

Limited Environmental Site Assessment Spring Park Wells Site Assessment Project, Spring Park, Minnesota



Executive Summary

The Limited Environmental Site Assessment (ESA) was performed to identify Environmental Sites with the potential to impact the City of Spring Park municipal well field. Trichloroethylene (TCE) has been identified in water samples from the municipal distribution system at the water treatment plant since 2004. Water samples from two of the three municipal wells (Wells #1 and #2) have had identifications of TCE since 2008. None of the identified concentrations in the water system or individual wells have exceeded the applicable USEPA Maximum Contaminant Level (MCL). TCE is a volatile organic compound (VOC) commonly used as a solvent in commercial and industrial operations such as metal degreasing and dry cleaning.

The results of the Limited ESA identified 19 Environmental Sites with potential for release of VOC solvents to the environment within an approximately one-half mile radius of the municipal well field. The identified sites included manufacturing facilities, dry cleaners, automobile repair stations and machine shops that formerly operated within the study area.

Two former manufacturing facilities (Advance Manufacturing and JR Clark Company) operated in the City from at least the late 1940s until the 1970s and functioned prior to the installation of municipal water and sewer in 1963-1964. Both manufacturing facilities included paint booth areas. Industrial painting operations commonly used chlorinated solvents for cleaning operations. The facilities were located approximately 1,000 feet east of the municipal well field. Both facilities had groundwater wells. A septic system was documented at the JR Clark Company.

TCE impacted groundwater is currently being remediated in the vicinity of the former Advance manufacturing plant. No known solvent impacts have been identified for the JR Clark Company manufacturing facility now occupied by the Tonka Business Center. Both of the sites are located hydrogeologically downgradient of the Spring Park municipal well field based on regional data.

Three former dry cleaner businesses were identified within the study area. The former Marina Center, located approximately 2300 feet west of the municipal well field, is a known solvent release site. The horizontal extent of solvent impacts appears to be limited to the release site. Regal Cleaners operated at 4500 Shoreline Drive in the 1990s on property located approximately 1300 feet west of the municipal well field. A dry cleaner operated at 4008 Shoreline Drive located approximately 2,200 feet east of the municipal well field. Neither the former Regal Cleaners site nor the former dry cleaner at 4008 Shoreline Drive are identified release sites. The dry cleaner sites are rated as having high potential to release VOCs.

A historical gas station at 4332 Shoreline Drive was identified adjacent to the south side of the municipal well field. A Phase II Environmental Site Assessment (ESA) of the property identified a low concentration of one VOC in groundwater at the site. Historical evidence of outside storage of barrels at the property was identified. No soil borings for the Phase II ESA were conducted in the barrel storage area. Potential exists that release of solvents could have occurred. This site was rated with medium potential to release VOCs. The analytical results associated with the Phase II ESA did not indicate the presence of TCE in groundwater.

Six additional former filling stations, an existing filling station, three former machine shops and a former paint store were identified in the study area. These facilities were rated as having medium potential to release VOCs.

No direct pathway for TCE migration to the well field has been identified; however, the presence of the TCE in the wells indicates that a source and pathway are present. Possible pathways could include movement of dense phase non-aqueous phase liquid (DNAPL), a direct conduit to deeper aquifers such as an incorrectly sealed well, movement of contaminants along a preferred pathway such as a utility corridor or other subsurface feature. Finally, groundwater contamination could be present in the shallow aquifer and being introduced to the well from a damaged well casing.

AECOM has made the following recommendations for further actions:

- Develop a work plan to investigate groundwater quality in the unconsolidated deposits in the vicinity of the well field. The investigation may include installation of soil vapor probes, temporary shallow monitoring wells, and deep monitoring wells. Development of a discrete depth groundwater sampling program may also be considered.
- Consideration should be given to inspecting the integrity of the municipal well casings with video and other appropriate downhole logging methods.
- Conduct a Phase II Environmental Site Assessment at the Former Factory Site/JR Clark Co (Site10). This site is of special concern since this assessment identified the possible presence of septic tanks in use during a period in which COCs could have been used at the site. The timeframe pre-dates RCRA regulations mandating appropriate storage and disposal of hazardous wastes. A historical photograph from 1969 shows numerous barrels stored outdoors without secondary containment.
- Sealing methods protective of the environment should be confirmed for deep wells within the study area to determine if they present a pathway for groundwater contamination to migrate to deeper aquifers. The following wells were noted as a concern:
 - Three wells associated with the JR Clark are of particular concern due the high potential for COCs to be present in the vicinity of these wells.
 - A domestic well, identified original owner Anna Trap, should be confirmed to be inactive and properly sealed.
 - Records are unclear if the wells associated with former Norling's Landscaping location are presently active. If any of these wells are inactive, they should be sealed.
 - Records are unclear if the Boomerang Laboratories wells are currently being used. If these wells are inactive, they should be sealed.

Prior to sealing the wells, groundwater samples should be collected for analysis of COCs if possible. The appropriateness of a casing evaluation should also be considered. Finally, it should be noted that no single up-to-date data source has been identified for well sealing records. Therefore, the status of the wells within the study area is not known with certainty.

- Groundwater samples for analysis of the COCs should be collected from the wells associated with Norling's Landscaping, both locations, and Boomerang Laboratories, if they are not sealed.