TETRA TECH

PAUL PALLARDY
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December 13, 2017

Mr. Craig Thomas
On-Scene Coordinator
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77 W. Jackson Blvd.
Chicago, Illinois 60604

Subject: **Removal Summary Report (Revision 1)**
Heart of Chicago Removal Site
EPA Contract No. EP-S5-13-01
Technical Direction Document No. S05-0001-1706-002
Document Tracking No. 1861A

Dear Mr. Thomas:

Tetra Tech, Inc. (Tetra Tech) is submitting this Removal Summary Report – Revision 1 for the Time-Critical Removal Action conducted by the Tetra Tech Superfund Technical Assessment and Response Team (START) at the Heart of Chicago Removal site between July 7, 2017, and September 22, 2017. This Removal Summary Report – Revision 1 addresses your comments received on December 1, 2017 on the Removal Summary Report – Revision 0.

START activities included documentation of removal activities, compliance sampling for lead particulates in air, air monitoring for respirable particulates, X-ray fluorescence (XRF) screening of soil in excavation areas, and soil sampling. A summary of removal activities completed is included in this report as well as the results of compliance sampling for lead particulates in air, air monitoring, soil screening with an XRF, and soil sampling.

If you have any questions regarding this report, please contact me at (312) 201-7710 or via e-mail at Paul.Pallardy@tetratech.com

Respectfully,

Paul Pallardy
Project Manager

Enclosure

cc: Kevin Scott, Tetra Tech Program Manager
TDD File

REMOVAL SUMMARY REPORT
FOR
HEART OF CHICAGO REMOVAL SITE
CHICAGO, COOK COUNTY, ILLINOIS

U.S. Environmental Protection Agency
Emergency Response Branch
Region 5
77 W. Jackson Blvd.
Chicago, IL 60604

Submitted by

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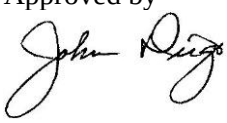
Approved by



John Dirgo
START QC Reviewer

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1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA) tasked Tetra Tech, Inc. (Tetra Tech) to provide support during a time-critical removal action at the Heart of Chicago Removal Site located in Chicago, Cook County, Illinois. As part of removal activities, the Superfund Technical Assessment and Response Team (START) assisted the EPA On-Scene Coordinator (OSC) in overseeing and recording, though photographic documentation and in a site logbook, the site conditions and removal activities related to excavation and disposal of lead-contaminated gravel and soil. Additionally START assisted by:

- X-ray fluorescence (XRF) screening of affected areas;
- Collecting pre- and post-removal work soil samples from the staging area;
- Collecting removal confirmation soil samples from the excavated residential areas;
- Collecting backfill characterization topsoil and gravel samples;
- Documenting restoration of the residential area landscape;
- Collecting air particulate samples for compliance with lead standards;
- Monitoring ambient air conditions during the removal activities.

This work was assigned under START contract No. EP-S5-13-01, Technical Direction Document (TDD) No. S05-0001-1706-002.

START also prepared a site-specific Air Monitoring and Sampling Plan (AMSP) (Tetra Tech 2017b). All START work on site was completed in accordance with the AMSP (Tetra Tech 2017b) and the START Quality Assurance Project Plan (QAPP) (Tetra Tech 2016).

This removal report is organized into the following sections:

- Introduction (Section 1.0) – describes contract information, the objectives and scope of removal activities on site, and the organization of the report.

- Background (Section 2.0) – provides a description of the Heart of Chicago Removal site location, site-specific characteristics, and the background of the site.

- Removal Action Activities (Section 3.0) – documents removal activities conducted by Emergency and Rapid Response Service (ERRS) contractors along with removal oversight provided by START. This section also documents the methods and type of sampling and monitoring performed by START during the removal on site.

- Sampling, XRF Screening, and Monitoring Results (Section 4.0) – provides the results of sampling and monitoring performed by START during the removal on site.

- Removal Summary (Section 5.0) – summarizes the activities completed by ERRS and START contractors during the time-critical removal action. References used in this report appear in Section 6.0.

In addition, this removal report contains seven appendices: figures appear in Appendix A; a photographic documentation log is provided in Appendix B; a copy of logbook scans containing field notes is provided in Appendix C; summary tables 1 through 12 are provided in Appendix D; waste manifest summary table 13 and copies of waste manifests are provided in Appendix E; and environmentally preferred practices used by START are described in Appendix F.

2.0 BACKGROUND

This section describes the site location, and summarizes the site history, including previous site activities and investigations.

2.1 SITE LOCATION AND DESCRIPTION

The Heart of Chicago site consists of 513 acres in Chicago, Illinois (Appendix A, Figure 1). If Harrison Park is excluded, the site consists of 493 acres. The site consists of 21 total residential properties identified for removal. The approximate center of the site is the intersection of West 21st Street and South Wolcott Avenue located at 41°51'14.55"N Latitude and 87°40'24.27"W Longitude. The site is bounded by 16th Street and railroad tracks to the north, Throop Street to the east, South Blue Island Avenue to the south, and South Western Avenue to the west (Appendix A, Figure 2).

2.2 SITE HISTORY

In the summer of 2013, EPA Region 5 tasked Weston Solutions (Weston) with conducting a removal site evaluation of the Harrison Park Reference Area, which is the area currently referred to as the Heart of Chicago site. The purpose of the 2013 removal site evaluation was to delineate the nature and extent of heavy metal contamination in soil in residential properties from present and historical sources of heavy metal air emissions and to evaluate other potential contributing sources. Lead was suspected to be the primary contaminant of concern in surface soil, based on a previous site assessment conducted by EPA in the area. EPA and Weston collected surface soil samples from the Harrison Park Reference Area from a depth of 0 to 6 inches below ground surface (bgs) and subsurface soil samples from a depth of 6 to 24 inches bgs, which were then screened using an Innov-X Alpha Series XRF device. The XRF data averages for the samples collected exceeded the EPA 2013 residential removal management level (RML) for lead in soil of 400 milligram per kilogram (mg/kg). Samples were then submitted to a laboratory for analysis; lead concentrations in surface soil samples collected in the Harrison Park Reference Area ranged from 270 to 3,700 mg/kg. Fine-grained lead concentrations ranged from 450 to 3,600 mg/kg. Average

surface soil lead and fine-grained lead concentrations were 1,390 and 1,620 mg/kg. These averages exceeded the EPA residential soil RML for lead of 400 mg/kg. Concentrations of lead in subsurface soil samples collected in the Harrison Park Reference Area ranged from 140 to 4,300 mg/kg. Concentrations of fine-grained lead in subsurface soil samples ranged from 170 to 5,500 mg/kg. Weston submitted a Site Assessment Report for Pilsen Area Soil Site (revision 3) for the railroad and alley area on April 2, 2014 and a Removal Site Evaluation for Pilsen Soil Assessment Area (revision 2) for the Residential area on November 17, 2014. These reports documented the results of the removal site evaluation conducted Weston in 2013.

In February 2015, the National Environmental Investigations Center (NEIC), a division of EPA, released a report with its findings of a study that compared residential soil contamination and potential contamination sources for the Pilsen area in the Pilsen Neighborhood of Chicago, Illinois. NEIC used scanning electron microscopy and energy dispersive X-ray spectrometry (SEM/EDS) analysis, lead isotope analysis, and elemental analysis results for its comparisons and correlations. The Pilsen area is adjacent to and east of the Heart of Chicago site. The NEIC report also compared residential soil contamination and potential contamination sources for the Heart of Chicago site. NEIC referred to the Heart of Chicago site as the Harrison Park Reference area in the report. The NEIC conclusions of note were (1) non-industrial lead from leaded paint historically used on homes and buildings in the Pilsen area was not a dominant source of lead in the Harrison Park Reference Area soils; (2) vehicle exhaust from the historical use of leaded gasoline was not a dominant source of lead in the Harrison Park Reference Area soils; and (3) the predominant morphology (angular), size (1s–100s micrometer), and composition of lead bearing particles in the Harrison Park Reference Area soils were consistent with slag material from an industrial source (not leaded gasoline emissions or leaded paint). However, NEIC stated in the report that the predominant relative spectral responses of copper, lead, and zinc in these lead-bearing particles were not characteristic of brass and bronze foundry slag compositions (NEIC 2015).

From October 14, 2015, to February 1, 2016, EPA and START personnel performed a removal assessment at the Heart of Chicago site that included collecting 180 soil samples from 39 soil borings at 10 of the 11 Heart of Chicago-Harrison Park Potential Source Area properties. Access to Property 6 was denied, and this property was not sampled. The subsurface soil samples were collected up to 12 feet bgs and submitted to a laboratory for analysis of Target Analyte List (TAL) metals and tin. START also submitted the 2013 residential soil samples collected and analyzed by Weston to a laboratory for re-analysis for the full TAL metals and tin. The re-analysis was conducted to obtain a full data set to conduct statistical analysis for potential correlations between the residential soil sample results and results for source area property samples. After receiving results of TAL metals and tin analysis, scanning

electron microscopy, and energy dispersive X-ray spectrometry, EPA and START compared the results and conducted statistical analysis. EPA and START concluded that the contamination found in the potential source areas could not be directly linked to the contamination found in the residential areas. However, the contamination in the residential areas poses a risk for potential exposure and is a threat to human health and the environment (Tetra Tech 2017a). The conditions at the Heart of Chicago-Harrison Park Soils Site present a threat to the public health or welfare and the environment and meet the criteria for a time-critical removal action, as provided for in the National Contingency Plan (NCP), 40 Code of Federal Regulations (CFR) § 300.415(b)(2).

3.0 REMOVAL ACTION ACTIVITIES

This section describes the removal activities conducted by EPA's ERRS contractors and overseen by START at the Heart of Chicago site from July 17, 2017, through September 22, 2017. This section also describes activities conducted by START including sample collection before, during, and after the removal work, XRF screening during the removal work, and monitoring activities that took place during the removal work.

3.1 REMOVAL OVERSIGHT

CMC, Inc. (CMC) and Environmental Quality Management (EQM) served as the ERRS contractors on site. START assisted EPA by:

- Collecting pre- and post-removal work soil samples from the staging area;
- Collecting backfill samples;
- Documenting pre-removal property conditions;
- Conducting compliance monitoring during removal activities;
- Conducting air monitoring during removal activities;
- Documenting the progress of removal work with photographs and field notes (a photographic documentation log is provided in Appendix B, and logbook scans containing field notes are provided in Appendix C);
- Performing XRF screening during removal work in excavated areas;
- Collecting soil samples for lead bioavailability analysis;
- Performing post-excavation confirmation soil sampling.

CMC and EQM served as the removal contractors and conducted the following:

- Scheduled utility locates for properties before removal work;
- Pre-removal property condition surveys;
- Landscape removal;

- Soil excavation;
- Excavated soil disposal;
- Backfilling;
- Property landscape restoration.

The initial scope of work for the Heart of Chicago remediation project included 21 residential properties. Through site walks, it was determined that no removal work was necessary at two properties, as they had engineered barriers of brick and concrete (properties #6 and #18). Access for removal work was withdrawn from the owner of one property (property #7). EPA did not receive responses for access to conduct removal work from three properties (properties #5, #11, and #13). From July 17, 2017, through September 22, 2017, the ERRS contractors: (1) grubbed the staging area of vegetation; (2) received, spread, and graded gravel over the staging area; (3) constructed a stock pile pad for excavated material; (4) constructed a dewatering pad for equipment decontamination; (5) parked a site trailer in the support zone that served as the site offices for EPA and START and a site trailer for ERRS during the removal activities; (6) removed property landscaping in areas that required excavation; (7) completed excavation of lead-impacted soil at 15 properties based on sample results, the removal plan, and XRF screening conducted by START; (8) coordinated disposal of approximately 780 cubic yards of lead-contaminated soil at the Laraway Landfill located 21233 West Laraway Road, Joliet, Illinois 60436; and (9) restored properties to pre-removal conditions.

3.2 REMOVAL TIMELINE

A timeline was generated to represent removal actions at each residential property. The timeline provides a brief overview of the activities ERRS and START performed (excavation, backfill, and sampling) during the removal action. The timeline is provided in Table 1 of Appendix D.

3.3 XRF SCREENING

START performed XRF screening with an Innov-X Delta Series XRF device. XRF screening was conducted as a means of quickly measuring the lead concentration in the soil to guide the removal work by ERRS contractors. XRF screening was conducted approximately every 0.5 foot of vertical depth of excavation. ERRS contractors continued to remove soil in 0.5-foot increments until XRF screening indicated lead concentrations below the removal goal 400 mg/kg, the EPA residential RML. START conservatively used a lead concentration of 290 mg/kg during XRF screening to determine that soil at the bottom of the excavations met removal goals. If XRF screening indicated lead concentrations above 290 mg/kg, ERRS contractors continued removal work to 2 feet bgs. If XRF screening indicated lead

concentrations below 290 mg/kg, removal work could stop prior to 2 feet bgs and START collected a composite soil sample the bottom of the excavation.

START conducted and documented XRF screening locations, depths, and concentrations at all 15 properties where removal work was conducted.

3.4 SAMPLING ACTIVITIES

Over the course of the removal action, START conducted the following sampling as requested by the EPA OSC: pre-removal composite soil samples from the staging area; composite soil samples for lead bioavailability (each accessible property); post-excavation confirmation composite soil samples; backfill topsoil and gravel samples; a composite sample of soil to be excavated for waste characterization; post-removal composite soil samples from the staging area; and air monitoring and air samples. All samples were collected, shipped, and analyzed in accordance with the site-specific AMSP (Tetra Tech 2017b).

