

Attachment Li. – Executive Summary for Environmental Site Assessments

Executive Summary

The Pennsylvania Department of General Services (DGS) retained KCI Technologies, Inc. (KCI) to perform a Phase I Environmental Site Assessment (ESA) of the Allentown State Hospital located at 1520 Hanover Avenue in Allentown, Pennsylvania 18109. The Phase I ESA was conducted in accordance with ASTM Standard E 1527-13: “*Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.*”

The subject site consists of two parcels of land totaling approximately ± 195 acres. The subject site is developed with thirty (30) vacant hospital buildings located near the center of the site and several vacant agricultural and maintenance buildings located on the eastern portion of the site. The vicinity of the subject site is primarily occupied by residences, commercial buildings, wooded land, and the Lehigh River. The findings from this assessment are summarized below. Figure ES1 is included at the end of the executive summary identifying locations of Recognized Environmental Conditions (RECs).

- KCI’s review of topographic maps indicate that the subject site was developed with several structures located in the eastern portion and southern border of the site, and near the north/central portion of the site in 1893 and 1894. According to the Allentown State Hospital Biennial Survey (June 2008), hospital buildings were developed on the property starting in 1905 and the hospital was established in 1912 as the Allentown Homeopathic Hospital for the Mentally Insane. The hospital name was later changed to the Allentown State Hospital. The hospital reportedly closed in 2010.

The review of 1932, 1950, 1958, and 1977 Sanborn Maps indicated “Laundry” in one of the hospital buildings (Building 29). Based on discussion with onsite staff, laundry cleaning was conducted at the hospital in 1980’s and 1990’s. The laundry cleaning at the subject site with possible drycleaning activities represents a Recognized Environmental Condition (REC1).

According to the review of previous environmental reports and discussion with hospital staff, a training facility was located to the east of the wastewater treatment plant (WWTP) and was used for fire brigade training for the hospital and the local fire department in the 1950’s. Based on the use of the subject site for fire brigade training and the potential for soil contamination from byproducts of burning such as poly-aromatic hydrocarbons (PAHs) and fire-suppression residuals represents REC2.

A former incinerator was observed at the east/central portion of the subject site near the roadway. Cinder/gravel-like material was observed near the incinerator and mounds of dirt were observed to the south/southeast of the incinerator. A previous environmental investigation conducted in 2010 reported a slight exceedance of EPA guidance levels for a dioxin compound analyzed in one of two soil samples collected in the incinerator area. The review of previous environmental reports and interviews did not reveal what was historically burned at the incinerator or where the incinerator ash was ultimately disposed of onsite. KCI also conducted soil sampling in the area of the incinerator concurrently with this assessment. The results indicated that one dioxin compound exceeded EPA residential guidance levels in two of the six samples collected to the south and south/southeast of the incinerator. Based on the dioxin results of KCI’s soil sample collection, and the unknown waste previously burned at the incinerator, the apparent deposition of ash on-site to the south and south/southeast of the incinerator and possibly in other areas of the site, represents REC3.

Areas of disturbed land in the eastern portion of the site was visible in aerial photographs starting in 1972 through 1981. According to the review of previous environment reports and interviews, the eastern portion of the subject site was used as an unregulated landfill in the 1970s through 1980s. Sludge from the WWTP located on the subject site was reportedly combined with the fill in landfilling areas. Previous investigations conducted in 2009 and 2010 revealed wood/timbers, railroad

ties, metal, concrete, brick, and ash-like material in test pits to the southeast of the chicken coop and blacksmith building, and to the east of the incinerator. KCI observed three areas of dumping along embankments and in wooded areas at the site reconnaissance: to the south of the boiler plant building, to the southeast of the former incinerator and pipe building, and in the wooded area at the east end of the subject site. The discarded waste included intact and partial/rusted out drums, tires, an aboveground tank (AST), scrap metal, and wood debris. Coal ash was also observed on the embankment and above the embankment near the lot to the south the boiler plant. Interviews conducted in support of this assessment indicated that coal ash was historically deposited in the area to the south of the boiler plant building. The presence of dumping, the disposal of coal ash, and the unregulated landfilling at the subject site, represents REC4.

