf could only be done by hand digging. After cutting a shelf into the hillside, the drill rig would be brought in piece-by-piece and assembled on the shelf. It would then be secured by staking it into the ground and supported with wires tied off to fixed objects such as trees. The limited access rig would be powered from a remote source (probably a truck rig parked along the dirt road). Although Clearheart's limited access rig has the capability of drilling in steep locations, major safety concerns are associated with this type of drilling. The desired location of an additional well is in the vicinity of boring CP-SB-19, which is located in one of the steepest parts of the slope. After analyzing the safety concerns associated with hand digging a shelf; setting up, securing, and drilling the boring; and carrying well installation materials (buckets of grout, bags of sand, and well casing) on the slope, URS does not recommend limited access vertical drilling into the hillside.

SVE TRENCH INSTALLATION

URS also explored the option of installing an SVE trench along the hillside rather than installing a well. After evaluating access issues and analyzing optimal trench placement, we concluded that a backhoe could not be staged on the dirt road to dig a long and deep enough trench to accommodate an effective SVE removal effort. Even if a trench or shelf were cut using a backhoe to facilitate vertical drilling, it would severely undermine our completed re-seeding efforts and also raise safety concerns due to excavating around the shallow buried gasoline pipeline.

In summary, URS does not recommend installing additional SVE wells/trench on the hillside due to the technical difficulties and safety concerns.

SVE SYSTEM OPERATION

There are currently four SVE wells (SVE-1D, SVE-2S, SVE-3S, and SVE-4D) on the dirt road where the pipeline release occurred. Based on the sampling results, the mass removal rates from the SVE system inlet and from each well were calculated.

Figure 1 shows the calculated total petroleum hydrocarbon removal rates (pounds per day [lbs/day]) at the SVE system inlet. The removal rates fluctuated but were still more than 50 lbs/day at the end of the initial operation period (at day 84). Both linear and exponential regression trendlines were plotted on Figure 1. Figures 2 and 3 show the calculated mass removal rates at each well. The linear and exponential trendlines associated with each data set (except for SVE-2S) were plotted on Figures 2 and 3, respectively. Except for well SVE-2S, the mass removal rates at each well were more than 10 lbs/day at the end of the initial operation period.

Based on the calculated mass removal rates, the SVE system has been operating efficiently to remove petroleum hydrocarbons around the release location. SVE-2S was used to supply dilution air for the system since the removal rates at this well were relatively low. In efforts to project the length of time the existing system should operate, both linear and exponential regression trendlines were plotted. This method is only an estimate as many factors will contribute to how long the SVE system should operate including but not limited to location and distribution of the source, runtime of the system, weather…etc. For the overall system, the mass removal rate is projected to decrease to below 10 lbs/day in between another 40 days (at day 124 based on the projected linear regression trendline) and 180 days of operation (at day 264 based on the projected exponential regression trendline). The removal rate at each well is projected to decrease to below 5 lbs/day between another 34 days (linear) and 180 days (exponential) of operation. Based on this method and experience, URS proposes to operate the SVE system for another six months. This proposed operation period would be adjusted based on the real-time performance of the system.

If you have questions, please do not hesitate to contact me at (510) 874-3201.

Sincerely,

URS CORPORATION

Joe Morgan
Project Manager

cc: Jeffrey Cosgray, CPL

Photo 1 Installation of the straw wattles with 10-ft spacing on the hillslope and 20-ft spacing on the dirt road, December 7, 2005.

