West Central Phoenix West Grand Avenue Site Remedial Investigation

The Arizona Department of Environmental Quality (ADEQ) has issued the draft remedial investigation (RI) report for the West Central Phoenix (WCP) West Grand Avenue (WGA) Water Quality Assurance Revolving Fund (WQARF) Registry site to meet the requirements established under Arizona Revised Statutes (A.R.S.) §49-287.03.

The Layke Incorporated (Layke) facility, located at 3330 West Osborn Road in Phoenix, Arizona, has been identified as the source of groundwater contamination in the WCP WGA site. Historical records and information obtained from Layke indicate that Layke began operations at the facility in 1967. The operations included the manufacturing of various metal parts. These manufacturing processes required Layke to use various chemical cutting oils, water-soluble cutting fluids, and solvents such as tetrachloroethylene (PCE), trichloroethylene (TCE) and 1,1-trichloroethane (TCA). TCE was the primary solvent used for parts cleaning/degreasing in a vapor degreaser that had been used at the facility from 1969 to approximately 1985. PCE was reportedly used in 1982 only. TCA was used from 1983 to 1988. Reportedly, solvents and cutting oils were stored in 55-gallon drums in the waste storage area. Water-soluble oils were stored in an underground storage tank (UST). Various subcontractors for disposal or recycling then transported waste chemicals off-site. The UST was removed in October 1990.

Field investigation activities for the WCP WGA site RI have been conducted between 1989 and 2002. The following is a short summary of some of the field investigations conducted as part of the RI for the WCP WGA site. Details on these and other investigations can be found in WCP WGA draft RI report:

- In 1989, ADEQ conducted soil and soil-gas sampling at the Layke facility. TCE was detected in soil-gas samples collected near the UST, which indicated a potential leak from the UST.

- Between 1990 and 1991, ADEQ requested Layke to remove the UST and collect soil samples from the excavation and from soil borings near the former UST. TCE concentrations in the soil samples ranged from 20.8 milligrams per kilogram (mg/kg) to 230 mg/kg. PCE was also detected at concentrations ranging from 0.2 mg/kg to 4.9 mg/kg. It appeared that the contents of the UST became contaminated with TCE and PCE, overflowed, and contaminated the soil with TCE, PCE, as well as waste oil (petroleum hydrocarbons).

- In 1992, ADEQ installed a groundwater monitor well (well WCP-4) at the Layke facility, near the location of the former UST. Groundwater samples from the well showed concentrations of TCE of up to 420 micrograms per liter (µg/L). The Arizona Aquifer Water Quality Standard (AWQS) for TCE is 5 µg/L. Groundwater samples also showed concentrations of, 1,1-dichloroethylene (1,1-DCE) of up to 2 µg/L, below the AWQS of 7 µg/L.

- Also in 1992, Layke conducted a soil vapor extraction (SVE) pilot test. The results of the pilot test indicated that SVE was a viable technology for removing the contaminants from soils at the facility. Layke used the test results to design a full-scale SVE system for the facility as part of an early response action (ERA). The SVE system was installed by Layke in March 1995 and operated until 1998.

- In December 2000, Layke submitted a request for a no further action (NFA) for a portion of the facility pursuant to A.R.S. §49-287.01. The NFA request was restricted to TCE only in soil and groundwater, in the area around the former UST. ADEQ performed an evaluation of the Layke NFA request, which included a review of previous investigation reports and remedial actions conducted at the facility. Due to the need for confirmatory soil borings in the area remediated by the SVE system, the need to investigate other areas of potential concern, and the need to evaluate any residual groundwater contamination beneath the Layke facility, ADEQ concluded that there was insufficient information to grant a NFA determination and requested that additional sampling be performed at the facility.

- Between March 2001 and January 2002, ADEQ conducted additional activities to satisfy the information needed to respond to the NFA request. These activities included sampling of selected wells, the advancement of soil borings, and the collection of soil, soil-gas, and Hydropunch® groundwater samples for chemical analysis. Soil sample analytical data obtained during the NFA investigation did not show TCE or other VOCs above the laboratory method detection limits (MDLs) in soil and groundwater samples directly under the source.

The distribution of contaminant concentrations in soil-gas, soil, and groundwater during the WCP WGA site RI investigation indicates that the source of soil and groundwater contamination in the WCP WGA site was the former UST located at the Layke facility. When the UST was removed in October 1990, it appeared structurally intact. However, evidence of leakage existed around the entrance to the tank and the tank cover, leading to the conclusion that the UST had overflowed at various times.

Several contaminants have been detected in soil and groundwater samples collected during field investigations at the WCP WGA site. The primary contaminants of concern are PCE, TCE, and 1,1-dichloroethylene (1,1-DCE). These compounds have been detected in soil samples collected on the Layke facility, and/or in groundwater samples collected from wells in the WCP WGA site. PCE and TCE are considered the precursor degreasing solvents released into the environment. The presence of 1,1-DCE is most likely due to degradation of a TCA release.

The PCE and TCE contamination found in the soil beneath the Layke facility exceeded Soil Remediation Levels (SRLs) and Groundwater Protection Levels (GPLs). However, TCE is the only contaminant found at levels above the Arizona Aquifer Water Quality Standard of 5 µg/L in the groundwater in the WCP WGA site. The lateral extent of TCE contamination in the WCP WGA site has been defined to determine the appropriate cleanup actions needed at the site. Further definitive characterization of the vertical

extent of groundwater contamination will be addressed during the FS, if needed, based on the selected remedial alternative.

As mentioned previously, Layke, Inc. implemented an ERA consisting of a SVE system from March 1995 until 1998 to remediate the PCE and TCE contamination beneath the Layke facility. Between 2001 and 2002, confirmatory soil samples were collected in the area of the former UST to determine the effectiveness of the SVE system in remediating soils onsite. The soil data indicates that the previous source of TCE and PCE contamination had been effectively remediated by the SVE system.