3.4.1 Staging Area Soil Sampling

On July 17, 2017, START collected seven composite soil samples (HOC-SAS-PRE-001 through HOC-SAS-PRE-006), including one duplicate (HOC-SAS-PRE-002-D) within the boundaries of the area to be used as a staging area for the removal activities. This sampling was completed before ERRS prepped the area for use as a staging area and for temporary storage of contaminated material removed from the excavation areas for off-site disposal. The objective of this composite sampling was to establish a baseline of metals concentrations (primarily lead) in the soil already in place at the staging area to ensure that temporary staging of excavated soil and truck loadout with excavated soil for off-site disposal did not affect the staging area. An additional composite sample (HOC-SAS-PRE-007) was collected from the staging area on July 19, 2017. Sample HOC-SAS-PRE-007 was collected from the sand brought on site by ERRS contractors and used at the bottom of the soil stockpile pad constructed by the ERRS contractors for temporary storage of impacted material. Samples were collected as five-point composite surface soil samples. The composite samples and points of the composite were evenly distributed throughout the staging area. Figure 3 in Appendix A provides pre-removal staging area composite sample locations. Each of the eight samples were shipped to CT Laboratories in Baraboo, Wisconsin, for analysis of TAL metals.

EPA obtained access from the owner, the City of Chicago, to use the lot located on the southeast corner of the intersection of South Blue Island Avenue and South Hoyne Avenue as a staging area. When access was obtained, the City of Chicago notified EPA that historical sample results from the area had indicated elevated levels of polycyclic aromatic hydrocarbon (PAHs). The EPA OSC therefore

requested that START collect a separate set of composite soil samples from the staging area to be analyzed for PAHs. The purpose of the additional staging area composite sample collection was to delineate which areas were impacted with PAHs and to determine if these areas could be avoided. On July 21, 2017, START collected six composite soil samples (HOC-SASP-PRE-001 through HOC-SASP-PRE-005), including one duplicate (HOS-SASP-001-D) within the boundary of the staging area. Composite sample points for samples HOC-SASP-PRE-001 to HOC-SASP-PRE-005 matched the composite sample points of samples HOC-SAS-PRE-001 to HOC-SAS-PRE-005. Figure 3 in Appendix A provides pre-removal staging area composite sample locations.

Sample HOC-SASP-PRE-008 was collected separately as a five-point composite sample from a pile of soil on the north side of the staging area placed by ERRS after scrapping off a concrete slab. All seven samples were shipped to CT Laboratories in Baraboo, Wisconsin, for PAH analysis

START conducted post-removal sampling of the staging area once removal at all properties had been completed and all impacted materials were transported off site to the landfill from the soil stockpile pad. Post-removal composite samples were collected at the staging area to confirm that the area was not contaminated by removal action activities. On September 15, 2017, START collected six composite confirmation soil samples of the staging area (HOC-SAS-POST-001 through HOC-SAS-POST-005) including a duplicate sample (HOC-SAS-POST-005-D). Composite sample points for samples HOC-SAS-POST-001 to HOC-SAS-POST-005 matched the composite sample points of samples HOC-SAS-PRE-001 to HOC-SAS-PRE-005. Each of the six samples were shipped to Microbac in Marietta, Ohio, for analysis of total lead. Figure 4 in Appendix A provides post-removal staging area composite sample locations.

No post-removal sample was collected from the sample location for HOC-SAS-PRE-006 and HOC-SAS-PRE-007. HOC-SAS-PRE-006 was collected from the soil on top of concrete that would be beneath the soil stockpile pad. The soil on top of concrete beneath the soil stockpile pad was removed when the soil stockpile pad was dismantled and the materials were loaded to trucks and hauled off site for disposal. HOC-SAS-PRE-007 was collected from the sand ERRS brought on site for construction of the soil stockpile pad, which was also removed when the soil stockpile pad was dismantled and the materials were loaded to trucks and hauled off site for disposal. Therefore, no material remained on site to sample after removal activities had been completed at the locations of HOC-SAS-PRE-006 and HOC-SAS-PRE-007.

3.4.2 Backfill Sampling

Following removal work, ERRS backfilled the excavated areas with clean soil to cap any impacted soil remaining beneath. If impacted soil remained, ERRS placed a demarcation barrier at the bottom of the excavation. Backfilling with clean soil with a demarcation barrier was done to eliminate the possibility of contact exposure to lead-impacted soil and reduce potential future exposure risks. ERRS also backfilled the excavated areas with gravel if the property contained gravel before the excavation work. After they were backfilled, excavated areas were also covered with sod and otherwise restored to their pre-excavation conditions per the pre-removal agreements made with property owners.

Composite samples of backfill materials were collected from the supplier to assess for use at residential properties. Three backfill soil samples and one recycled backfill gravel fines sample (HOC-BACKFILL-01-072517, HOC-BACKFILL-02-072617, HOC-BACKFILL-03-072617, and HOC-BACKFILL-04-080317) were submitted to CT Laboratories for analysis of TAL metals, cyanide, polychlorinated biphenyls (PCBs), semivolatile organic compounds (SVOCs), pesticides, herbicides, percent moisture, and pH. Discrete samples of backfill materials were collected for analysis of volatile organic compounds (VOC). START also collected a sample of fines from the quarry backfill gravel (HOC-BACKFILL-05-083017) which was submitted to ALS Group USA, Corp. (ALS) for the same analyses. Analysis was to ensure that the backfill soil and gravel met residential standards.

3.4.2.1 Backfill – Topsoil

Three potential backfill soil sources were identified. On July 25, 2017, START collected a five-point composite sample from the first backfill soil source labeled sample ID HOC-BACKFILL-01-072517.

On July 26, 2017, START collected five-point composite samples from the second and third backfill soil sources at their respective distribution locations, sample IDs HOC-BACKFILL-02-072617 and HOC-BACKFILL-03-072617 respectively.

3.4.2.2 Backfill – Gravel

The gravel brought on site by ERRS and used for the staging area was recycled gravel. The extra recycled gravel fines were sampled as a five-point composite by START on August 3, 2017, sample ID HOC-BACKFILL-04-080317.

ERRS also brought quarry gravel on site as a second source of backfill material. The quarry gravel fines were sampled as a five-point composite by START on August 30, 2017, sample ID HOC-BACKFILL-05-083017.

3.4.3 Excavation Confirmation Sampling

The objective of collecting confirmation soil samples in the excavation areas was to confirm that soil remaining at excavated properties at depths less than 2 feet bgs contained lead at concentrations below the EPA residential RML of 400 mg/kg. Additional excavation to 2 feet bgs was not necessary at all properties because XRF screening indicated lead concentrations in soil below the EPA residential RML at depths less than 2 feet bgs. After XRF screening at six of the 15 excavated properties, START collected composite samples in areas where excavation work was not continued to 2 feet bgs. START collected eight composite excavation confirmation soil samples from the bottom of the excavation, sample IDs HOC-ECS-001 through HOC-ECS-008. The excavation confirmation samples were collected between July 3, 2017, and September 21, 2017, at properties #3, #4, #14, #17, #19, and #21. Based on XRF screening during excavation, lead concentrations at properties #1, #2, #8, #9, #10, #12, #15, #16, and #20 were detected above the EPA residential RML and excavation was continued to the full depth of 2 feet bgs. The property identification (ID) numbers for all removal properties as well sample IDs, and sample locations for all excavation confirmation samples are provided in Table 1 of Appendix D.

3.4.4 Waste Characterization Sampling

At the request of the EPA OSC, START collected a composite soil sample from material to be excavated for the ERRS contractor. The composite sample was collected as a waste characterization sample. After the sample was collected, sample custody was turned over to the ERRS contractor for shipment to its subcontracted laboratory for analysis. The analysis of the waste characterization sample for required off-site disposal characteristics was coordinated by the ERRS contractor with Laraway Landfill. The objective of the waste characterization sample was to ensure the excavated materials met the applicable federal regulatory limits specified in 40 CFR Part 261, Section 24, and toxicity characteristics. If concentrations exceeded applicable regulatory levels, the excavated soil would be disposed of at a licensed landfill as hazardous waste.

3.4.5 Lead Bioavailability Sampling

The EPA Region 5 Superfund Division long-term cleanup program requested that the Emergency Response and Removal Program overseeing the Heart of Chicago Removal site work collect soil samples for lead bioavailability analysis at the properties identified for removal work. The lead bioavailability analysis was requested for future study and assessment of the lead-impacted soil in the Heart of Chicago Removal area. The EPA OSC requested that START collect the samples from the properties identified for removal before removal work began at each property. The EPA OSC indicated that the samples should be collected from 6 inches bgs as composites following the same composite sample locations from the 2013 assessment conducted by Weston if possible. Samples were collected and packaged by START, and dropped off in person under chain of custody by the EPA OSC or START at the EPA Region 5 Chicago Regional Lab (CRL) located at 536 South Clark Street, Chicago, Illinois 60605. Seventeen composite samples for lead bioavailability analysis were collected from the 15 properties identified for removal work, sample IDs HOC-LBS-001 through HOC-LBS-017. The property IDs, sample IDs, and sample locations for lead bioavailability samples are provided in Table 2 of Appendix D.

3.4.6 Particulate and Compliance Monitoring and Sampling

During removal activities, START conducted real time air monitoring for respirable dust particulates at the staging area and at the removal properties. START also conducted compliance sampling for lead particulates in air. START conducted particulate and compliance monitoring to ensure that respirable dust particulates were not migrating off site and that levels of respirable dust particulate and lead particulates in air did not exceed the protection criteria of the personal protective equipment (PPE) worn by the workers on site.

3.4.6.1 Particulate Monitoring Activities

Two air monitoring stations were positioned at the staging area daily during the removal work activities. The two air monitoring station locations were initially placed based on the daily predominant wind direction. However, at the request of the EPA OSC, one air monitoring station was permanently placed where excavated material was loaded out at the staging area near the excavated soil stockpile pad on the south side of the western portion of the staging area. The one other air monitoring station was permanently placed near the only potential residential off-site dust particulate exposure of the bus stop on the north side of the western portion of the staging area (Appendix A, Figure 5). Real time air monitoring for airborne particulates was conducted using TSI DustTrak II instruments. Data from the particulate

monitors were continuously transmitted at 1-minute intervals to EPA's VIPER Survey Controller located at the command post. Data were also downloaded manually from the two TSI DustTrak II instruments and compiled. START periodically checked the physical condition of the equipment to ensure proper operation and data collection. Air monitoring with the TSI DustTrak II instruments for respirable dust particulates was not conducted on days with rainy weather.

Air monitoring in the vicinity of the residential excavation work was conducted using a Thermo Scientific pDR-1500 instrument (pDR). Air monitoring was conducted by attaching the pDR to a fixed location downwind of the excavation work. START personnel periodically checked the air monitoring readings on the pDR and logged the readings in the field logbook. START also periodically checked the physical condition of the equipment to ensure proper operation and data collection. Data from particulate monitoring with the pDR downwind of the excavation work were downloaded from the instrument and compiled.

START reviewed the air monitoring data collected daily. No irregularities or problems occurred during the air monitoring for this project.

An action level of half the permissible exposure limit (PEL) for respirable dust particulates of 2.5 milligrams per cubic meter (mg/m^3) as a running 5-minute time weighted average (TWA) was established for the site. This action level was based on a calculation including the highest observed concentrations of TAL metals (primarily lead) in soil samples collected from the site. The project-specific action level is a protection measure used to prevent potential exposure to contaminants that could become airborne during remediation. Accordingly, perimeter concentrations above 2.5 mg/m^3 respirable dust particulates would require the responses outlined in the AMSP. To be protective, the AMSP assumed that perimeter concentrations above half the action level or 1.25 mg/m^3 respirable dust particulates exceeded an Interim Response Alert Level, requiring interim responses.

In addition, because of the elevated lead concentrations detected in the soil at property #12 during the assessment by Weston in 2013, START established a property-specific action level of 1.2 mg/m^3 while removal work was conducted at this property. Previous sampling results indicated a lead concentration of 18,100 mg/kg at property #12 compared with the next highest observed property lead concentration of 3,700 mg/kg. It was determined necessary to establish a separate action level for this property based on the difference in lead concentrations compared with other properties on site. No irregularities or problems occurred during air monitoring or removal work performed at property 12.

3.4.6.2 Compliance Sampling Activities

The primary COC at the site is the Occupational Safety and Health Administration (OSHA) regulated substance, lead. In accordance with OSHA regulations at 29 CFR 1910.1025(d)(2) for lead, initial personal air sampling was to be performed for employees who are or may reasonably be expected to be exposed to airborne concentrations at or above the OSHA PEL for lead of 50 micrograms per cubic meter ($\mu g/m^3$) over an 8-hour shift. The site-specific action level was set to half the PEL or 25 $\mu g/m^3$ over an 8-hour shift.

START conducted personal air sampling during the first 3 days of removal work on site from Monday, July 31, 2017, to Wednesday, August 2, 2017. Air sampling was conducted by attaching GilAir5 air sampling pumps equipped with 37 millimeter (mm) mixed cellulose ester (MCE) cassette filters onto the ERRS contractor driver, laborer, and operator. These three personnel were identified to have the highest potential for encountering airborne dust containing lead.