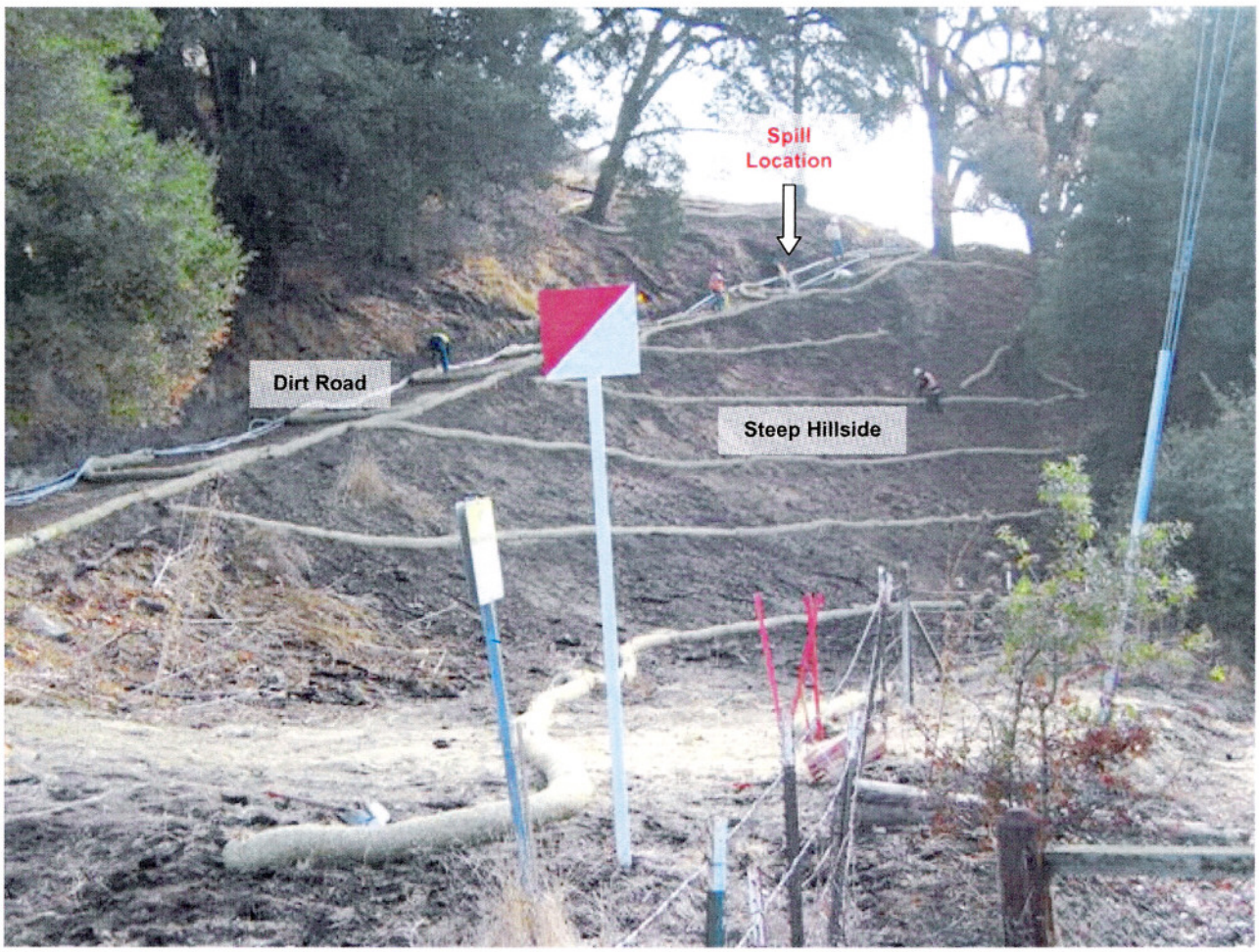


Photo 2 Steep 84-percent slope immediately below the pipeline release location, looking south and down slope towards Calaveras Road, August 25, 2005.

Photo 3 Steep 84-percent slope immediately below the pipeline release location, December 7, 2005.

Figure 1 Mass Removal Rates and Regression Trendlines for SVE System, Sunol, California

