

6.0 ADJOINING PROPERTY RECONNAISSANCE

Visual observations of adjoining properties (from site boundaries) are summarized below.

Adjoining Properties

Direction	Description
North	3948 Lyndale Avenue South – Sport Star followed by Bev's Coin Laundry 4000 Lyndale Avenue South – 40 th Street South followed by L2
South	Residences
East	3948 Lyndale Avenue South – Lyndale Avenue South followed by residences 4000 Lyndale Avenue South – Lyndale Avenue South followed by a SuperAmerica gasoline station
West	3948 Lyndale Avenue South – Larue's second hand store followed by residences 4000 Lyndale Avenue South – residences

Cursory observations of the adjoining properties identified the former on-site gasoline station, the SuperAmerica gasoline station, and Bev's Coin Laundry as suspect RECs to the site at this time.

7.0 ADDITIONAL SERVICES

Per the agreed-on scope of services specified in the proposal, additional services (e.g., asbestos testing, wetlands evaluation, lead based paint testing, lead in drinking water testing, radon testing, etc.) were not conducted.

7.1 Soil Gas Sampling

7.1.2 Background

The analytical results from soil gas samples collected in March 2007 from soil gas probes advanced during assessment activities associated with former Speedway SuperAmerica Store No. 4396 (LEAK00016679) located at 4000 Lyndale Avenue South in Minneapolis, Minnesota detected elevated concentrations of the chlorinated solvents carbon tetrachloride, chloroform and tetrachloroethene, also known as perchloroethene (PCE). Carbon tetrachloride and chloroform were used in the production of refrigerants. Carbon tetrachloride was also used as a dry cleaning solvent. PCE is a commercial dry cleaning solvent. Carbon tetrachloride concentrations in the soil gas samples collected from soil gas probes SVG-01 [760 micrograms per cubic meter of air (ug/m^3)], SVG-02 ($4,100 \text{ ug}/\text{m}^3$), SVG-03 ($18 \text{ ug}/\text{m}^3$), SVG-04 ($6.9 \text{ ug}/\text{m}^3$), and SVG-05 ($3 \text{ ug}/\text{m}^3$) exceeded the MPCA cancer action level of $0.7 \text{ ug}/\text{m}^3$. Chloroform concentrations in the soil gas samples collected from soil gas probes SVG-01 ($630 \text{ ug}/\text{m}^3$), SVG-02 ($4,900 \text{ ug}/\text{m}^3$), SVG-03 ($22 \text{ ug}/\text{m}^3$), SVG-04 ($3.5 \text{ ug}/\text{m}^3$), and SVG-05 ($10 \text{ ug}/\text{m}^3$) exceeded the MPCA cancer action level of $0.4 \text{ ug}/\text{m}^3$. PCE concentrations in the soil gas samples collected from soil gas probes SVG-01 (56

ug/m³) and SVG-02 (290 ug/m³) exceeded the MPCA cancer action level of 20 ug/m³. The soil gas samples with the highest concentration of carbon tetrachloride, chloroform and PCE were collected from the soil probes advanced just southwest of the former tank basin location (SVG-1) and along the northern property boundary (SVG-2). A chloroform concentration of 72 micrograms per liter (ug/L) was detected in a groundwater sample collected from soil probe GP-01. The groundwater samples collected from the other soil probes (GP-02 through GP-05) were not analyzed for a full suite of volatile organic compounds (VOCs). Analytical results from the soil gas samples collected from soil gas probes SVG-01 and SVG-02 and the groundwater sample from soil probe GP-01 suggest the source of the chlorinated solvent vapor impacts is likely located near the north property boundary or further north of the site. The analytical results from soil gas probe SVG-03 through SVG-05 appear to delineate the chlorinated solvent gas cloud to the east, south and west.

7.1.3 Additional Assessment Activities

On April 21, 2008, Terracon advanced two soil-gas probes to a depth of approximately 6-feet bgs using hand equipment at the site. Soil gas probe SVG-6 was advanced along the northern property boundary near soil gas probe SVG-2 in an attempt to confirm the presence of the chlorinated solvents. Soil gas probe SVG-7 was advanced on the north side of West 40th Street South within a green area along the sidewalk to assess the horizontal extent of the chlorinated solvent vapor cloud to the north of the site and possible source. The soil gas samples were collected in Summa canisters equipped with a flow controller as described in Appendix G. The soil gas samples were analyzed for the MPCA list of VOCs using EPA Method TO-15. The laboratory reports and sample information forms are included in Appendix G.

Low concentrations of a variety of petroleum and non-petroleum related VOCs were detected in the soil gas samples collected at the site. The chlorinated solvents carbon tetrachloride, chloroform, and PCE were not detected in the soil gas samples from soil gas probes SVG-6 and SVG-7, which conflicts with the analytical results from the initial set of soil gas samples collected at the former SuperAmerica station (SVG-1 through SVG-5).

8.0 FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

8.1 Findings and Conclusions

This Phase I Environmental Site Assessment (ESA) of the above-referenced site was performed in accordance with our Work Plan dated March 3, 2008, MPCA Work Order SFTE0829, and in general compliance with the MPCA VIC Program Guidance Document #8 and the consensus document known as ASTM E 1527-00. The site reconnaissance was performed on April 21, 2008 by Joe Conlan and Cate Barrie.