During air monitoring at the staging area, START attached a GilAir5 air sampling pump with a 37 mm MCE cassette filter to the northern air monitoring station by the bus stop for a collocated lead in air particulate sample. During air monitoring at the removal properties downwind of the excavation work, START also attached a GilAir5 air sampling pump with a 37 mm MCE cassette filter as close as possible to the downwind air monitoring pDR for a collocated lead in air particulate sample. If a respirable dust particulate exceeded the action level during the day, START would submit the MCE cassette filters for that day to a laboratory for total lead analysis.

When removal work was conducted at property #12, START conducted an additional 2 days of personal air sampling (Wednesday, September 13, 2017, and Thursday, September 14, 2017). START conducted the air sampling by attaching GilAir5 air sampling pumps equipped with 37 mm MCE cassette filters to a fixed location in a downwind area of the excavation as well as to a fixed location downwind on the perimeter of the excavation. The downwind area of the excavation was an area identified as having the highest potential for encountering airborne dust containing lead.

Compliance monitoring with the GilAir5 air sampling pumps was conducted in accordance with the site-specific AMSP (Tetra Tech 2017b).

4.0 SAMPLING, XRF SCREENING, AND MONITORING RESULTS

Results of all sampling and monitoring activities by START are provided and discussed in this section separately by sampling and monitoring activity type. Final laboratory data packages were submitted to START chemists for validation. Validated data results were submitted separately to EPA as final Data Validation Reports (DVRs) under separate Document Tracking Numbers (DTNs). Validated data qualifiers have been included on all summary tables in Appendix D of this report.

4.1 STAGING AREA SOIL SAMPLING RESULTS

Results of the composite soil samples collected during pre-removal work from the staging area for analysis of TAL metals indicated a thallium concentration in sample HOC-SAS-PRE-002-D exceeded the EPA residential Regional Screening Levels (RSL). Since the staging area is in an industrial area and no backfill soil was planned to be stored in the grass area in the vicinity of HOC-SAS-PRE-002-D, it was not necessary to address this result. Some TAL metal in the remaining seven pre-removal work composite soil samples were detected above background concentrations listed in Illinois Environmental Protection Agency (IEPA) Tiered Approach to Corrective Action (TACO); however, concentrations did not exceed EPA industrial or residential RSL. IEPA TACO inorganic chemical background concentrations are provided in the IAC Title 35, Part 742 (Appendix A, Table G). The background concentrations are specific to counties within metropolitan statistical areas of Illinois which includes Cook County. The EPA RSLs were developed by EPA risk assessors for exposure to analytes by likely exposure pathways. Results for TAL metals in pre-removal work composite soil samples are provided in Table 3 of Appendix D.

Results of the pre-removal work composite soil samples collected from the staging area for PAH analysis indicated EPA industrial RSLs were exceeded throughout the staging area. Concentrations of benzo(a)pyrene in samples HOC-SASP-PRE-001 through HOC-SASP-PRE-005 including HOC-SASP-PRE-001-D exceeded the EPA industrial RSL, ranging from 2.95 to 21.5 mg/kg. The highest benzo(a)pyrene concentration was detected in sample HOC-SASP-PRE-004. Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene were all detected in sample HOC-SASP-PRE-004 at concentrations above the EPA industrial RSL. The only pre-removal composite sample without PAH concentrations above EPA industrial RSLs was HOC-SASP-PRE-008. It was determined that avoiding areas within the staging area impacted with PAHs would not be possible. Instead, the ERRS contractor covered the area where work would occur with a layer of gravel to prevent contacting and spreading PAHs. After removal work was complete, the gravel layer was left in place at the request of the City of Chicago, the property owner. IEPA TACO PAHs background concentrations

are provided in the IAC Title 35, Part 742 (Appendix A, Table G). The background concentrations are specific to the City of Chicago. The EPA RSLs were developed by EPA risk assessors for exposure to analytes by likely exposure pathways. PAH results for composite soil samples collected during pre-removal work are provided in Table 4 of Appendix D.

Post-removal work composite soil samples collected from the staging area were analyzed only for total lead as the primary contaminant of concern on site; results of TAL metal analysis of the pre-removal work composite samples did not indicate any metal concentrations above EPA industrial or residential RSLs (with the exception of thallium in one sample). The EPA RSLs were developed by EPA risk assessors for exposure to analytes by likely exposure pathways. Results of the post-removal work composite soil samples indicated two samples with lead concentrations higher than the pre-removal work composite soil samples. Sample HOC-SAS-POST-003 had a lead concentration of 343 mg/kg, which is below the EPA residential RSL of 400 mg/kg. Sample HOC-SAS-POST-002 had a lead concentration of 552 mg/kg, which is above the EPA residential RSL but below the industrial RSL. Results for total lead in the post-removal work composite soil samples compared with pre-removal work composite soil samples total lead results are provided in Table 5 of Appendix D.

Because the lead concentration in this area exceeded the action level, START conducted XRF screening at each composite sample points of HOC-SAS-POST-002. Point SA-002E was the only composite sample point with a lead concentration above the EPA residential RSL (Figure 4 Appendix A). START utilized the XRF to further delineate the area of lead-impacted soil and determined the area to be approximately 6 by 6 feet around composite point SA-002E. The ERRS contractor excavated this part of the staging area to 1 foot bgs, and START XRF screening indicated a lead concentration below the EPA residential RSL. The ERRS contractor backfilled this part of the staging area with quarry gravel. START did not conduct XRF screening of composite sample points of HOC-SAS-POST-003 as the lead concentration was below the EPA residential RSL. No additional sampling was conducted, because ERRS contractors did not use the area in the vicinity of HOC-SAS-POST-002 and HOC-SAS-POST-003 for removal equipment storage or excavated soil storage.

4.2 BACKFILL SAMPLING RESULTS

Composite samples of backfill materials were collected from the supplier to assess suitability for use at residential properties. Three backfill soil samples and one recycled backfill gravel fines sample (HOC-BACKFILL-01-072517, HOC-BACKFILL-02-072617, HOC-BACKFILL-03-072617, and HOC-BACKFILL-04-080317) were submitted to CT Laboratories for analysis of TAL metals, cyanide, PCBs, SVOCs, pesticides, herbicides, percent moisture, and pH. Discrete samples of backfill materials were

collected for analysis of VOCs. An additional quarry backfill gravel fines sample (HOC-BACKFILL-05-083017) was submitted to ALS for the same analysis.

The objective of the backfill soil sampling was to ensure that the soil used to backfill excavation areas met IEPA TACO for residential soil listed in IAC Title 35, Part 742 (Appendix B, Table A). Sample results were also compared with EPA residential RSLs and the Illinois Maximum Allowable Concentration (MAC) standards for fill material. Backfill soil and gravel used on site met these criteria with the exception of the recycled gravel backfill as described below. Sample results are provided in Tables 6 – 10 in Appendix D.

The recycled backfill gravel was primarily used for cover at the staging area. The concentrations of benzo(a)anthracene and benzo(b)fluoranthene in a sample of this material (sample HOC-BACKFILL-04-080317) were slightly above the EPA residential RSLs and the Illinois MACs. Because a small amount of this recycled gravel had been used as backfill at property #19, START collected a five-point composite confirmation sample (HOC-CGRS-001) from the backfilled area on August 15, 2017. The composite sample points were randomly selected. The concentrations of benzo(a)anthracene and benzo(b)fluoranthene in the sample collected from property #19 were below EPA residential RSLs and Illinois MACs. The results for recycled backfill gravel samples are provided in Table 9 of Appendix D.

4.3 XRF SCREENING RESULTS

At six of the 15 properties, the use of XRF screening allowed the ERRS contractors to stop excavation prior to 2 feet bgs when lead concentrations were detected below 290 mg/kg. A detailed log of the XRF results for each property is provided in Table 11 of Appendix D.

4.4 EXCAVATION CONFIRMATION SAMPLING RESULTS

Following XRF screening at six of the 15 excavated properties, START collected composite samples in areas where excavation work was not continued to 2 feet bgs. START collected eight composite excavation confirmation soil samples from the bottom of the excavation areas, sample IDs HOC-ECS-001 through HOC-ECS-008. The excavation confirmation samples were collected between July 3, 2017, and September 21, 2017, at properties #3, #4, #14, #17, #19, and #21. Lead concentrations in sample HOC-ECS-001 through HOC-ECS-008 were all below the EPA residential RML for lead of 400 mg/kg and ranged from 20.1 to 361 mg/kg. The property IDs, sample IDs, sample locations, and total lead results for all excavation confirmation samples are provided in Table 12 of Appendix D.

4.5 WASTE CHARACTERIZATION SAMPLING RESULTS

START collected a composite soil sample from material to be excavated for the ERRS contractor. The objective of the excavated material sample was to ensure the excavated materials met the applicable federal regulatory limits specified in 40 CFR Part 261, Section 24, and Toxicity Characteristics. After the sample was collected, the sample custody was turned over to the ERRS contractor for shipment to its subcontracted laboratory for analysis of off-site disposal characteristics. Analysis of the composite soil sample for waste characterization indicated that the soil to be excavated was nonhazardous.

4.6 LEAD BIOAVAILABILITY SAMPLING RESULTS

START collected 17 composite soil samples for analysis of lead bioavailability from the 15 properties identified for removal work, sample IDs HOC-LBS-001 through HOC-LBS-017. Lead bioavailability was analyzed by the EPA Region 5 CRL. A copy of the lead bioavailability analysis results were provided to START and the EPA OSC as well as the EPA Region 5 Superfund Division long-term cleanup program. A copy of the lead bioavailability analysis results is not provided with this report, as the sampling and analysis was requested by the EPA Region 5 Superfund Division long-term cleanup program. The analysis was conducted for future study and assessment of the lead-impacted soil in the Heart of Chicago Removal site area and is not applicable to the removal work conducted at the Heart of Chicago Removal site. The property IDs, sample IDs, and sample locations for lead bioavailability samples are provided in Table 2 of Appendix D.

4.7 PARTICULATE MONITORING RESULTS

The action level for particulate monitoring was set for this site at 2.50 mg/m^3 for respirable dust particulates as a 5-minute TWA. An Interim Response Alert Level was also set for this site at 1.25 mg/m^3 for respirable dust particulates as a running 5-minute TWA. A property-specific action level of 1.20 mg/m^3 for respirable dust particulates as a running 5-minute TWA was set for removal work at property #12. During the removal activities, no respirable particulate concentration that exceeded action levels were observed at any of the air monitoring stations at the staging area or at removal properties. A copy of all air monitoring data has been downloaded to the site file.

4.8 COMPLIANCE SAMPLING RESULTS

The primary COC at the site is the OSHA regulated substance, lead. In accordance with OSHA regulations at 29 CFR 1910.1025(d)(2) for lead, initial personal air sampling was performed for employees who are or may reasonably be expected to be exposed to airborne concentrations at or above

the OSHA PEL for lead of 50 µg/m^3 over an 8-hour shift. The site-specific action level was set to half the PEL or 25 µg/m^3 over an 8-hour shift.

START conducted personal air sampling during the first 3 days of removal work on site from Monday, July 31, 2017, to Wednesday, August 2, 2017. These three personnel were identified to have the highest potential for encountering airborne dust containing lead. During this sampling period, START collected nine samples (HOC-PAS-001 to HOC-PAS-009) for analysis of lead particulates in air. Lead was not detected above the reporting limit which ranged from 0.79 µg/m^3 to 1.1 µg/m^3 in all nine samples.

When removal work was conducted at property #12, START conducted an additional 2 days of personal air sampling (Wednesday, September 13, 2017, and Thursday, September 14, 2017). During this additional compliance sampling period, START collected four samples for analysis of lead particulates in air. Concentrations of lead in all four samples were below the site-specific action level for the site of half the PEL or 25 µg/m^3 over an 8-hour shift.

HOC-LPS-PROP12-PERM-001 was collected at the downwind perimeter location on September 13, 2017, and contained lead at a concentration of 0.470 µg/m^3. HOC-LPS-PROP12-EX-001 was collected at the downwind location in the excavation area on September 13, 2017, and contained lead at a concentration of 1.01 µg/m^3. HOC-LPS-PROP12-PERM-002 was collected at the downwind perimeter location on September 14, 2017, and contained lead at a concentration of 0.608 µg/m^3. HOC-LPS-PROP12-EX-002 was collected at the downwind location in the excavation area on September 14, 2017, and contained lead at a concentration of 0.401 µg/m^3.

During the removal activities, no respirable particulate concentration that exceeded action levels were observed at any of the air monitoring stations at the staging area or at removal properties. As a result, START did not submit any of the collocated air monitoring samples collected with MCE cassette filters to a laboratory for analysis of total lead.

4.9 EQUIPMENT RINSATE BLANK RESULTS

START collected equipment rinsate blank samples during soil sampling at a rate of approximately 1 per 20 samples in accordance with the site-specific AMSP (Tetra Tech 2017b). Three equipment rinsate blank samples were collected during sample collection at the Heart of Chicago Removal site. The equipment rinsate blank samples (HOC-EB-001, HOC-EB-002, and HOC-EB-003) did not contain lead at detectable concentrations. These results indicate that cross contamination of lead from sample to sample did not occur during sample collection at the Heart of Chicago Removal site.