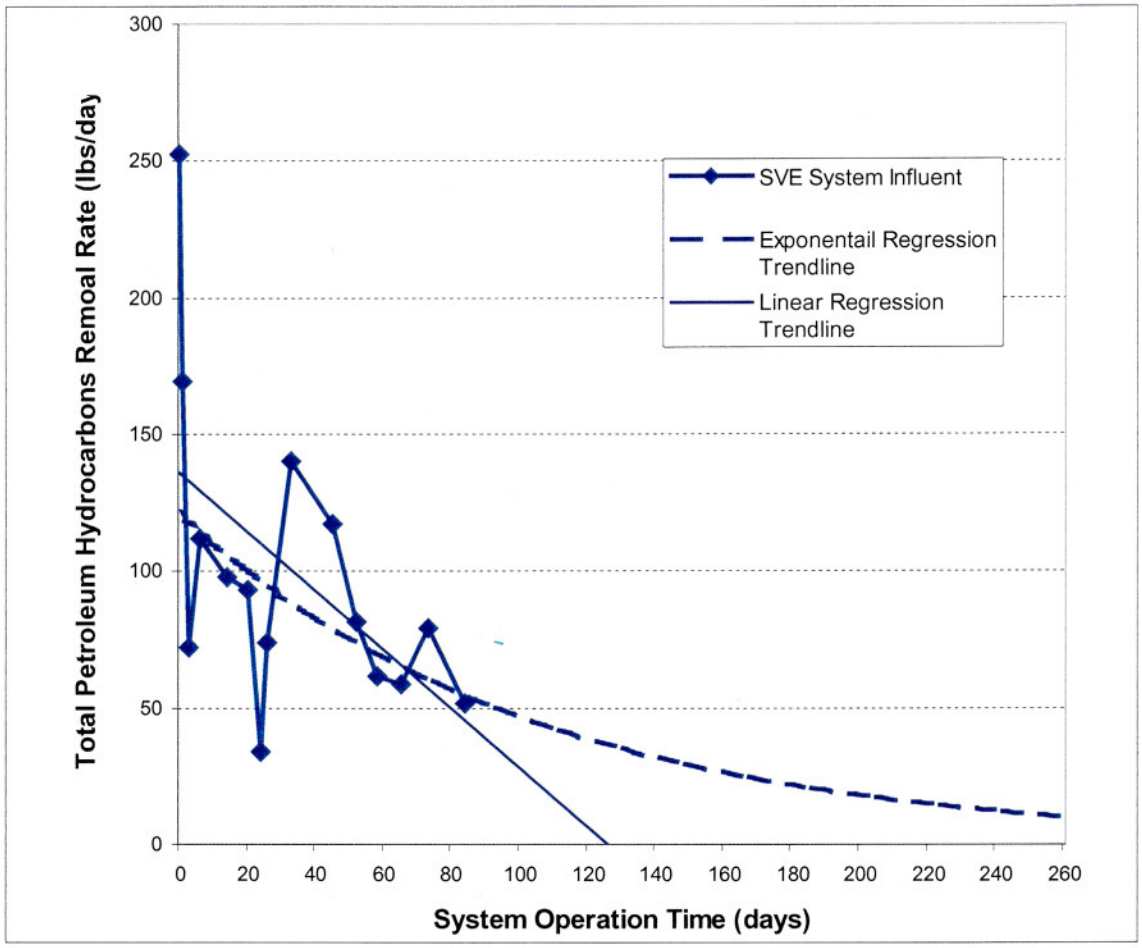


Figure 2 Mass Removal Rates and Linear Regression Trendlines for Individual SVE Wells, Sunol, California

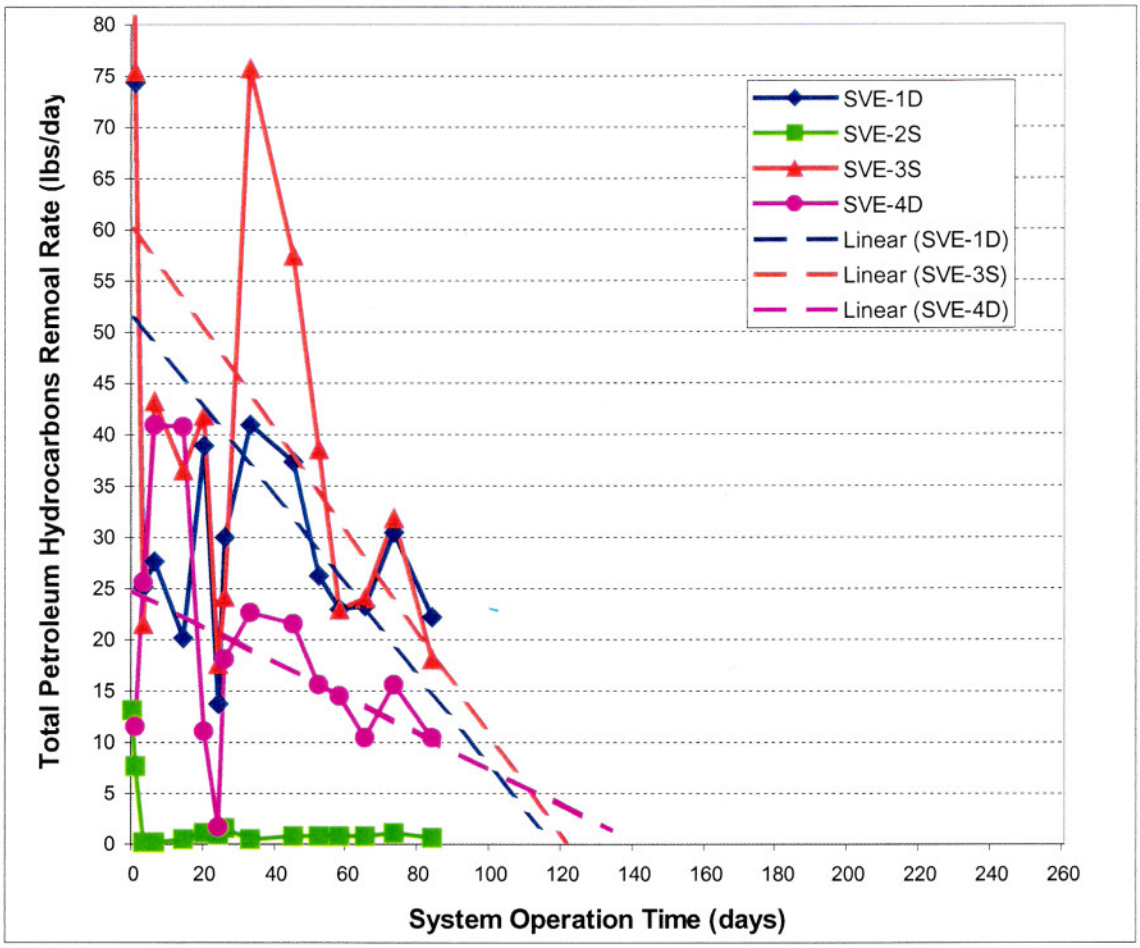


Figure 3 Mass Removal Rates and Exponential Regression Trendlines for Individual SVE Wells, Sunol, California