Storage of ≤ 5 -gallon containers of lubricants, motor oils, paint, vehicle/equipment maintenance chemicals, and tires were observed in the electric shop and maintenance shop at the subject site. Oil staining was observed around several transformer/electrical parts on the concrete floor in the electric shop. Several drums of used oil, engine, and hydraulic oil were observed inside the maintenance shop. The drums were partially full or empty, and oil staining was observed on the concrete floor. Oil staining was also observed on the concrete floor around the tractor and backhoe equipment in the maintenance shop, reportedly from a previous leak. The use of onsite buildings for vehicle and equipment maintenance, including the use and storage of various oils and maintenance chemicals in the vicinity of floor drains, represents REC5.

A former WWTP is located at the south end of the subject site. The hospital drains and waste flow were historically connected to the wastewater treatment plant and the sludge from the plant was reportedly deposited to the north of the WWTP, within landfill areas, and possibly in other areas of the subject site. A 55-gallon drum labeled as "coagulant" and two unlabeled, rusted ≥ 5 -gallon containers were observed inside the sludge filter building at the WWTP at the time of the site reconnaissance. Evidence of leaks from the drum and containers was observed in the standing water surrounding the containers. In addition, the trickling filter WWTP in operation prior to the 1980's may have had mercury installed at one time in the former pivot arm. No maintenance records for the WWTP were identified to determine details about the operation and abandonment of the WWTP. Based on the lack of detailed records of the WWTP, the potential for mercury in abandoned equipment and/or surrounding area, the deposition of sludge in areas of the subject site, and the observed leaks from the drums and containers inside the sludge filter building, the historic operation of the WWTP on the subject site represents REC6.

- Based on observations during the site reconnaissance, review of EDR databases, and the review of DEP documents, seven underground storage tanks (USTs) have been removed from the subject site. In addition, one UST is currently located to the northeast of the maintenance building and one undocumented UST was observed near the WWTP at the time of the site reconnaissance. The removal status of the seven USTs are documented as Closed without a permit or Unregulated Removed.

The UST located at the maintenance building is currently empty and out of use. Based on the review of UST documentation regarding the tank, the out of use/empty status, and no reports of leaks from the tank, the presence of the out of use UST at the subject site does not appear to represent a REC at this time.

Evidence of an undocumented UST was observed at the wastewater treatment plant. A fill port was observed approximately 10 feet to the west of the filter building and a vent pipe was located at the northwest corner of the building. The presence of an undocumented UST with unknown contents at the subject site represents a REC7.

The subject site, Allentown State Hospital at 1600 Hanover Avenue, was included on the Pennsylvania Leaking Underground Storage Tank (PA LUST) database for a 10 gallon leak of unleaded gasoline from a 50-gallon tank during removal. The confirmed incident date was January 16, 2003 and soil was reported to be impacted. A cleanup was completed by March 3, 2003. Based on the removal and cleanup of contamination, the release from the excavated 50-gallon gasoline UST from the subject site represents a Historic REC.

The review of Pennsylvania Department of Environmental Protection (PA DEP) files conducted as part of KCI's Phase I ESA Investigation, indicated that two gasoline tanks were removed from the subject site in May 1990 due to leaking. No further documentation of the leak(s) was included in the report. Based on the apparent closure of the tank removals, and since the tank removal cases were not included in the LUST database, the report of the two leaking gasoline tanks represents a Historic REC.