4.10 ADDITIONAL SAMPLE RESULTS

On August 8, 2017, the EPA OSC requested that START collect a composite sample from the soil area in the front yard of property #16 to confirm whether the soil area was impacted with lead at concentrations above removal goals. The front yard of property #16 had undergone development since the assessment sampling conducted by Weston in 2013. The soil area was under the raised concrete landing on the west side of the front yard. The soil sample was collected as a five-point composite from the 0- to 6-inch bgs interval. The composite sample points were evenly spaced. The sample was labeled HOC-CSS-001 and shipped to CT Laboratories for analysis of total lead. The concentration for total lead detected in sample HOC-CSS-001 was 997 mg/kg. The result was validated and qualified with a J qualifier, meaning that lead was positively identified in the sample but the associated value is an approximate concentration. The result of 997 mg/kg was above the EPA residential RML for lead; therefore, lead-impacted soil was removed from property #16.

5.0 REMOVAL SUMMARY

The removal action at the Heart of Chicago Removal site located in Chicago, Cook County, Illinois began on July 17, 2017, and was completed on September 22, 2017. The EPA OSC oversaw the activities conducted by Tetra Tech START and the ERRS contractors through the duration of the removal action.

During removal activities START conducted real time air monitoring for respirable dust particulates at the staging area and at the removal properties. START also conducted compliance sampling for lead particulates in air. START conducted particulate and compliance sampling to ensure that respirable dust particulates were not migrating off site and that respirable dust particulate and lead particulate in air levels did not exceed the protection criteria of the PPE worn by the workers on site. During the removal activities, respirable particulate concentrations at the site perimeter were below the property-specific action level of 1.2 mg/m^3 as a 5-minute TWA at property #12 and below the Interim Response Action level of 1.25 mg/m^3 as a 5-minute TWA at all times for all other monitoring areas on site. None of the 13 OSHA compliance samples collected by START exceeded the site-specific action level for lead particulates in air of 25 half the PEL or 25 $\mu g/m^3$ over an 8-hour shift.

From July 17, 2017, to September 19, 2017, START collected eight pre-excavation samples of the staging area, three backfill topsoil samples, two backfill gravel samples, eight post-excavation property confirmation samples, six post-excavation samples of the staging area, one confirmation soil sample, one confirmation gravel sample, and three equipment rinsate blank samples. START collected one waste

characterization sample for the ERRS contractors. START also collected 17 samples for analysis of lead bioavailability for the EPA Region 5 Superfund Division long-term cleanup program.

Initially the scope of this project included 21 residential properties in the area known as "The Heart of Chicago." Through site walks, it was determined that no removal work was necessary at two properties, as they had engineered barriers of brick and concrete (properties #6 and #18). Access for removal work was withdrawn from the owner of one property (property #7). EPA did not receive responses for removal work access from three properties (properties #5, #11, and #13). The project scope was therefore lowered to 15 properties.

During the removal action at the Heart of Chicago Removal site, ERRS contractors loaded trucks at the staging area with 780 cubic yards of lead-impacted soil and debris. The trucks transported the lead-impacted material off site for disposal at the Laraway Landfill located 21233 W Laraway Road Joliet, Illinois 60436. A summary table (Table 13) of off-site waste disposal with waste manifest numbers and copy of waste manifests is provided in Appendix E.

After removal work at the 15 properties, ERRS contractors restored each property to its pre-excavation conditions. The EPA OSC and ERRS contractors met with each owner after the removal work and restoration at each property for the owner to sign off on the work completed. Each of the property owners signed off on the removal work and restoration. No additional removal actions are planned at the Heart of Chicago Removal site as of the date of this report.

6.0 REFERENCES

National Enforcement Investigations Center (NEIC). 2015. Characterization of Lead in Soils, Pilsen Neighborhood. Chicago, IL. February.

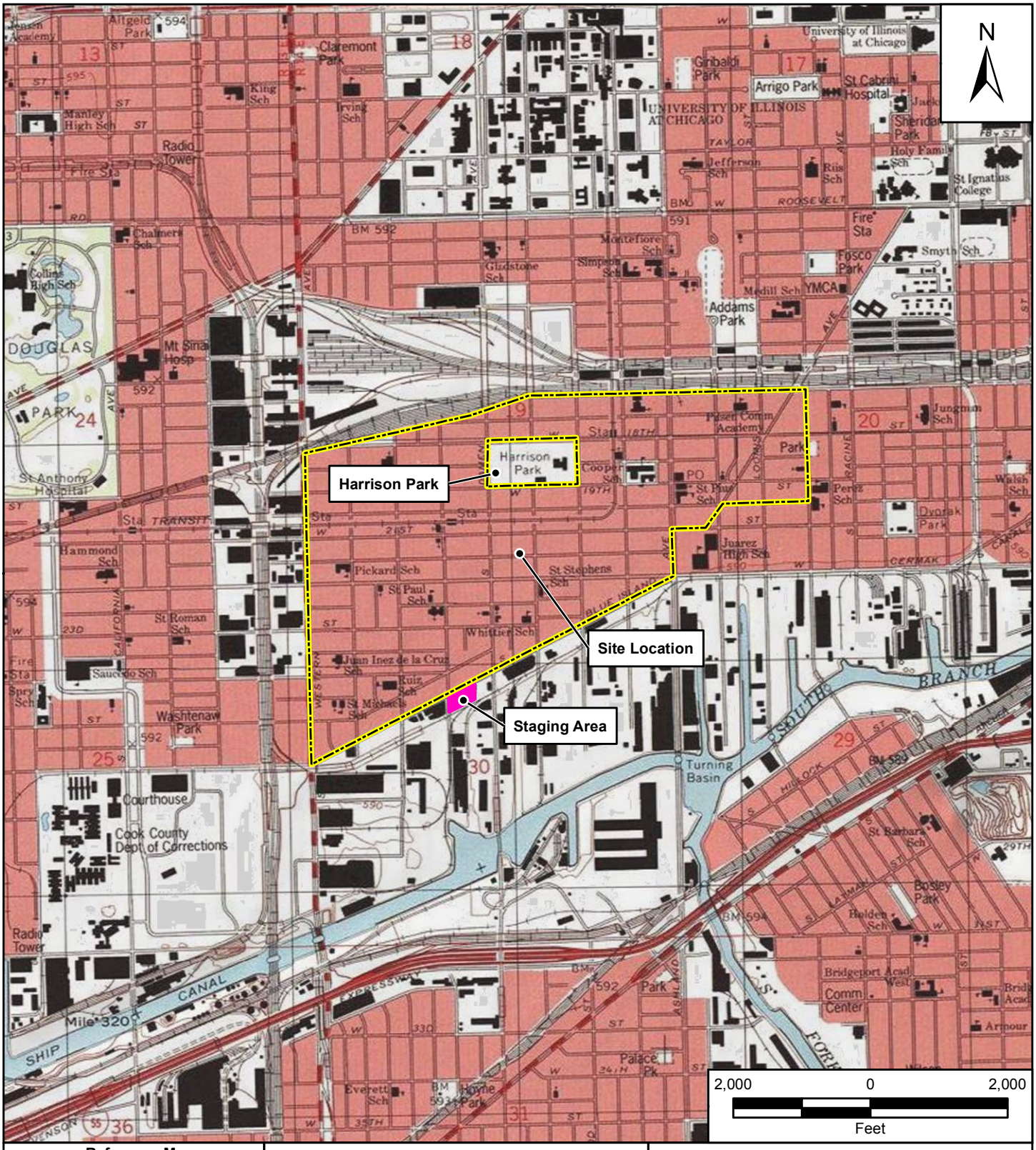
Tetra Tech, Inc. (Tetra Tech). 2016. "Quality Assurance Project Plan [QAPP] for START, Revision 3." June.

Tetra Tech. 2017a. "Final Removal Assessment Report for the Heart of Chicago-Harrison Park Soils Site." May.

Tetra Tech. 2017b. "Draft Air Monitoring and Sampling Plan - Heart of Chicago Site." July.

APPENDIX A

FIGURES



Reference Map

Legend

- Approximate Site Boundary
- Staging Area

Source: USGS 7.5 Minute Topographic Quadrangle Map, Englewood, 2015

Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Figure 1
Site Location

TETRA TECH

Prepared For: USEPA	Prepared By: Tetra Tech

File Path: G:\G\G9026-START IV\Illinois\Heart of Chicago\mxd\2017-11\Fig1-SiteLocation.mxd

Date Saved: 11/13/2017 EPA Contract No.: EP-S5-13-01 TDD No.: S05-0001-1706-002

Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet
Projection: Transverse Mercator
Datum:North American 1983Foot US

Legend

- Approximate Site Boundary
- Staging Area

Source: Bing Maps Hybrid 2013

N

1,000 0 1,000

Feet

Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Figure 2
Site Layout Map

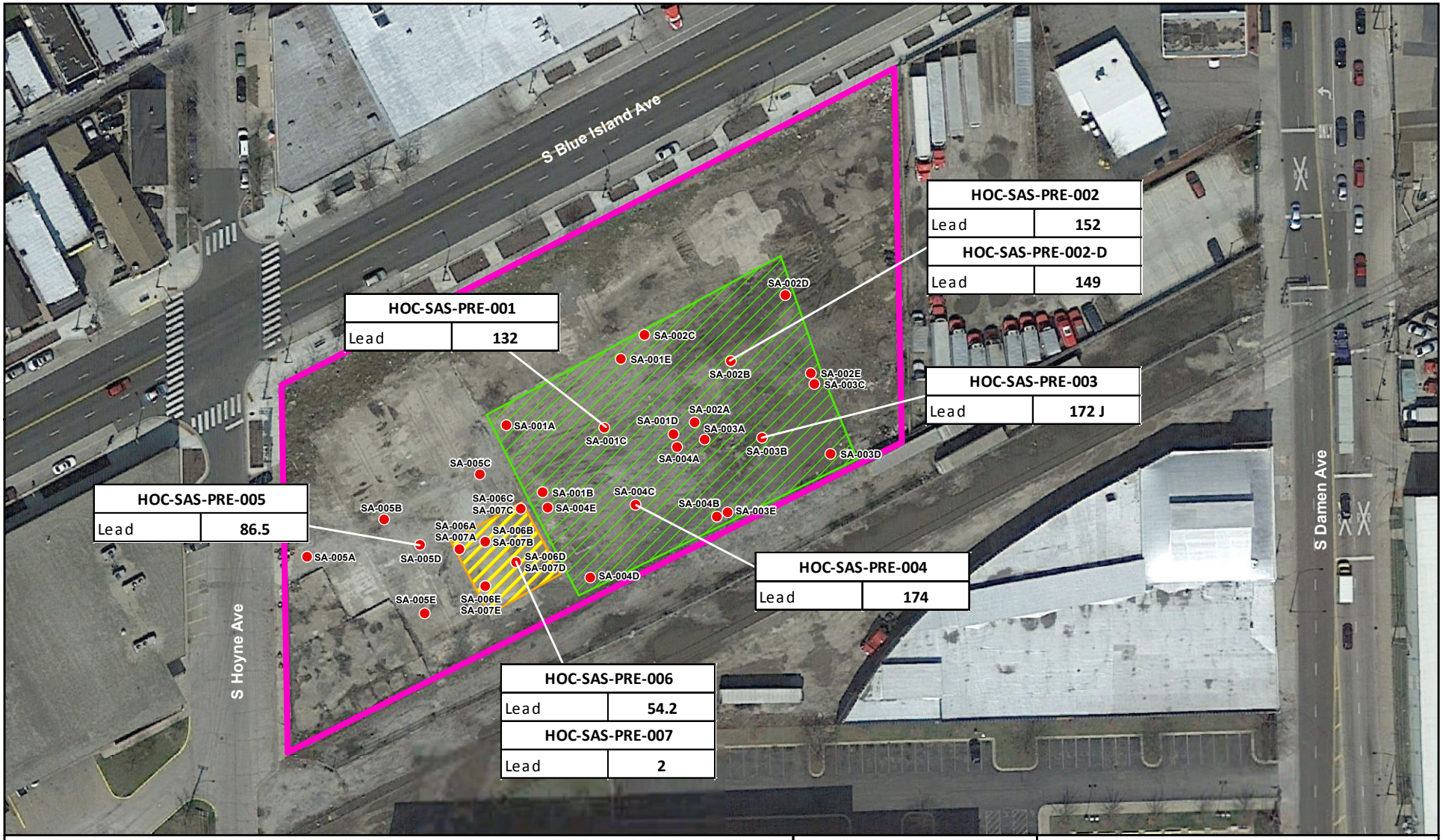
TETRA TECH

Prepared For: USEPA	Prepared By: Tetra Tech

File Path: G:\G\G9026-START IV\Illinois\Heart of Chicago\mxd\2017-11\Fig2-Sitelayout.mxd

Date Saved: 11/13/2017 EPA Contract No.: EP-S5-13-01 TDD No.: S05-0001-1706-002

Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet
Projection: Transverse Mercator
Datum:North American 1983Foot US



Source: Bing Maps Hybrid 2013

Legend

- Composite Sample Location
- Grass Area
- Stock Pile Soil Pad
- Staging Area

All results presented in units of milligrams per kilogram (mg/kg)
J = Analyte detected, but concentration is estimated for QC reasons.
HOC-SAS-PRE-006 - Composite sample of soil beneath excavated soil stock pile construction.
HOC-SAS-PRE-007 - Composite sample of sand at the bottom of excavated soil stock pile construction.

