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Stantec

June 16, 2011

Ms. Donna Drogos
Alameda County Environmental Health Department
1131 Harbor Bay Parkway
Alameda, California 94502

Reference: **Former Penske Trucking Site**
725 Julie Ann Way, Oakland, California
RO# 354

Dear Ms. Drogos:

Thank you for your electronic correspondence dated May 23, 2011, in reference to the former Penske site located at 725 Julie Ann Way in Oakland, California (RO#354). Since 2008, correspondence between Stantec (on behalf of Penske) and Paresh Khatri has focused on: 1) evaluating post-remediation soil and groundwater conditions following Fenton's reagent treatment applied at the site in 2000; and 2) the effectiveness of groundwater monitoring wells in accurately monitoring site conditions. The intent of this letter is to present a brief synthesis of recent work and regulatory response pertaining to both issues.

Post-Remediation Soil and Groundwater Conditions

In 2009, Stantec advanced direct-push soil borings at various locations across the site to document soil and groundwater conditions following chemical oxidation work completed in 2000. Significant concentrations of gasoline and diesel were reported in soil samples from several locations, but benzene, toluene, ethylbenzene and xylene (BTEX) concentrations were largely non-detect, with the exception of benzene reported at concentrations up to 4.8 milligrams per kilogram (mg/kg) in soil samples from SB-4. Samples from this location also contained naphthalene at concentrations up to 0.61 mg/kg. In general, concentrations of gasoline and diesel were highest in soil borings SB-4, SB-5, and SB-6, located west of the former underground storage tanks.

Grab groundwater samples were collected from each of the eight soil borings. Similar to the soil chemical data, significant concentrations of diesel and/or gasoline were reported in samples from seven of the eight soil borings, and concentrations of BTEX and naphthalene were low to non-detect, with the exception the sample from SB-4, which contained benzene at 12,000 microgram per liter (µg/L), and naphthalene at 950 µg/l. During this investigation, six of eight soil borings were advanced to a maximum depth of 12 feet below ground surface (ft-bgs), and two soil borings were advanced to 20 ft-bgs.

Saturated materials indicative of a groundwater-bearing zone were generally difficult to identify during drilling, although wet clay was logged at 8 ft-bgs in SB-5, and at 6 ft-bgs in SB-6. Temporary well screens were inserted into the boreholes, and groundwater was allowed to equilibrate in the borehole prior to measuring the static groundwater elevations. Static groundwater elevations in the shallow boreholes ranged from 9 to 10.5 ft-bgs, with the exception of SB-1, in which static groundwater was measured at 5.5 ft-bgs. SB-1 was advanced within one of the former tank pits, and the anomalously shallow static groundwater elevation is believed to have been influenced by coarse-grained backfill materials encountered between 5 and 9 ft-bgs

within the former excavation. Static groundwater elevations in the deeper boreholes were reported at 11 and 19 ft-bgs.

One objective of the investigation was to evaluate hydrogeologic conditions in the vicinity of wells MW-1, MW-4, and MW-7. Health Department staff had previously expressed concern that because the static groundwater level in these wells is typically above the top of the screened interval, the wells may not be appropriate for monitoring the presence of free-phase product on the groundwater surface. Stantec compared static groundwater elevations within the wells to static groundwater elevations measured in soil borings advanced immediately adjacent to the wells to determine if the well screens were in fact submerged beneath the static potentiometric surface. Based on this analysis, Stantec found well screens in wells MW-1 and MW-7 to be submerged, and recommended replacement wells with screens extending above the potentiometric surface. These findings were reported in the September 1, 2009, *Soil and Groundwater Investigation and Groundwater Monitoring Report*, and monitoring well installation procedures were proposed in the October 27, 2011, *Monitoring Well Installation Work Plan*.

Health Department staff responded to the investigation report and the well installation work plan in correspondence dated December 17, 2009. Although staff took issue with Stantec's evaluation of the general effectiveness of Fenton's treatment, the letter approved the proposed scope of work. In Technical Comment #1 regarding monitoring well construction, Health Department staff noted the presence of 'wet' materials at 5 ft-bgs in several of the 2009 soil borings, and noted the disparity between the depth of these materials and the depth of static groundwater (generally at around 10 ft-bgs). Board staff proposed this disparity could be due to not allowing the boreholes to equilibrate at atmospheric conditions for a sufficient amount of time, and requested that during installation of the replacement wells Stantec ensure that sufficient equilibration time is allowed before installing the well. Staff's primary concern appeared to be avoiding a submerged well screen, as evidenced by the last sentence below Technical Comment #1: 'Should groundwater elevation for the newly installed wells rise above the screened interval, re-installation of monitoring points may be required.'

