



Initial Site Screening (ISS)

Site Name: Metals (Arsenic) - Lillis Lofts

Project Manager: Matt Culp

Date: July 10, 2020

☐ **3931 - Phase II Assessment Review – Brownfield Funded**

Phase II submitted as part of standard real estate development, pre-purchase agreement, or other due diligence, not a part of a community grant project, or

☐ **3837 - Phase II Assessment – Brownfield Grant Funded**

Phase II submitted as part of an EPA grant funded community-wide or targeted assessment project – see Mel Pins if questions on this determination, or

☒ **3321 - Phase II Assessment Review – CERCLA Pre-Remedial Funded**

Phase II submitted that is not part of a real estate transaction

Location: (Decimal Degree format)

Latitude: 42.6295

Longitude: 93.6646

County: Polk

USGS Quadrant: Des Moines NW

Site Size: 1.688

Site Dimension:

☒ Acres

☐ Square Feet

☐ Feet

☐ Square Miles

☐ Miles

Site Alias Name(s): Lot 1 Merle Hey-Aurora Place Plat 2

Congressional District: Iowa 3rd

Grant Recipient Name: NA

Grant Recipient Address: NA

Grant Recipient Phone: NA

Grant Recipient Email: NA

Current

Owner(s): Merle Hay Investors, LLC (Mall Owner) Attn: Elizabeth Holland

Current Owner Address: 30 N. LaSalle Street, Suite 2120 Chicago, IL 60602-2590

If different from current owner:

Responsible Party Name(s): Same

Responsible Party Address: same

Site Street Address or Tier, Range, Section & Subsections (if street address is unknown)

6313 Douglas Avenue Urbandale, Iowa

Directions to site: The site is located at the given address in Des Moines, Iowa

Summarize the site history (past usages, past ownerships, wastes, known or suspected contamination pathways such as tanks, septic tank/tile field, lagoon, land applications, SW burial, etc.)

Site History:

From 1930s until 1973 the site was undeveloped agricultural land. In 1973, the site was developed as a parking lot for the development of the Merle Hey Mall. A preconstruction geotechnical investigation of the site was completed in January 2020 with seven soil borings that were completed to 5 to 20 feet. No evidence of soil contamination was observed. Currently, the site remains a parking lot and access road for the mall. The land use in the vicinity is a mix of residential to the west and commercial to the north, east and south. The site is proposed for redevelopment as a three story residential building with parking to the east of the building.

Recognized Environmental Conditions (REC):

No on-site RECs were reported, however five off-site inactive former leaking underground storage tanks (LUST) sites are identified adjacent to or near the site to the south, southwest and east adjoining properties at 1100 Merle Hey Mall, and at 6310, 6325, 6400 and 6535 Douglas Avenue. All of these LUST sites have received no action required determinations from the Iowa DNR.

Briefly describe the site assessment that was conducted (number of borings, monitoring wells, number of samples, depth of soil samples and monitoring wells, analysis, etc.)

Three soil borings were drilled to a depth of 20 feet and three soil vapor probes were drilled to a depth of 3 feet. Test boring TB-1 was located near the southwest corner of the site to investigate possible contamination from a former gas station and Test boring TB-2 and TB-3 were located along the east side of the property to investigate possible contamination from the former Montgomery Ward auto service center. Three soil vapor probes (VW-1, VW-2 and VW-3) were located within five feet of test borings TB-1, TB-2 and TB-3, respectively. Soil samples were examined as they were collected for the presence of staining and odors. A photoionization detector (PID) was also used to screen soil samples for volatile organic compounds collected at one-foot intervals. No soil staining, unusual odors or PID measurements above background levels were indicated in the other two test borings.

Soil Profile:

Fill was encountered in the three test borings from 6 to 15 feet with buried soil observed below that was underlain by glacial till consisting of gray-green and brown clay with sand and gravel. A slight petroleum odor was noted at sample location TB-2 in the glacial till sediments below a depth of 15 feet. However, no PID readings above background levels or soil staining were noted. Soil samples for metals were collected from each soil boring at a depth of 1 foot. A soil sample for petroleum hydrocarbon and VOC analyses was collected from a depth of 16 feet in TB-2 at the depth where the odor was strongest. The fill encountered in the soil vapor probes (V-1 through V-3) consisted of brown, gray and dark gray clay to sandy clay with trace gravel. The fill in VW-2 was overlain by a 2 foot layer of topsoil consisting of gray and dark brown lean clay with trace sand and roots. The three 20-ft. test borings terminated in glacial till and the three 3-ft. soil vapor probes terminated in the fill. Soil samples were collected from a depth of 16 feet in TB-1 and 12 feet in TB-3 from near the top of the apparent saturated zone. After soil samples we collected the soil borings were converted to temporary monitoring wells.