N

60 0 60

Feet

Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Figure 3
Staging Area Pre-removal Work Sample Results

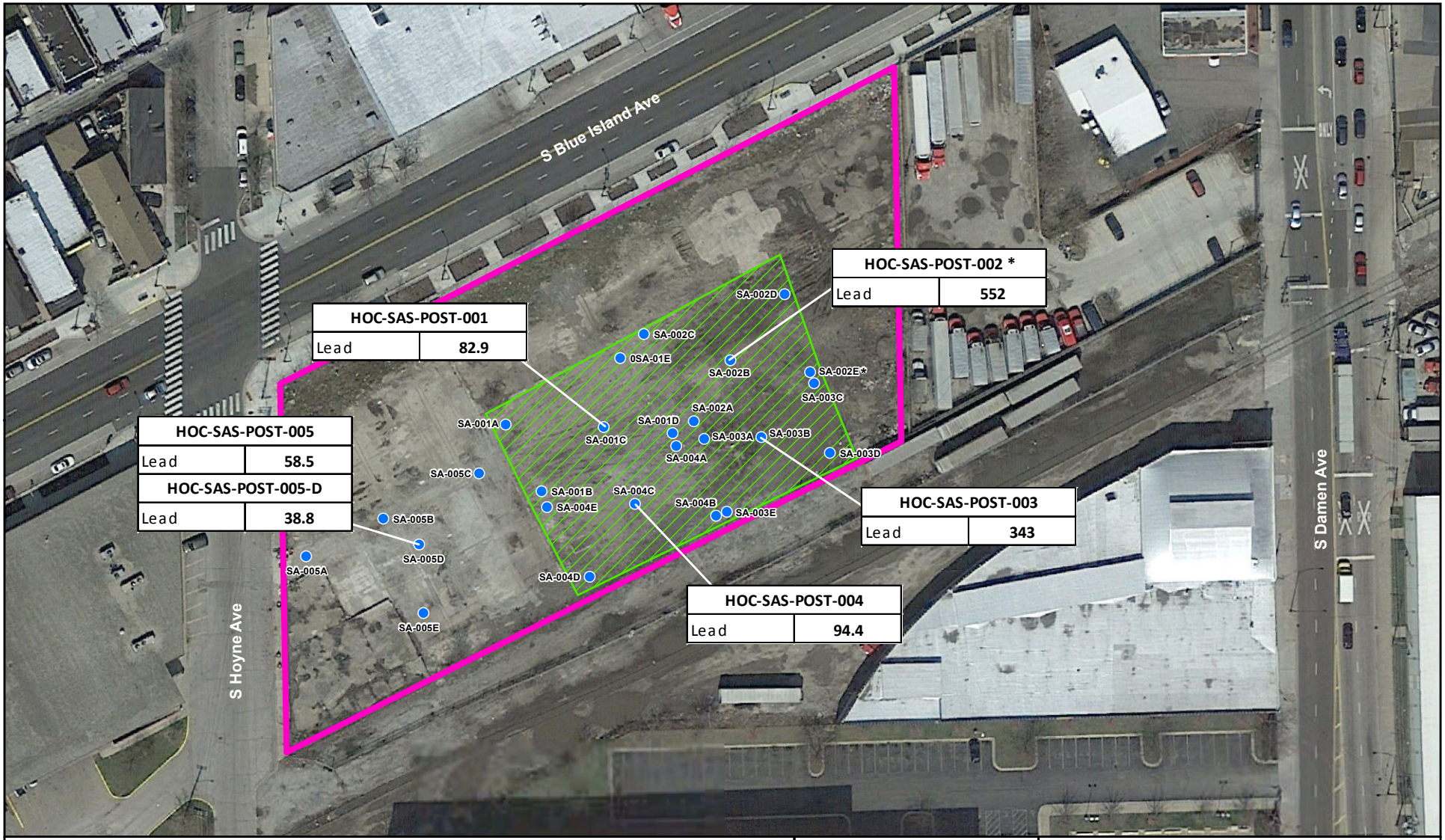
TETRA TECH

Prepared For: USEPA | Prepared By: Tetra Tech

File Path: G:\G\G9026-START IV\Illinois\Heart of Chicago\mxd\2017-11\Fig3-Pre-RemovalSampleResults.mxd

Date Saved: 11/16/2017 | EPA Contract No.: EP-S5-13-01 | TDD No.: S05-0001-1706-002

Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet
Projection: Transverse Mercator
Datum:North American 1983Foot US



Source: Bing Maps Hybrid 2013

- Composite Sample Location
- Grass Area
- Staging Area

All results presented in units of milligrams per kilogram (mg/kg)

* = Utilizing a X-ray fluorescent (XRF) analyzer START screened the individual composite sample points of sample HOC-POST-SA-002 to determine the areas of elevated lead concentrations. Elevated lead concentrations were identified only in the vicinity of point SA-002E. The area in the vicinity of point SA-002E was over-excavated to a depth of 1 foot below ground surface.

No post-sample was collected from the HOC-PRE-SA-006 or HOC-PRE-SA-007 composite sample locations. The soil stock pile pad construction was removed and only concrete was left.

N

60 0 60

Feet

Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Figure 4
Staging Area Post-removal Work Sample Results

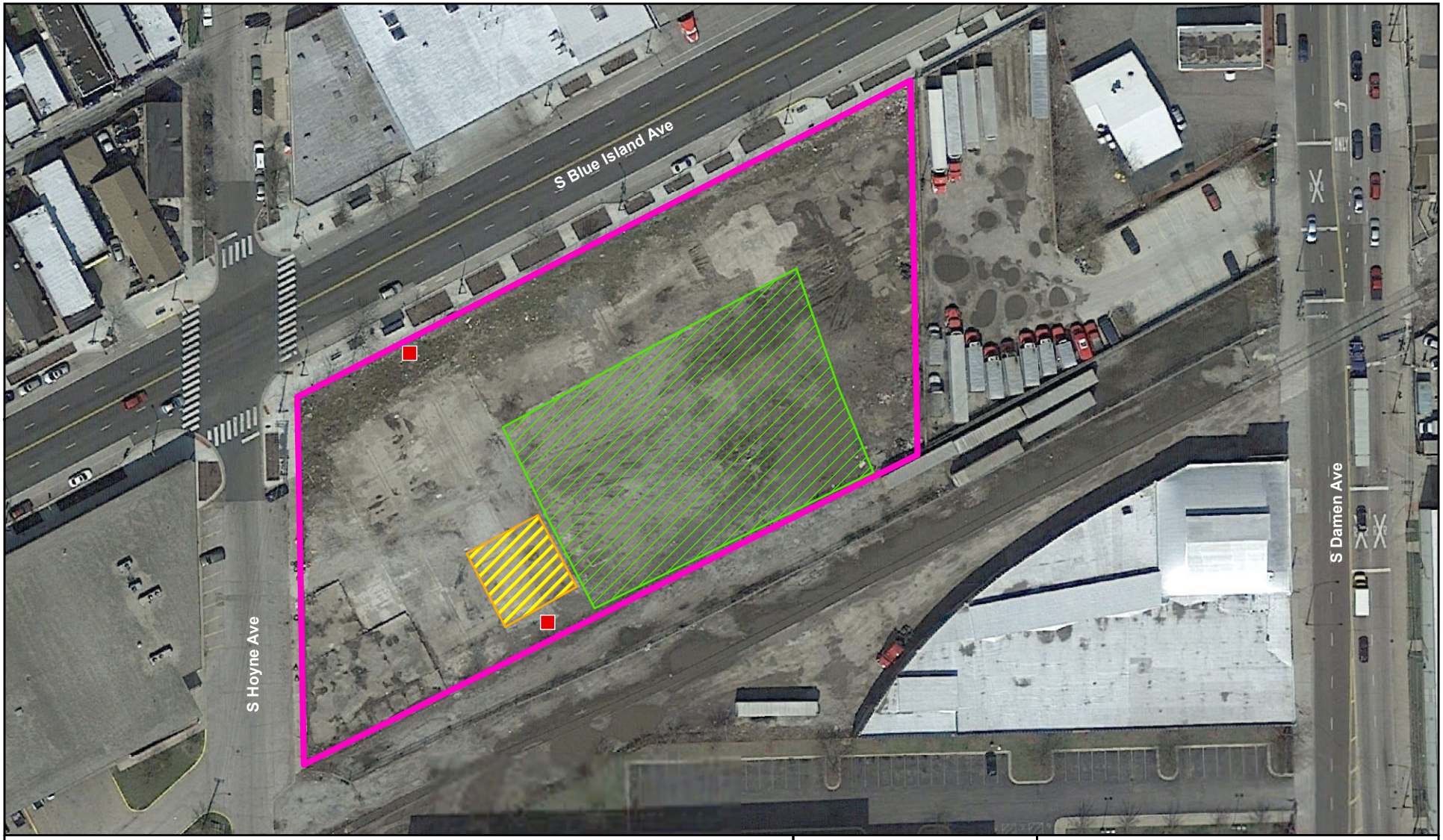
TETRA TECH

Prepared For: USEPA | Prepared By: Tetra Tech

File Path: G:\G\G9026-START IV\Illinois\Heart of Chicago\mxd\2017-11\Fig4-Post-RemovalSampleResults.mxd

Date Saved: 11/16/2017 | EPA Contract No.: EP-S5-13-01 | TDD No.: S05-0001-1706-002

Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet
Projection: Transverse Mercator
Datum:North American 1983Foot US



Legend

- Air Monitoring Station
- Grass Area
- Stock Pile Soil Pad
- Staging Area

Source: Bing Maps Hybrid 2013

N

60 0 60

Feet

Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Figure 5
Staging Area
Air Monitoring Stations

TETRA TECH

Prepared For: USEPA | Prepared By: Tetra Tech

File Path: G:\G\G9026-START IV\Illinois\Heart of Chicago\mxd\2017-11\Fig5-AMStations.mxd

Date Saved: 11/13/2017 | EPA Contract No.: EP-S5-13-01 | TDD No.: S05-0001-1706-002

Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet
Projection: Transverse Mercator
Datum:North American 1983Foot US

APPENDIX B

PHOTOGRAPHIC DOCUMENTATION LOG

Photograph: 1

Direction: East

Date: 7/17/2017

Photographer:
Paul Pallardy

Description:
View of Emergency and Rapid Response Service (ERRS) contractors grubbing vegetation from the staging area.

Photograph: 2

Direction: West

Date: 7/17/2017

Photographer:
Paul Pallardy

Description:
View of START collecting pre-removal composite samples at the staging area.

Photograph: 3

Direction: Southwest

Date: 7/17/2017

Photographer:
Paul Pallardy

Description:
View of DustTrak II placed on the north side of the staging area for respirable dust particulate monitoring.

Photograph: 4

Direction: Southeast

Date: 7/19/2017

Photographer:
Paul Pallardy

Description:
View of ERRS contractors placing concrete Jersey barriers for construction of the stockpile soil pad to store excavated soil at the staging area.

Photograph: 5

Direction: Southwest

Date: 7/19/2017

Photographer:
Paul Pallardy

Description:
View of ERRS contractors placing and grading gravel at the staging area.

Photograph: 6

Direction: Southwest

Date: 7/19/2017

Photographer:
Paul Pallardy

Description:
View of sand placed at the bottom of the soil stockpile pad and composite sample locations.

Photograph: 7

Direction: East

Date: 7/19/2017

Photographer:
Paul Pallardy

Description:
View of gateway unit for EPA's VIPER Survey Controller set up at the staging area for the DustTrak II units.

Photograph: 8

Direction: Southwest

Date: 7/19/2017

Photographer:
Paul Pallardy

Description:
View of ERRS contractors spreading gravel over top of liner on the sand at the bottom of the soil stockpile pad at the staging area.

Photograph: 9

Direction: Northwest

Date: 7/27/2017

Photographer:
Lauren McCarrell

Description:
View of ERRS contractors removing plants from a raised garden bed in the northwest corner of the front yard of property #21.

Photograph: 10

Direction: Northeast

Date: 7/27/2017

Photographer:
Lauren McCarrell

Description:
View of ERRS contractors placing a rose bush in a bucket with soil for temporary relocation during removal work at property #21.

Photograph: 11

Direction: South

Date: 7/27/2017

Photographer:
Lauren McCarrell

Description:
View of front yard of property #21 after ERRS contractors completed removal of plants.

Photograph: 12

Direction: NA

Date: 7/31/2017

Photographer:
Paul Pallardy

Description:
View of START calibrating Gillian GilAir 5 air sampling pumps for compliance monitoring.

Photograph: 13

Direction: West

Date: 7/31/2017

Photographer:
Paul Pallardy

Description:
View of truck loadout area lined with visqueen for potential soil spillage at property #21.

Photograph: 14

Direction: West

Date: 7/31/2017

Photographer:
Paul Pallardy

Description:
View of ERRS contractors excavating raised garden bed on the northwest side of the front yard of property #21.

Photograph: 15

Direction: Northwest

Date: 8/01/2017

Photographer:
Paul Pallardy

Description:
View of DustTrak II located on the south side of the staging area for monitoring respirable dust particulate monitoring.

Photograph: 16

Direction: Southwest

Date: 8/01/2017

Photographer:
Paul Pallardy

Description:
View of composite sample location identified by START for waste characterization.

Photograph: 17

Direction: South

Date: 8/04/2017

Photographer:
Paul Pallardy

Description:
View of ERRS contractors backfilling front yard excavation of property #21 with soil.

Photograph: 18

Direction: Northwest

Date: 8/04/2017

Photographer:
Paul Pallardy

Description:
View of completed backfill in the front yard excavation of property #21.

