AB&I FOUNDRY - SUMMARY OF KEY FINDINGS AND RECOMMENDATIONS

Background

AB&I has operated on the Site for approximately 77 years. Business activities include the manufacture of cast pipe and fittings. The facility accepts scrap iron and steel, which it stockpiles on-site, and uses during manufacturing activities. The Site encompasses an area of approximately 11.8 acres. The Site contains various warehouses, manufacturing and office buildings. The entire Site is covered with buildings and asphalt and concrete pavement.

The Site is located in a heavy industrial area near the San Leandro Bay within an area identified as the East Bay Plain. There are no permitted drinking water wells within the Site vicinity, nor is the shallow groundwater in this area likely to be used as a public drinking water source in the foreseeable future.

Shallow groundwater has been observed to occur at the Site at a depth of approximately 4 to 9 feet below ground surface (bgs) and flows toward the northwest.

Sources

Seven underground storage tanks (USTs) were previously located on-site. The USTs included one 8,000-gallon UST used for storing unleaded gasoline and one 8,000-gallon UST used for the storage of mineral spirits and later 1,1,1-trichloroethane (1,1,1-TCA), one 550-gallon UST used for storing regular leaded gasoline, one 10,000-gallon UST used for storing diesel, and three 10,000-gallon USTs used for storing gasoline.

The primary contaminant sources, the seven USTs and their contents, were removed from the Site between the period of 1982 and 1993. In addition, total petroleum hydrocarbon (TPH) and volatile organic compound (VOC)-affected soil located adjacent to the USTs was removed.

The primary source of the TPH and VOCs, leaks associated with the USTs, have been terminated, therefore the only remaining sources are interpreted to be the affected soil beneath the Site.

Exposure Pathways and Receptors

Exposure pathways identified to be complete and significant for the Site include:

- Hypothetical Onsite Outdoor Commercial/Industrial Worker Receptor (current and future exposure scenario);
- Hypothetical Onsite Indoor Commercial/Industrial Worker Receptor (future exposure scenario); and
- Hypothetical Onsite Construction Worker Receptor (current and future exposure scenario).

The exposure pathways assumed to be complete and significant for the hypothetical outdoor and indoor commercial/industrial worker receptor include:

- Inhalation of vapors in outdoor air volatilizing from the subsurface.

Onsite water supply well may be a potential receptor in the event that there is a connection between the impacted shallow groundwater and deeper groundwater from which the well produces.

Soil Gas

Twenty soil vapor samples were collected at fifteen locations. Soil gas collected in the vicinity of the office building had exceedences (hypothetical indoor commercial/industrial worker exposure scenario in two locations for benzene at 5-feet bgs; two locations for vinyl chloride at 5-feet bgs; and for PCE in one location at 0.5-feet bgs.

Groundwater Quality Trends

TPH and chlorinated VOCs are present in shallow groundwater underlying the Site. Based on a comparison of Site data against ESLs for the identified exposure receptor, the hypothetical indoor commercial/industrial worker (current exposure scenario), no exceedences were identified. However, groundwater collected from two wells (MW-3 and MW-8) located in the parking lot had concentrations above ESLs for vinyl chloride, indicating that vapor intrusion into indoor air may constitute a risk to the hypothetical indoor commercial/industrial worker receptor under the future exposure scenario.

Chlorinated VOC concentrations in well MW-8 have declined over the last two sampling events. In samples collected from well MW-8, an approximately 40 percent reduction in 1,1-DCE concentrations and a 25 percent reduction in 1,1,1-TCA concentrations has been observed since the June 2008 sampling event.

The presence of 1,1,1-TCA daughter products (chloroethane, 1,1-DCA, 1,1-DCE, trans-1,2-DCE, cis-1,2-DCE, and vinyl chloride) in wells located in the parking lot provides evidence that reductive dechlorination is continuing to occur in groundwater underlying the Site. All parking lot wells in which one or more of these compounds were detected (MW-3, MW-5, and MW-8) are located downgradient of the suspected source area for chlorinated VOCs, the former 8,000-gallon 1,1,1-TCA/Mineral Spirits UST.

Deep groundwater underlying the Site contains concentrations of TPH and low concentrations of chlorinated VOCs, none of which are at concentrations that exceed ESLs. The presence of these compounds is interpreted by SGI to be related to a combination of site activities and onsite migration from offsite sources.

Samples collected from the water supply well do not indicate the presence of a number of chlorinated VOCs detected in shallow groundwater at the Site (e.g., 1,1-DCA, 1,1-DCE, and 1,1,1-TCA) indicating that it is unlikely that contaminant-affected groundwater at the Site has impacted the water supply well.

Conclusions and Recommendations

AB&I plans to continue manufacturing operations into the foreseeable future. Low concentrations of TPH and VOCs present in shallow soil and groundwater are judged to not pose a significant risk to human health and the environment based on the current land use. The presence of buildings and structures limits access and removal of the contaminants. Due to these factors, the cost benefit of removing additional contaminant mass is judged to be low.

Further, given the current state of the economy and AB&I's business, it is AB&I and SGI's opinion that the additional resources (expense) required to conduct further remediation of the site far outweighs its benefit.

SGI recommends the following:

- The development of a risk management plan to address human health risks associated with the hypothetical indoor/outdoor commercial/industrial worker receptor under the future exposure scenario and the hypothetical onsite construction worker receptor under the current and future exposure scenarios; and
- An administrative control in the form of a deed restriction be implemented as part of Site closure. The deed restriction would specify that the area of soil and groundwater impact would limit the Site to commercial use. The deed restriction would follow a format acceptable to Alameda County Environmental Health (ACEH) and run with the land indefinitely.