Analytical Methods:

The soil samples were analyzed for benzene, toluene, ethylbenzene and xylenes (BTEX) by Iowa Method OA-1, total extractable hydrocarbons (TEH) by Iowa Method OA-2, Volatile Organic Compounds (VOCs) by EPA method 8260B, and RCRA metals by EPA Methods 6010B and 7471A. The groundwater samples were analyzed for VOCs by EPA Method 8260B and for total extractable hydrocarbons (TEH) by Iowa Method OA-2. The soil gas samples were analyzed for BTEX by NIOSH Method 1501.

Summarize the findings and conclusions regarding the contaminants found and their extent and concentrations. Relate those values to known criteria such as statewide standards, MCLs, water quality standards, background levels or other benchmarks used to determine site priority.

Soil Findings

- Arsenic, barium chromium and lead were detected in soil at a depth of 1 foot.
- Barium was detected at a maximum concentration of 177mg/kg. The SWS is 15,000mg/kg.
- Chromium was detected at a maximum concentration of 24.5mg/kg and the SWS is 210mg/kg.
- Lead was detected at a maximum level of 54.3 mg/kg and the SWS is 400 mg/kg.
- Arsenic was detected in all three soil borings above the SWS of 1.9mg/kg. The observed levels were 7.9 mg/kg and 6.3 mg/kg and the maximum arsenic detection on the site was 19.1mg/kg all of which exceeds SWS for arsenic of 1.9mg/kg. Additional background soil testing for arsenic was conducted to determine if the observed levels are reflective of background soil levels in the area. Two additional soil sampling locations (TB-4 and TB-5) consisted of two off-site background soil samples plus duplicates (TB-4A and TB-5A) for arsenic from depth of 1 foot. The observed arsenic concentrations from these four samples collected at two off-site locations were 7.2mg/kg, 7.5 mg/kg, 5.5 mg/kg and 6.1 mg/kg respectively. The observed arsenic appear to be generally consistent with background levels in the general vicinity.

Groundwater Findings:

Petroleum hydrocarbons or VOCs were not detected above method detection limits which were set below SWS in groundwater.

Soil Vapor Findings:

BTEX compounds were not detected in the soil vapor.

Identify on-site or off-site potential and actual targets (e.g., municipal wells, private wells, drinking water intakes). What is known of the neighboring area, i.e., are there residences, businesses, public use areas, etc.? Are there utility lines that could be impacted by site contaminants? Identify any other use/location issues that deserve consideration.

Rate the site on a scale of 1 to 4, in decreasing order of severity or priority.

Priority 3: There is an exceedance of SWS for arsenic in soil that may be reflective of background levels

Summarize the reasoning, knowledge or any other information used in determining your recommendation regarding the priority assigned to this site.

Arsenic concentrations in soil exceed SWS however, the site building and parking will cover the majority of the site effectively eliminating potential exposure to site residents. In addition, the site building will have a soil vapor barrier under the footprint of the entire building and a soil fill of several feet on the south end of the property is needed to bring the site up to required grade for construction

Risk Calculations

- A risk calculation for exposure to indoor air was not conducted because the contaminants detected in groundwater are not volatile.
- A risk calculation was also conducted for exposure to arsenic contaminated soil for exposure scenarios for site resident, site worker and construction worker. The maximum concentration of 19.1 mg/kg arsenic was entered into the Iowa LRP Risk Calculator and the site passed for all three human exposure scenarios.

Site recommended for:

- ☒ No further action under CERCLA Pre-Remedial
- ☐ Additional investigation under state program (activity code 2824)
- ☐ Additional investigation under CERCLA (Extended Site Screening)
- ☐ Transfer to LUST/UST

Form Reviewed: _____ **Date Reviewed:** _____