Photograph: 19

Direction: Southwest

Date: 8/07/2017

Photographer:
Paul Pallardy

Description:
View of ERRS contractors excavating back yard of property #19.

Photograph: 20

Direction: Southwest

Date: 8/08/2017

Photographer:
Paul Pallardy

Description:
View of START collecting an excavation confirmation composite sample from the back yard of property #19.

Photograph: 21

Direction: Southeast

Date: 8/09/2017

Photographer:
Cordell Renner

Description:
View of ERRS contractors conducting removal work in the front yard of property #10.

Photograph: 22

Direction: Northwest

Date: 8/10/2017

Photographer:
Cordell Renner

Description:
View of ERRS contractors conducting removal work in the front yard of property #10.

Photograph: 23

Direction: Northwest

Date: 8/10/2017

Photographer:
Cordell Renner

Description:
View of ERRS contractors placing demarcation barrier in the bottom of the excavation in the front yard of property #10.

Photograph: 24

Direction: Northwest

Date: 8/10/2017

Photographer:
Cordell Renner

Description:
View of ERRS contractors backfilling the front yard excavation area of property #10.

Photograph: 25

Direction: Northwest

Date: 8/11/2017

Photographer:
Paul Pallardy

Description:
View of ERRS contractors compacting backfill soil in the front yard excavation area of property #10.

Photograph: 26

Direction: Northwest

Date: 8/15/2017

Photographer:
Paul Pallardy

Description:
View of ERRS contractors conducting removal work in the front yard of property #9.

Photograph: 27

Direction: East

Date: 8/15/2017

Photographer:
Paul Pallardy

Description:
View of composite sample locations in the back yard of property #1 for lead bioavailability analysis.

Photograph: 28

Direction: Northwest

Date: 8/16/2017

Photographer:
Paul Pallardy

Description:
View of ERRS contractors backfilling the front yard excavation area of property #9. Demarcation barrier was placed at the bottom of the excavation area before it was backfilled.

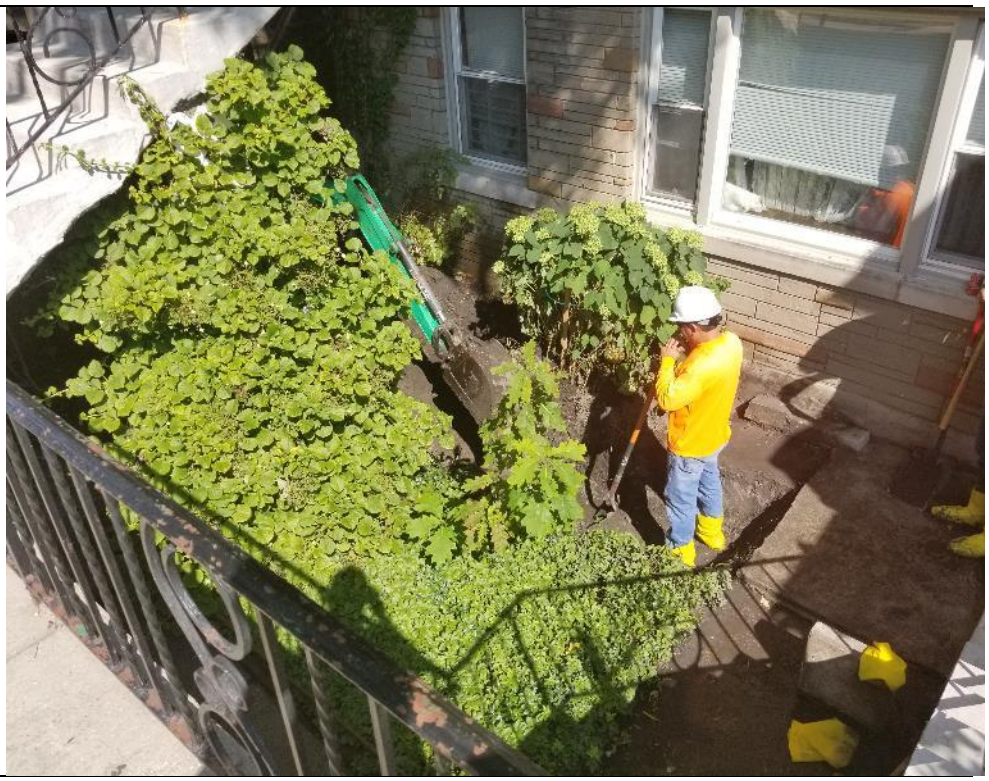
Photograph: 29

Direction: Northwest

Date: 8/21/2017

Photographer:
Paul Pallardy

Description:
View of ERRS contractors conducting removal work in the front yard of property #8.



Photograph: 30

Direction: North

Date: 8/24/2017

Photographer:
Paul Pallardy

Description:
View of START conducting soil screening with Innov-X Alpha Series X-ray fluorescence (XRF) device in the backyard excavation area of property #3.

Photograph: 31

Direction: Northwest

Date: 8/24/2017

Photographer:
Paul Pallardy

Description:
View of restored excavation in the front yard of property #10.

Photograph: 32

Direction: South

Date: 8/25/2017

Photographer:
Karina Kuc

Description:
View of restored excavation in the front yard of property #9.

Photograph: 33

Direction: Southwest

Date: 8/28/2017

Photographer:
Paul Pallardy

Description:
View of restored excavation in the back yard of property #3.

Photograph: 34

Direction: Southwest

Date: 8/29/2017

Photographer:
Paul Pallardy

Description:
View of ERRS contractors loading a truck with excavated soil for off-site disposal as nonhazardous waste.

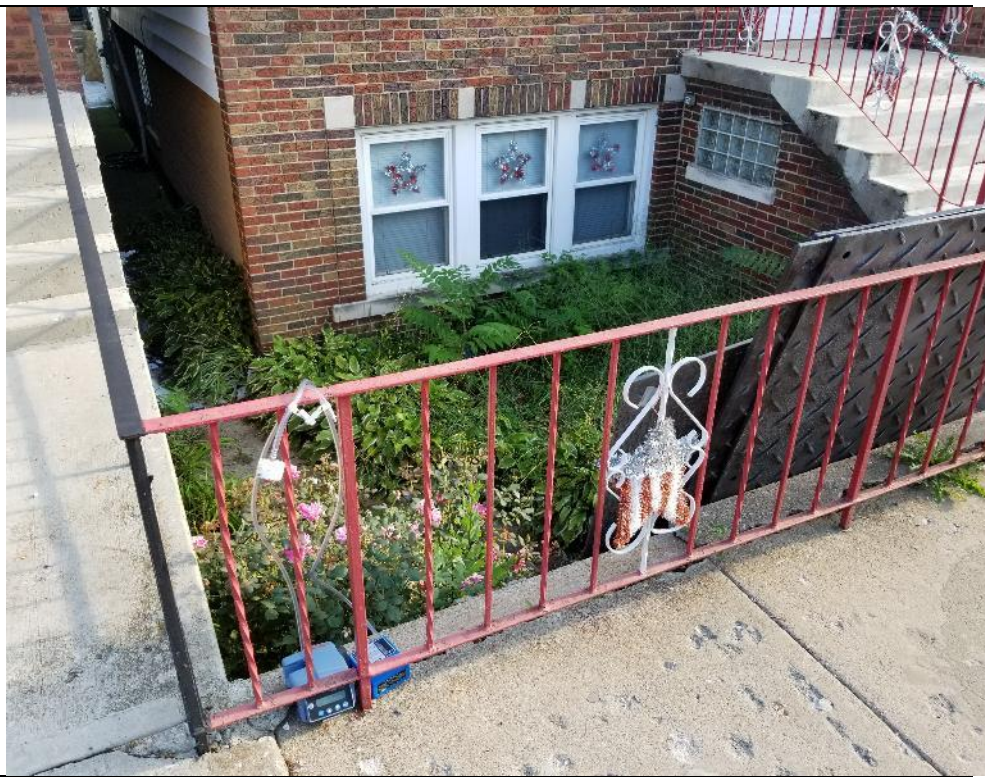
Photograph: 35

Direction: Northeast

Date: 8/29/2017

Photographer:
Paul Pallardy

Description:
View of GilAir 5 air sampling pump and Thermo Scientific pDR-1500 instrument (pDR) placed by START on the south side of property #1 for respirable dust particulate monitoring during removal work.



Photograph: 36

Direction: Northeast

Date: 8/29/2017

Photographer:
Paul Pallardy

Description:
View of ERRS contractors compacting backfill soil in the backyard excavation of property #1.

Photograph: 37

Direction: Southeast

Date: 8/31/2017

Photographer:
Paul Pallardy

Description:
View of soil underneath concrete landing in the front yard of property #16.

Photograph: 38

Direction: North

Date: 9/06/2017

Photographer:
Paul Pallardy

Description:
View of composite soil sample locations in the soil underneath concrete landing in the front yard of property #16 for lead bioavailability analysis.

Photograph: 39

Direction: Northwest

Date: 9/06/2017

Photographer:
Paul Pallardy

Description:
View of ERRS contractors conducting hand excavation of soil in the northeast front yard of property #4.

Photograph: 40

Direction: Northwest

Date: 9/07/2017

Photographer:
Paul Pallardy

Description:
View of ERRS contractor excavating soil from the west yard of property #4.

Photograph: 41

Direction: South

Date: 9/08/2017

Photographer:
Paul Pallardy

Description:
View of ERRS contractor excavating soil from the southeast back yard of property #4.

Photograph: 42

Direction: Northeast

Date: 9/08/2017

Photographer:
Paul Pallardy

Description:
View of sample locations from the east back yard of property #14.

Photograph: 43

Direction: Northeast

Date: 9/11/2017

Photographer:
Paul Pallardy

Description:
View of ERRS contractors backfilling the east yard excavation of property #4. Demarcation barrier was placed at the bottom of the excavation area before it was backfilled.

Photograph: 44

Direction: Northwest

Date: 9/11/2017

Photographer:
Paul Pallardy

Description:
View of composite sampling location from the east area of property #4.

Photograph: 45

Direction: South

Date: 9/12/2017

Photographer:
Paul Pallardy

Description:
View of ERRS contractors compacting and grading backfill soil in the east yard of property #4.

Photograph: 46

Direction: South

Date: 9/13/2017

Photographer:
Paul Pallardy

Description:
View of truck loadout area lined with visqueen for potential soil spillage at property #12.

Photograph: 47

Direction: Southeast

Date: 9/14/2017

Photographer:
Paul Pallardy

Description:
View of ERRS contractor excavating soil from the back yard of property #12.

Photograph: 48

Direction: Northwest

Date: 9/14/2017

Photographer:
Paul Pallardy

Description:
View of ERRS contractors restoring the east yard excavation of property #4.

Photograph: 49

Direction: Northeast

Date: 9/15/2017

Photographer:
Paul Pallardy

Description:
View of START collecting post-removal composite samples at the staging area.

Photograph: 50

Direction: Southeast

Date: 9/18/2017

Photographer:
Paul Pallardy

Description:
View of ERRS contractors conducting hand excavation of soil in the back yard of property #17.

Photograph: 51

Direction: South

Date: 9/20/2017

Photographer:
Paul Pallardy

Description:
View of excavation of west back yard of property #14.

Photograph: 52

Direction: Southeast

Date: 9/21/2017

Photographer:
Paul Pallardy

Description:
View of ERRS contractors backfilling the east and west backyard excavation of property #14. Demarcation barrier was not placed, as the lead concentration at the bottom of the excavation met removal goals.

Photograph: 53

Direction: West

Date: 9/22/2017

Photographer:
Paul Pallardy

Description:
View of ERRS contractor demolishing soil stockpile pad.

APPENDIX C

LOGBOOK SCANS

MADE IN TACOMA — SINCE 1916 — Rite in the Rain — DEFYING MOTHER NATURE

Name 1st in Series

START FIELD LOGBOOK

Logbook Tracking Number CH252

Site Name Heart of Chicago Remaval Site

Issue to Paul Pallardy

Date Issued 7-14-17

TDD # 0001-1706-002

Made in USA · Rite Green · Archival

RiteintheRain.com

CONTENTS

7-17-17 HOC REM

0910 - START Pallardy on site. EPA OSC Thomas + Environmental Quality Management, Inc. on site EQM 3 personnel. Weather 71°F sunny, high of 75°F, wind NE 9 mph, no chance of precipitation.

0920 - EQM has equipment on site to prep staging area. 2 skid steers, EQM to grub staging area.

1000 - EPA OSC Thomas + EQM Manager ~~Erik~~ + START discussing project and scope.

1015 - EQM grubbing E grass area of staging area.

1200 - START measuring E grass area of staging area for sampling 130ft from N concrete to S fenceline. 200ft from W concrete area to end of grubbed area E. START GPS located the grass area.

1230 - START to collect 4 comp. soil samples from E grass area 5pts each, quads ~ 100 x 65 ft.

1240 - START collects HOC-SAS-PRE-001 NW quad, GPS located.

1255 - START collects HOC-SAS-PRE-002 with duplicate NE quad, GPS located.

7-17-17 HOC REM

1322 - START collects HOC-SAS-PRE-003. Designated MS/MSD sample, GPS located

1325 - Sample HOC-SAS-PRE-004 collected

1340 - EQM continues grubbing.

1415 - EQM marking off 50x50ft area on the SE side of concrete area for excavated soil stock pile pad. START to collect sample in this area.