A cursory summary of findings is provided below. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein.

- The site area consists of two parcels: the Former SuperAmerica, located at 4000 Lyndale Avenue South and the Larue's second hand store, located at 3948 Lyndale Avenue South in Minneapolis, Hennepin County, Minnesota. The Former SuperAmerica consists of an approximately 0.25-acre tract of land that has been improved with a former convenience store building. Larue's second hand store consists of an approximately 0.17-acre tract of land that has been improved with a retail building.
- Based on historical review, the Former SuperAmerica parcel has been developed since at least 1908 and Larue's second hand store parcel has been developed since at least 1913. Based on a review of city directories, the site was previously occupied by a bakery, interior decorating business, insurance adjuster, bondsman, meat market residence, photographer, leather repair, apartments, pharmacy, dentist, women's clothing store, and gasoline station. The former gasoline station located at the site is a REC.

Based on a review of the city directories, the adjacent property to the north of 3948 Lyndale Avenue South was utilized as a self service laundry from at least 1967 through 1999. The adjacent property to the west was utilized as a printing facility from at least 1987 through 1999. The adjacent property to the east of 4000 Lyndale Avenue South was utilized as a filling station from at least 1935 through 1993. The historical property uses adjacent to the site appear to constitute a REC in connection with the site at this time.

- The regulatory review identified three RCRA Hazardous Waste Generators, two MN LUST facilities, three UST facilities, three EDR Gas Stations, and two EDR Dry Cleaners facility within the specified search radii. The Former SuperAmerica was identified as a RCRA-CESQG, UST, and LUST facility. EDR has the site listed in their gas station database as a gasoline station from 1940 through 1970. The conditionally exempt small quantity generator disposed of ignitable hazardous wastes, mercury, and benzene. Violations were not found for the generator. Three USTs have been removed from the site, one 6,000-gallon gasoline, one 10,000-gallon gasoline, and one 12,000-gallon gasoline. The LUST (LEAK#16679) was reported in December 2006 during the removal of the three onsite USTs. A closure date was not listed in the EDR Radius Map Report, however, according to the MPCA LUST database, the LUST file was closed in January 2008. Assessment activities conducted at the site are further discussed in Section 3.7.

Triangle Printing, currently Larue's 2 (L2), located at 708 West 40th Street, is adjacent north of the Former Super America and adjacent west of Larue's second hand store. The facility is listed as a conditionally exempt small quantity generator of hazardous waste. The hazardous waste generated was identified as polychlorinated biphenyls (PCBs). Violations were not listed for the facility. Triangle Printing was not observed during the site reconnaissance.

Agitate and Tumble/City Coin Laundry located at 3944 Lyndale Avenue South, are adjacent north of Larue's second hand store. These facilities are listed in EDR's potential historical dry cleaners database as Laundries Self Serve from 1970 through 1999. A coin operated drycleaner is indicated on the City of Minneapolis Permit Card for November 22, 1967. This facility was observed as Bev's Coin Laundry during the site reconnaissance.

Based on regulatory status, distance, and/or topographic position relative to the site, the remaining facilities do not appear to represent a recognized environmental condition (REC) to the site at this time.

- Additional soil gas sampling activities were performed by Terracon for the MPCA. On April 21, 2008, Terracon advanced two soil-gas probes to a depth of approximately 6-feet bgs using hand equipment at the site in an attempt to confirm the presence of chlorinated solvents (SVG-06) and assess the horizontal extent and possible source to the north (SVG-07). Low concentrations of a variety of petroleum and non-petroleum related VOCs were detected in the soil gas samples collected from soil gas probes SVG-06 and SVG-07. The chlorinated solvents carbon tetrachloride, chloroform, and PCE were not detected in the soil gas samples from soil gas probe SVG-6 and SVG-7. The analytical results from the two soil gas sampling events at the Former SuperAmerica station conflict.

8.2 Recommendations

Based on the scope of services, limitations, and findings of this assessment, it appears that the coin operated laundry located at 3944 Lyndale Avenue South is a potential source of the carbon tetrachloride, chloroform, and PCE vapors detected in the soil gas samples collected from soil gas probes SVG-01 through SVG-05 in March 2007. However, carbon tetrachloride, chloroform, and PCE were not detected at or above laboratory reporting limits in the soil gas samples collected in soil gas probes SVG-6 and SVG-7 in April 2008. It is unclear whether the chlorinated solvents detected in the soil gas samples collected from probes SVG-01 through SVG-05 were the result of cross-contamination, poorly cleaned sampling equipment, atmospheric and/or subsurface conditions that may influence soil gas sampling activities and/or analytical results.

Based upon the conflicting results from two sets soil gas samples collected at the site, Terracon recommends that the MPCA consider collecting a second set of soil gas samples for laboratory analysis at the locations of soil gas probes SVG-6 and SVG-7. Terracon also recommends that an additional soil gas sample be collected from the green area east of the Bev's Coin Laundry which the historical records indicate was once a dry cleaner. In addition, Terracon recommends that the MPCA consider advancing soil probes at the three proposed soil gas sampling locations to collect soil and groundwater samples for laboratory analysis for the presence of VOCs since previous assessment activities at the Former SuperAmerica station have had limited soil and groundwater analysis for chlorinated solvents.