Installation of Replacement Groundwater Monitoring Wells MW-1R and MW-7R

In January 2010, Stantec abandoned wells MW-1 and MW-7, and installed replacement wells MW-1R and MW-7R. The boreholes were cored continuously to allow close examination of geologic materials. The first-encountered water-bearing zone (wet silty sand) was encountered at approximately 17 ft-bgs in each borehole, and boreholes were terminated at 20.5 ft-bgs. After allowing the boreholes to equilibrate overnight, the static groundwater level was measured at approximately 5 ft-bgs, and the wells were screened between 3.5 and 20 ft-bgs, to allow for seasonal fluctuation of groundwater elevations below the upper limit of the well screen.

Health Department staff responded to the monitoring well installation report in correspondence dated August 12, 2010, in which staff postulated that because static groundwater was measured at 5 ft-bgs, the wells should have been screened from 3.5 to 13.5 ft-bgs. However, because water-bearing sediments were not encountered until 17 ft-bgs, a well screened between 3.5 and 13.5 feet would not have yielded water. The static water level confirms that first-encountered groundwater beneath the site is confined, a condition which is consistent with historical potentiometric data from the site. As conveyed in previous correspondence, Health Department staff's issue with previous monitoring wells MW-1 and MW-7 was that the well screens were submerged. The newly-installed wells correct this issue, and serve as representative sampling points for the first-encountered water-bearing zone encountered at 17 ft-bgs.

Reference: 925 Julie Anne Way

In the August 2010 letter, Health Department staff again noted the presence of shallow 'wet' materials in several of the 2009 soil borings, and expressed concern that the newly-installed wells intersected a shallow zone (less than 10 ft-bgs) as well as the deeper zone identified at 17 ft-bgs. As noted above, a shallow water-bearing zone was not encountered during the 2010 monitoring well installations, and Stantec maintains that the shallow depth of static groundwater in the wells (approximately 5 ft-bgs) is attributable to confined conditions in the water-bearing zone encountered at 17 ft-bgs. Groundwater samples collected from shallow sediments in 2009 may indicate the presence of a seasonal, perched water-bearing zone. Examination of precipitation records from a weather station located in the Maxwell Park neighborhood indicate that Oakland received 25.3 inches of rain in the three months preceding the April 2009 investigation, and 17.5 inches of rain in the three months preceding the January 2010 monitoring well installations. Stantec contends that the presence of shallow, 'wet' soils observed during the 2009 investigation, and the absence of these materials in January 2010, may be attributable to the higher precipitation observed in the months prior to April 2009 relative to the months prior to January 2010.

Our understanding of work completed to date is summarized as follows:

- Groundwater chemical data from site wells accurately represent site conditions;
- Post-remediation confirmation sampling suggests that shallow soils remain impacted by weathered and/or degraded petroleum hydrocarbons; and,
- Chemical impacts to groundwater are limited to the western portion of the site adjacent to the former underground storage tanks (USTs), and are limited to gasoline and diesel (no BTEX). Concentrations of petroleum hydrocarbons in groundwater have generally decreased since treatment with Fenton's reagent in 2000.

Penske has completed site characterization activities from 2008 until present as requested by Health Department staff, and Stantec considers chemical impacts at the site to be well-defined. Penske and Stantec respectfully request a meeting to discuss the regulatory status of the site and identify the risk-driving aspects precluding the site from case closure.

Sincerely,

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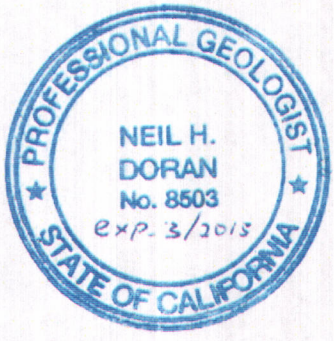

cc: Andrew Cullen, Penske