1430 - EQM leveling out stock pile pad area.

1440 - START collects HOC-SES-PRE-005 from entrance drive area + gravel/soil near stock pile pad.

1520 - HOC-SAS-PRE-006 collected from excavated soil stock pile pad area. All sample locations GPS located along with soil/stock pile pad

1530 - HOC-EB-~~00~~006 collected as an equipment rinsate blank from decon'ed trowel

1540 - START decon'ed metal trowels between samples with Alconox + distilled water wash

1400 - EQM continues staging area prep work START off-site to ship samples.

Backnote: HOC staging area located at 2459 S. Blue Island Ave. SE corner of S. Blue Island Ave. + S. Hoyne Ave.

Rain in the Rain

7-18-17 HOC REM

0900 - START Pallardy on site. EQM on site (3) & EPA OSC on site. Plan for day is continued set up of HOC staging area at 2459 S. Blue Island Dr. START to conduct background air monitoring with Dust Traks today.

0930 - Weather 79°F sunny, high of 85°F, wind ESE 8 mph, no chance of precipitation.

0940 - START Pallardy fresh air calibrating and setting up Dust Traks for the day, 1 DustTrak will be placed along N fenceline of staging area S of bus stop near NW corner of staging area, down wind location.

0950 - 2nd Dust Trak placed SE of where the stack pile area will be, up wind.

1000 - Dust Traks placed START will check them today roughly hourly.

1030 - 2 office trailers on site and generator. Generator not yet set.

1112 - Downwind (DW) Dust Trak running current PM2.5 reading 0.021 mg/m3.

1113 - Upwind (UW) Dust Trak running, current

1113 cont - PM2.5 reading 0.015 mg/m3

1208 - DW Dust Trak check, current PM2.5 reading 0.023 mg/m3.

1210 - UW Dust Trak check, PM 2.5 reading 0.025 mg/m3.

1317 - DW Dust Trak check, current PM 2.5 reading 0.025 mg/m3.

1319 UW Dust Trak check, current PM 2.5 reading 0.030 mg/m3,

1320 - CMC manager arrives on site.

1345 - EPA OSC, EQM, CMC, & START have a scope of work meeting. Soil stock pile pad to be constructed tomorrow.

1445 - DW Dust Trak check, PM 2.5 0.019 mg/m3

1447 - UP Dust Trak check, PM 2.5 0.021 mg/m3

1553 - START to take down Dust Traks. DW Dust Trak PM 2.5 0.025 mg/m3 run stopped.

1556 - UW Dust Trak PM 2.5 0.019 mg/m3 Run stopped.

1615 - START off site for day, EPA OSC & EQM remain on site for EQM personel to return with additional equipment.

7-19-17 HOC REM

0800 - START Pallardy on site, EQM, CMC, + EPA OSC on site. START to continue background air monitoring today. EQM continues staging area set up will be constructing soil stock pile box and pad for soil load out.

0815 - START fresh air calibrates Dust Traks. Weather 80°F, cloudy high of 83°F today. Wind NE 10mph, 15% chance of precipitation.

0830 - START sets up Dust Traks one UW Dust Trak placed on N fenceline near bus stop. SW DW Dust Trak placed to the SW of soil stockpile construction area.

0920 - UW Dustrak placed on ground to reset tripod, may be a particulate spike at this time.

0950 - Truck on site with additional load of gravel 14th of day.

Backnote - 0924 UW Dusttrak reading 0.021 mg/m³, 0928 DW Dust Trak reading 0.118 mg/m³.

1015 - EPA OSC requests XRF screening

7-19-17 HOC REM

1015 cont - of gravel brought on site. START to screen 5 pts of gravel pile for average metal concentrations. START calibrates XRF + runs Silica + NIST standard screens.

1020 - START begins XRF screening of of gravel pile, 5 pts screened for 75sec.

1038 - Screening of gravel pile complete to START to download data from XRF.

1107 - Gravel load #5 on site. EQM should get 60 concr. blocks for stock pile area today. Dust Trak

1232 - UW ~~Dust Trak~~ check, PM 2.5 0.022 mg/m³

1284 - DW Dust Trak check PM 2.5 0.055 mg/m³

1235 - Truck with load of sand arrives on site. 2-4 total loads expected START to grab comp sample once sand is placed

1351 - UW DustTrak check, PM 2.5 0.015 mg/m³.

1353 - DW Dust Trak Check, PM 2.5 0.016 mg/m³.

1447 - DW Dust Trak Check, PM 2.5 0.017 mg/m³.

1451 - UW Dust Trak Check, PM 2.5 0.016 mg/m³.

1605 - UW Dust Trak Check, PM 2.5 0.012 mg/m³.

1606 - DW Dust Trak Check, PM 2.5 0.015 mg/m³.

1620 Additional CMC crew arrive on site today.

Rita in the Rain

7-19-17 HOC REM

1705 - START collects sample HOC-SAS-PAE-007 from sand graded in soil stock pile pad area constructed by EQM + CMC.

1720 - START takes down UW + DW Dust Traks and collects data.

1735 - START Pallardy off site, CMC, EQM + EPA OSC demobing for duty and heading off site.

7-19-17

7-21-17 HOC-REM

0800 - START Pallardy on site, EQM, CMC + EPA OSC onsite. START to set up DW Dust Trak with Links and Gateway for VIPER.

0840 - Links + Gateway up not recieving data from DW Dust Trak at NW side of site by bus stop. Likely bad USB port. Weather, 82°F high of 86°F today, Wind ESE 7 mph, 0% of precipitation today.

0900 - START off site to XRF at Pilgen Old site. Backnote - START not onsite 7-20-17 due to storms.

1108 - START back at HOC SA. OSC would like samples collected for PAH analysis due to historic PAH concentrations on property. START to collect samples from PAE-001 to 005 comp. sample locations. START off site to obtain GPS with coordinates.

1240 - START back on site prepping to collect samples for PAH analysis, START will additionally collect a soil sample of pile of

Rite in the Rain

1240 cont - of scrappings on N side of property from EQM clearing contr. on N side of SA property.

1320 - Sample HOC-SASP-PRE-005 collected from driveway gravel area, MS/MSD.

1340 - Sample HOC-SASP-PRE-001 collected with duplicate, NW grass quad.

1415 - Sample HOC-SASP-PRE-002 collected, NE grass quad. — GC

1430 - HOC-SASP-PRE-003 collected, SE grass quad, — GC

1450 - HOC-SASP-PRE-004 collected, SW grass quad — GC

1505 - HOC-SAS-PRE-008 collected, 5 pt comp of N soil scrapping pile.

1555 - START taking down DW DustTrak for day. Will get 2 additional DustTraks as back up due to USB connection issue.

1605 - START Pallardy off site to ship samples. EPA, EQM, + CMC on site continue staging work.

[signature]

7-21-17

0700 - START (McCarrell). OSC Craig, Thomas, + ERRS on site. ERRS conducts H&S meeting in ERRS trailer.

Weather 69°, Mostly Cloudy, N 13 mph wind, 0% chance of rain, high of 72°

0720 - Set up DW DustTrak at NW side of site near bus stop + upwind dusttrak near comed box.

0800 - VIPER run not started due to links / gateways not sending data. Will be receiving new dusttraks at ~10 am

0900 - ERRS build ramp to stab pad for excavated material once excavation begins. Lay cu soil + stone on sidewalk near front gate

1000 - DW Dusttrak check - PM 2.5 - 0.026

1002 - UP Dusttrak check - PM 2.5 - 0.005

Backnote 850 - Moved Upwind dusttrak to west entryway near fence line — LM

1015 - Field environmental on site to deliver two dusttraks — LM

1030 - Replace DW + UP dusttraks with newly delivered Field DRX models.
DRX #1 @ DW location — LM
DRX #2 @ UP location — LM

1109 - Began 2nd VIPER run "RS-Heart of Chicago"

1155 - EPA OSC & Community Involvement Coordinator (CIC) León, ERRS foreman, & START mob to property in #21 to conduct pre-excavation conditional survey w/ property owner. — LM
Lamp post in garden leads North to the house
1250 - Complete Pre-excavation condition survey. Drive past property PA-502. Talk with property owner's sister. Discrepancy on whether the property is on Place or Street.
1325 - CIC León & OSC Thomas offsite — LM
1335 - OFFSITE for lunch — LM
1445 - Return from lunch. OSC Thomas back on site
1500 - Move UP location to Southwest corner of Stab pad. Unit 224 in UP dusttrak dies, is put on charge in [illegible] trailer — LM
1530 - UP dusttrak too far from gateway. Move UP location to SW corner of Clean Soil staging area near [illegible] — LM
1620 - End VIPER run & collect dusttraks
1630 - START offsite

7-24-17
[signature]

0700 START (McCarrell), OSC Thomas, & ERRS on site. Conduct daily H&S meeting
Weather 68°, Sunny, SE 5 mph wind, 0% chance of rain, high of 80° — LM
0715 - End of meeting. ERRS begins grading entrance & ramps to staging areas
0719 - LM Zero cal & deploy DW dusttrak
0725 - Zero Cal & deploy UP dusttrak
0752 - Begin VIPER run. Units & Gateway not transmitting data. Gateway not receiving cell service, requires new SIM card
0900 - START, OSC Thomas, & ERRS go to property PA-507 to obtain access agreement & conduct pre-condition survey — LM
0950 - Return to Command post — LM
1030 - OSC Craig Thomas offsite — LM
1100 - OFFSITE to collect backfill confirmation sample from DuPage Top Soil in Naperville
1220 - Collect sample "HOC-Backfill-01-072517"
1230 - Prepare sample for shipment to CT Laboratories in Baraboo, WI — LM
1320 - Drop off samples at FedEx — LM
1400 - Pick up supplies for site activities
1500 - Return to site — LM

7/25/17 HOC REM

1616 - End DW Dusttrak run
1621 - End UP Dusttrak run
1700 - OFFSITE

7-25-17

7/26/17 HOC REM

0700 - START (McCarren), OSC Thomas, + ERRG on site for Daily H&S meeting
Weather 70° Partly Cloudy, S 7 mph wind 20% chance of rain, high of 87°
0715 - Begin DW dusttrak run + zero cal'd
0724 - Zero cal'd + deployed UP Dusttrak
0730 - Replaced SIM card in Gateway
820 - moved UP location in order to reach gateway UP Dusttrak now located between Stand pond and clean backfill staging area
0845 - offsite to collect Backfill samples
0905 - ARRIVE at E-2 Tire Recycling in Chicago, IL
0915 - Collect sample "HOC-BKFILL-02-072617"
0945 - arrive at Lake Street Supply in Chicago, IL
0950 - Collect sample "HOC-BACKFILL-03-072617"
1030 - Prepare samples for shipment to Test America CT Laboratories in Baraboo, WI
1140 - Drop off samples at FedEx location
1315 - Return to site
1400 - Talked with CT Labs about sending personnel / air samples on Friday
1440 - End VIPER run. Both labs battery dead
1600 - Collect Air monitors
1630 - OFFSITE

7-26-17

Rite in the Rain

0700 - START (McCarrell), OSC Thomas, & ERRS on site ERRS conduct daily H&S meeting — LM

Weather 75° cloudy, N 6 mph wind, 10% chance of rain, high of 82° — LM

0720 - No dusttrak monitoring at staging area due to no work conducted at staging area, only at property #21

0810 - START, ERRS, OSC, & GPRS on site at property #21 to locate underground utilities. — LM

0830 - Collected photos starting at South end of the yard moving clockwise to obtain plant order & positioning. — LM

0850 - Collect photo of dip in brick patio East of tree crack underneath first step — LM

0858 - Manhole discovered on South-center end of yard in wood chip area. Sewer line runs through center of property @ 3ft bgs — LM

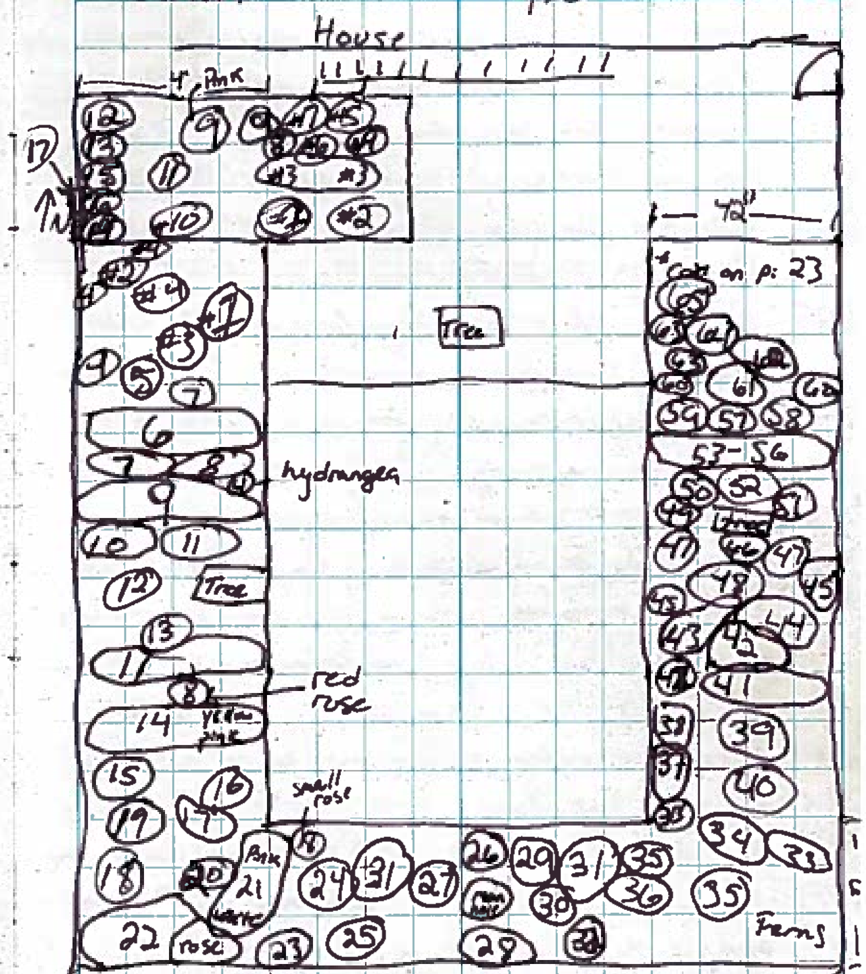
0915 - Begin removing roses in raised garden in northwest corner of yard — LM

