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By dehloptoxic at 1:26 pm, Nov 16, 2006



erSchy Environmental, Inc.

October 11, 2006
Project A51-01

Mr. Barney Chan
Alameda County
Health Care Services Agency
Environmental Health Services
1131 Harbor Bay Parkway, Ste. 250
Alameda, California 94502-6577

Re: Results of the September 2006 Free Product Test and Proposed Microbial Study, Alaska Gasoline Company, Oakland, California, Case #RO0000127

Dear Mr. Chan:

HerSchy Environmental, Inc. is pleased to present this report summarizing the free product removal test performed at the above-referenced site beginning September 25, 2006. A proposal to conduct a microbial study to assess the feasibility of diffusion of oxygen in selected wells to facilitate chemical or biological degradation of dissolved contaminants is also presented. The product removal test was proposed in the July 28, 2006 "*SVES Modification and Free Product Testing Requests...*" document, prepared by HerSchy Environmental, Inc. The Alameda County Health Care Services Agency approved this work in a letter dated August 4, 2006.

RESULTS OF INVESTIGATION

Product/atmosphere and product/groundwater interface depths were measured in a four-inch extraction well, EX-1, (Figure 1) on September 25. The product/atmosphere depth was measured at 5.34 feet below top of casing, and the product/groundwater interface was at 5.93 feet, for a product thickness of 0.59 feet (7.08 inches). Product was pumped to a sheen (approximately three gallons) over a 1.50-hour period using a Xitech two-inch product skimmer, emptying into a 55-gallon drum. The pump was kept in the well overnight to periodically pump product (30 minutes every four hours) based on the lack of recharge observed for the two hours of monitoring after initial product removal. Little product was produced during this period. To continue monitoring the recharge rate, measurements have been collected periodically since September 26, and as of October 6, 2006, less than 0.01 feet of product continues to be present in EX-1, the same value as immediately after pumping the well to a sheen.

Free product in monitoring well MW-4 was measured to extend between 6.31 and 6.41 feet below top of casing for a thickness of approximately 0.10 feet (1.2 inches) on September 26. Product was pumped to a sheen, and allowed to recharge. Over the next 24 hours, no recharge of product was measured. Given that this well is only two inches in diameter, recharge is anticipated to be slower than that of EX-1.

CONCLUSIONS

The recovery of floating product within EX-1 is slow, with nearly two weeks having passed without any noticeable recovery. HerSchy Environmental, Inc. will have EX-1 monitored weekly for recovery, up to another few weeks, if necessary. After reviewing additional recovery data, it may be appropriate to install and operate a product recovery pump, even if it takes a month for recovery. However, installing a series of Oxygen Release Compound (ORC) and oil-only absorbent socks in selected wells would appear to be a viable option in conjunction with, or in lieu of, utilizing a skimmer. A proposal detailing the preliminary assessment, installation and use of the ORC and oil absorbent socks is detailed below.

An air sparge system has been proposed and approved. However, based on the presence of free product in the southwest corner of the property, HerSchy Environmental, Inc. proposes operating only air sparge wells AS-2, AS-3, and AS-5 (Figure 1) until free product is reduced by vapor extraction and other remediation efforts. Air sparging from AS-1 and AS-4 may promote off-site migration of free product. Installation of the air compressor for air sparging is scheduled for October 11, 2006.

The current operation of the thermal oxidizer soil vapor extraction system is effective in removing contaminants from the soil and stripping some from the groundwater, and will continue. A remote sensing device has been installed on the unit and will notify our office if the unit should shut down. The system can then either be restarted remotely by HerSchy, or manually by local technicians. The system's effectiveness is evidenced by the relatively high burning temperatures achieved. The analytical result of the influent from the startup test was 3,300 parts per million by volume (ppmV), and it is anticipated that concentrations are higher now after selectively closing less productive vapor wells based on individual well concentrations.

MICROBIAL STUDY

Due to the fact free product recharge is very slow at this site, and air sparging in the vicinity of the free product could facilitate movement of free product off-site, HerSchy Environmental, Inc. proposes utilizing ORC socks in MW-3, MW-4, and EX-1, with oil-only absorbent socks also placed in MW-4 and EX-1. Prior to installation of ORC socks, a microbial study should be performed to assess if the conditions and microbes are present for effective oxygen diffusion. Environmental Bio-Systems, Inc. recommends the following analytes be performed:

- Dissolved oxygen, oxidation reduction potential, pH, total iron and ferric iron, and conductivity to be evaluated in the field by Environmental Bio-Systems, Inc. personnel.
- Geochemical parameters including total dissolved solids, total inorganic carbons, alkalinity, nitrate, sulfate, orthophosphate and ammonia-nitrogen, biological oxygen demand, and chemical oxygen demand will be analyzed in the laboratory. In addition the laboratory will perform microbial parameter assays which include a heterotrophic plate count and specific hydrocarbon degraders.

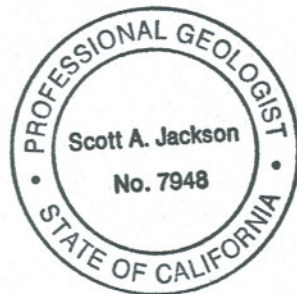
The cost for the microbial study is \$1,380 per well, with three wells to be sampled (MW-3, MW-4, and MW-5). These tests on these specific wells should provide valuable information on conditions in areas with high dissolved concentrations (MW-3), free

product (MW-4), and a background sample that is marginally impacted. The data will provide for a comparison between areas of varying conditions, as well as provide a baseline prior to oxygen diffusion.