- Seven ASTs are associated with the subject site. Based on no reports of leaks from the tanks, or evidence of staining, stressed vegetation, or petroleum odors noted at the site reconnaissance, the documentation and/or presence of the ASTs at the subject site does not appear to represent a REC at this time.
- The review of the environmental regulatory databases did not suggest that any listed nearby properties would represent a REC to the subject site.
- ASTM defines a Data Gap as a *“lack or inability to obtain information via the practice despite good faith efforts by the environmental professional to gather such information”*. The inaccessibility of certain buildings at the time of the site reconnaissance due to unsafe conditions, and/or locked or barricaded door/window opening (buildings 03, 04, 05, 13, wagon barn, former blacksmith shop, chicken coop, pipe building, and chlorine building) represents a Data Gap.

Attachment K Disclosure (Executive Summary of Phase II ESA by KCI Technologies 2018)

Executive Summary

KCI Technologies, Inc. (KCI) was retained by Pennsylvania Department of General Services (Client) to conduct a Screening-Level Phase II Environmental Site Assessment (ESA) at 1520 Hanover Avenue located in Allentown, Lehigh County, Pennsylvania (subject site). At the request of the Client, KCI performed this Screening Level Phase II ESA to investigate A) dioxin-impacted soils located south of the former incinerator and B) two diesel aboveground storage tanks (ASTs) and one decommissioned underground storage tank (UST) located on the hospital property. The investigation described herein was both targeted and limited in nature, and was conducted to gather additional information concerning the issues referenced above. KCI did not investigate other areas of the subject site, or other issues.

Dioxin-Impacted Soils:

KCI collected six (6) soil samples to the south and south/southeast of the former incinerator for the analysis of dioxin compounds. Two soil samples were collected in mounds of soil located directly to the south/southeast of the incinerator at 2-3' and 3-4' depths (S-1 and S-2) and two samples were collected to the south of the incinerator at a 0-1' depths (S-3 and S-4). Cinders and ash were observed on the ground below the incinerator door and to the northwest of the incinerator at the time of the site reconnaissance.

The analysis of the six soil samples identified one sample with an exceedance of the Pennsylvania Department of Environmental Protection's (PA DEP's) Unrestricted/Residential Cleanup Levels and one sample with an exceedance of PA DEP's Commercial/Industrial Cleanup Levels. The two exceedances occurred in the soil samples collected at the shallow depth of 0-1' located to the south of the incinerator in a primarily flat area covered by vegetation (S-3 and S-4). Multiple dioxin compounds were detected above the Estimated Laboratory Detection Limit (EDL) in all six samples.

Aboveground Storage Tank (AST) and Underground Storage Tank (UST) Investigation:

The two (2) diesel ASTs reportedly located at the subject site were removed prior to KCI's site reconnaissance on October 8th through 10th, 2018. The ASTs were reportedly 20,000-gallons in capacity and were located to the west of the boiler plant building. No evidence of spills or stained soil was noted at that location at the time of the site reconnaissance.

KCI identified two (2) 1,000-gallon fuel oil ASTs at the subject site, one located to the south of the electric shop and one located between buildings 25 and 26. The ASTs were previously used to fuel the generators inside the buildings, and are currently no longer in use. One 500-gallon diesel AST was also observed to the northeast of the maintenance building. The diesel AST is reportedly still in use to fuel the equipment and vehicles onsite. No evidence of spills or stained soil was noted in association with the three ASTs observed at the time of the site reconnaissance.

A 4,000-gallon gasoline UST was located to the northeast of the maintenance building. The UST was empty at the time of the site reconnaissance and is no longer in use. No reports of leaks from the UST or evidence of any leaks from the UST were noted or observed in association with the UST.

Evidence of an undocumented UST was observed at the former wastewater treatment plant (WWTP) located at the southeast end of the subject site, at the time of the site reconnaissance. A fill port was observed approximately 10 feet to the west of the former filter building and a vent pipe was located at the northwest corner of the building. The fill port could not be accessed at the time of the site reconnaissance and the contents of the UST were not determined. Since no documentation or reports regarding the UST

and its contents were identified, KCI concludes it is possible that petroleum or hazardous material exists in the tank, in the tank area, and/or surrounding area.