Upon receiving indications from the microbial study that introduction of oxygen into the saturated zone would be appropriate, ORC socks will be placed in MW-3, MW-4, and EX-1, extending the entire water column in each of those wells. Oxygen release will be relatively slow, allowing for oxygen to be diffused into groundwater to facilitate aerobic microbial and chemical degradation of contaminants. Each sock will last approximately six months to one year. Oil-only absorbent socks will also be placed at the free product level in EX-1 and MW-4, and replaced upon reaching absorption capacity.

If you have any questions or need additional information, please contact the undersigned at the letterhead address or at (559) 641-7320.

With best regards,
HerSchy Environmental, Inc.



Scott Jackson
Scott Jackson
Professional Geologist #7948

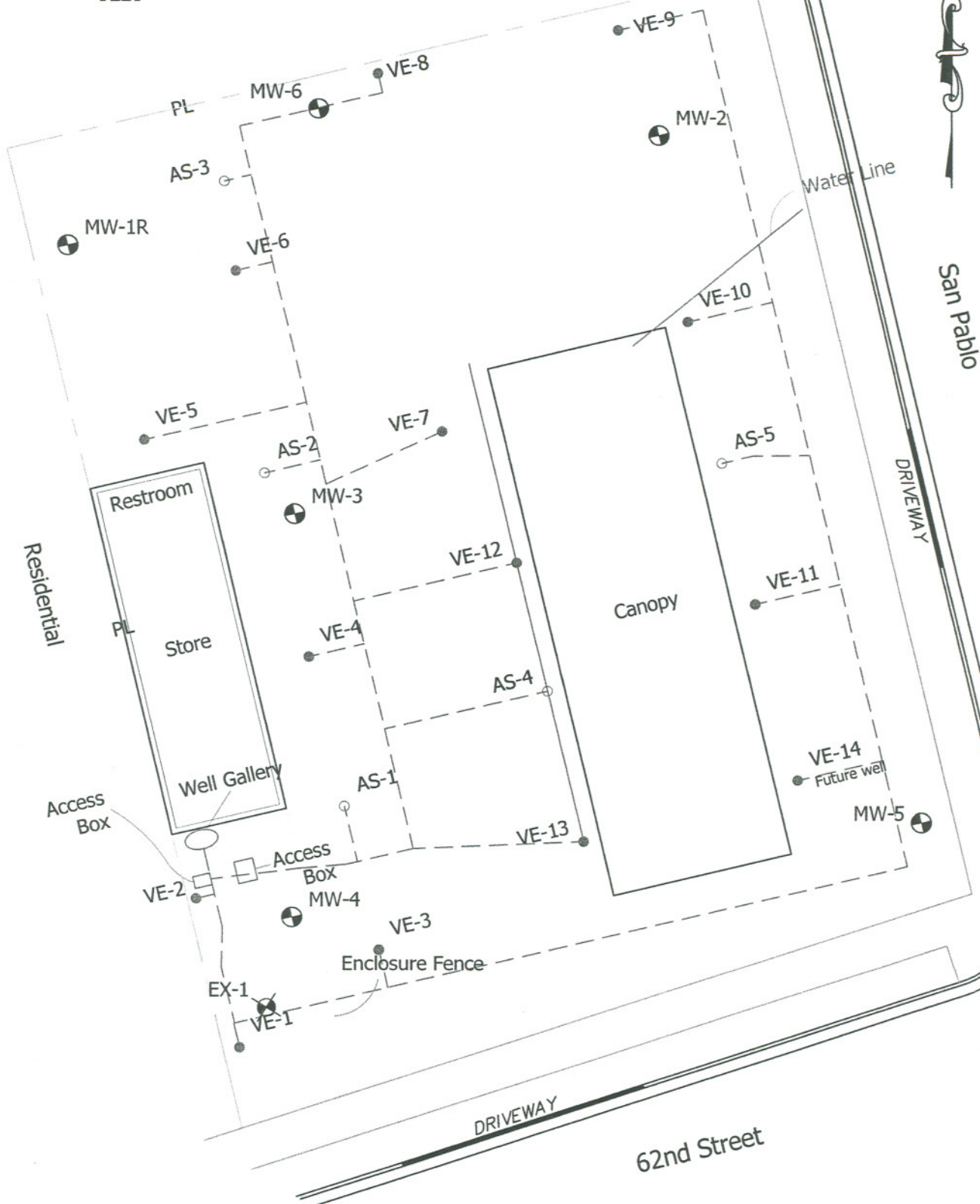
pc: Mr. Pritpaul Sappal
Mr. Hernan Gomez, Oakland Fire Services Agency
Mrs. Susan M. Torrence, Deputy District Attorney



Residential



San Pablo



HerSchy Environmental, Inc.
Environmental Consulting and Remediation

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Bass Lake, California 93604-0229
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VAPOR EXTRACTION SYSTEM LAYOUT
ALASKA GASOLINE COMPANY
6211 San Pablo Avenue, Oakland, California

DATE: June 2005
FILE NO.: A51-01
DRAWN BY: SAJ

FIGURE
1

October 11, 2006

Mr. Barney Chan
Alameda County
Health Care Services Agency
Environmental Health Services
1131 Harbor Bay Parkway, Ste. 250
Alameda, California 94502-6577

RE: Results of Free Product Test and Proposed Microbial Study Report
Alaska Gas
6211 San Pablo Avenue
Oakland, California

Dear Mr. Chan:

Attached for your review and comment is the October 11, 2006 "*Results of the September 2006 Free Product Test and Proposed Microbial Study, Alaska Gasoline Company, Oakland, California, Case #RO0000127*" report prepared by HerSchy Environmental, Inc upon my behalf, for the above-referenced site.

As the legally authorized representative of the above-referenced project, I have reviewed the attached report and declare, under penalty of perjury, that the information and/or recommendations contained in the attached document are true and correct to the best of my knowledge.

Sincerely,



Mr. Pritpaul Sappal