0923 - Remove Rose bush from rose bed - 1st Bucket

0930 - Remove Rose bush from Bed - 2nd Bucket

0933 - Remove 2 Rose bushes from Bed - 3rd Bucket

0938 - Remove Rose bush from Bed - 4th Bucket



0941 - Remove rose bush from Bed - 5th Bucket

0942 - Remove rose shrubs from Bed - 6th Bucket

0944 - Remove rose bush from Bed - 7th Bucket

0946 - Remove rose bush from Bed - 8th Bucket

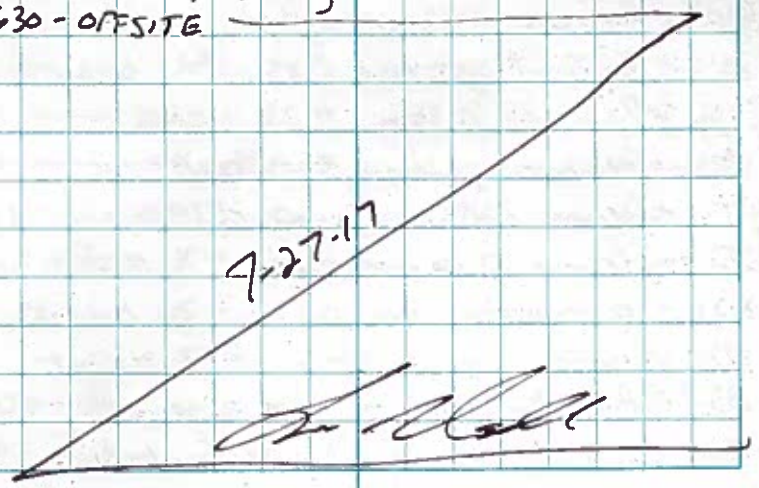
0949 - Remove rose bush from Bed - 9th Bucket

7/27/17 HOC REA

1005 - Remove Pink rose Bush from Bed - 10th Bucket
1006 - Remove rose Shrub from Bed - 11th Bucket
1010 - Remove Shrubbery from Bed - 12th Bucket
1015 - Remove Shrubbery from Bed - 13th Bucket
1020 - Remove Shrubbery from Bed - 14th Bucket
Remove Shrubbery from Bed - 15th Bucket
1025 - Remove Shrubbery from Bed - 16th Bucket
Remove Shrubbery from Bed - 17th Bucket
1051 - EARS begin removing brick edging. Broken piece on west edge in front of tree — LM
1110 - Remove tri-foliate (like maple leaf) perrenial w/ opposite leaves & budding flowers - 7th bucket
1114 - Remove 5-leaf bush - 2nd Bucket — LM
1117 Remove large Single leaf perrenial - 3rd Bucket
1120 Remove 5-leaf & other shrubs - 4th Bucket
1140 Bring excavated plants to staging area & break for lunch — LM
1300 - Return to property #21 — LM
1305 - Remove large single leaf perrenial - 5th Bucket
1310 - Remove Maple leaf w/ buds perrenial - 6th Tub
1315 - Remove small shrubs - buckets 7 & 8
1325 - Remove hydrangeas - 9th Tub — LM
1330 - Remove hydrangeas - 10th bucket — LM
1335 - Remove hydrangeas & lacy leaf (Queen Anne's) 11th Tub
1337 Remove hydrangeas, Pholox, & simple leaf perrenial - 12th Bucket

7/27/17 HOC REA

1340 - Remove small green & pink 4-petal flowers — PJM
1405 - Remove Yellow/wh. & pink roses - 14th Tub
1420 - Remove red rose bush - 15th bucket
1425 - Remove hibiscus - 16th bucket
1426 - Remove rose & budding perrenial - 17th bucket
1520 - Remove rose bushes - 18th bucket
1522 - Remove pink rose bush - 19th bucket
1525 - Remove pink rose bush - 20th bucket
1532 - Remove wh. & pink rose bushes - 21st Tub
1539 - Remove simple leaf budding perrenial - 22nd Tub
1540 - Add red/pink rose to 22nd Tub — LM
1545 - EARS runs out of buckets, Began removing remaining brick edging. Broken pieces along east edge just north of bush/tree
1600 - Leave property #21 — LM
1630 - OFFSITE



Rite in the Rain

0700 - START (Melanie), OSC Ramon, & ERRS on site. Conduct daily H&S meeting

Weather 72°, Partly Cloudy, NNE 13 mph wind, 0% chance of rain, high of 77°

Tasks Today ——— LM

- Water of Pot removed plants
- Remove & Inventory garden plants
- Prepare for excavation on Monday

0720 - No dust masks today at staging area due to limited work in area, work to be conducted at property #21

0900 - Mob to property #21 ——— LM

0905 - Remove budding Phlox & budding white rose #23

0908 - Remove pink rose bush - #24 bucket

0912 - Remove pink rose bush - #25 bucket

0913 - Remove phlox - #26 bucket ——— LM

0915 - Remove pink rose bush - #27 bucket

0916 - Remove phlox - #28 bucket ——— LM

0919 - Remove phlox - #29 bucket ——— LM

0920 - Remove pink rose bush - #30 bucket

0925 - Remove pink rose bushes #31 ~~bucket~~ Tub LM

0926 - Remove pink rose bush - #32 bucket

0930 - Remove budding phlox - #33 bucket

0937 - Remove phlox - #34 bucket ——— LM

0938 - Remove budding phlox - #35 bucket & Fern

0940 - Remove red rose bush - #36 Bucket

0941 - Property owner says to only keep 1 fern & to throw away other ferns ——— LM

0954 - Remove 5-lobed leaf, purple & pink flower perennial - #37 bucket ——— LM

0958 - Remove purple & pink flower - 38th Bucket

1003 - Remove dark green, 5-compound leaf, bush - #39 bucket ——— LM

1006 - Remove 5-leaf bush - #40 bucket

1030 - Field Environmental on site to pick up dust masks not in use. ——— LM

1103 - Remove light green "sweet potato" - #41 bucket

1107 - Remove light green "sweet potato" - #42 bucket

1115 - Remove pink & purple flower & phlox - #43

1128 - Remove "Sweet potato" #44 Tub

1130 - Remove pink & purple flower - #45 bucket

1145 - Break for lunch ——— LM

1245 - ERRS bring removed plants to staging area

1340 - ERRS return to property #21 ——— LM

1350 - START observes that two #16 Stargazer lilies have been cut mid stem ——— LM

BACKNOTE - Remove phlox - ~~#46~~ #47

Remove small green & pink flowers - 46

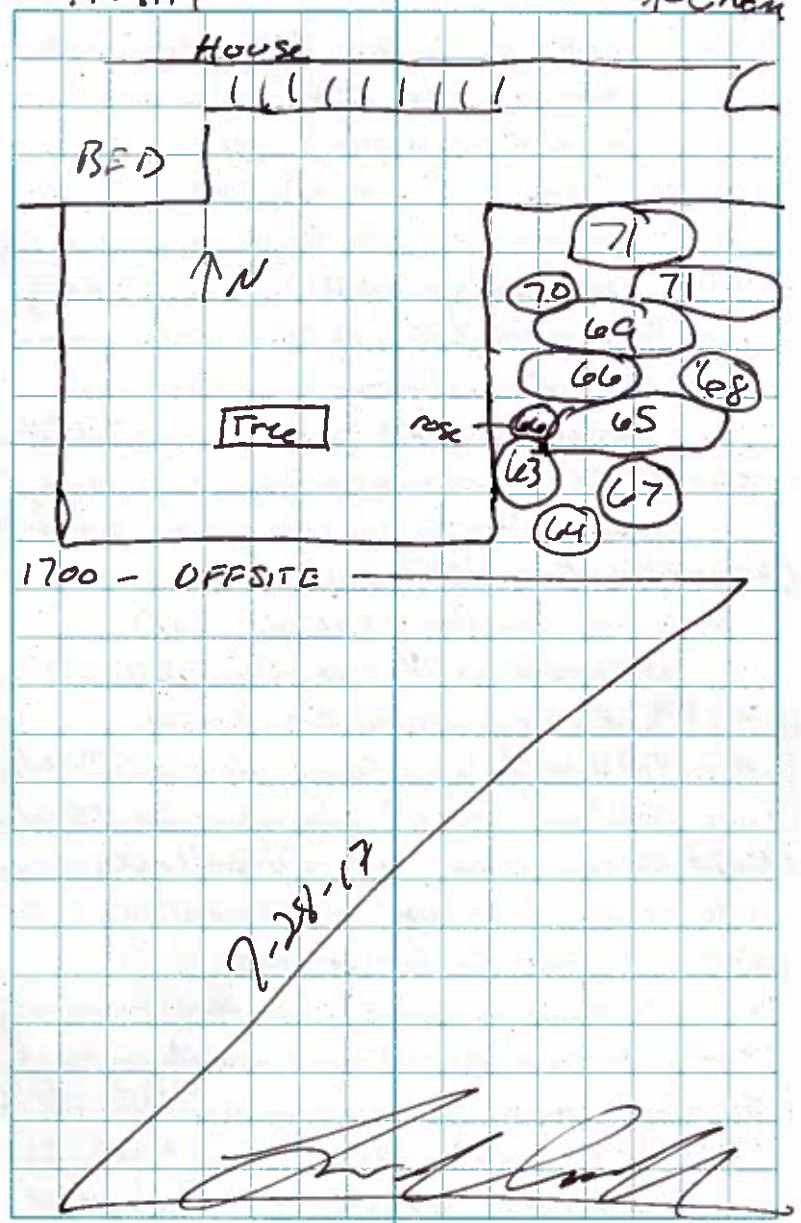
1359 - Remove "sweet potato" - #48 ——— LM

1355 - Remove phlox - #49 ——— LM

Rite in the Rain

7/28/17 HOC REM

1356 - Remove phlox #50 ——— LM
1357 - Remove phlox & lilly stems #51
~~1359~~ LM Remove phlox #52 ——— LM
1358 - Remove phlox #53 ——— LM
1359 - Remove phlox w/no flowers #54
1400 - Remove phlox #55 ——— LM
1402 - Remove phlox #56 ——— LM
1405 - Remove grass bush #57 ——— LM
1406 - Remove phlox #58 ——— LM
1407 - Remove phlox #59 ——— LM
1404 - Remove phlox #60 ——— LM
1424 - Remove rose bush #61 ——— LM
1430 - Remove red rose bush #62 ——— LM
1431 - Remove shrubs & phlox #63 ——— LM
1432 - Remove grass bush #64 ——— LM
1436 - Remove phlox & red rose bush #65
1438 - Remove rose bush & maple leaf w/buds #66
1442 - Remove rose bush #67 ——— LM
1444 - Remove phlox #68 ——— LM
1446 - Remove phlox & maple leaf w/buds #69
1447 - Remove phlox #70 ——— LM
1450 - Remove phlox & 5-leaf bush #71 ——— LM
1500 - Complete plant removal. Begin closing up site
1530 - Return to staging area ——— LM
1620 - Daily work meeting ——— LM



0700 - START Pallardy, OSC Thomas, + ERRS on site. ERRS holds daily safety & work plan meeting.

0705 - Weather 72°F sunny, high of 84°F today, wind SW 5mph, no chance of rain.

0730 - START Pallardy mobilizes to property #21 to photograph sidewalk prior to removal work occuring. Photos taken E + W along sidewalk.

0750 - ERRS mobilizing equipment to begin removal work at property #21 today.

0800 - START calibrating gillian pumps. for air samples (OSHA personal). Gillian pump 016 avg. flow 2.036 04/min with Bios DryCal Defender 510. Gillian pump 015 avg. flow 2.0297 L/min Gillian pump 017 avg. flow 2.0185 L/min.

0815 - Air sample flank HOC-PAS-BL-001 placed in bag for day. Gillians calibrated.

0845 - Thermo Scientific pDR fresh air calibrated and set for ~~PM2.5 monitoring~~. respirable particulate monitoring downwind.

0915 - Gillians placed on laborer (017) + operator (015) in removal area of prop #21. ERRS staging equipment for removal at prop #21.

0941 - Gillian placed on driver (016) for the day. pDR placed for air monitoring on S fence near sidewalk, SW corner. EQM begins removal work in NW corner of FY in garden area at prop #21.

1000 - START at staging area to place DustTraks upwind + downwind prior to excavated soil stockpiling today.

1030 - Upwind + Downwind DustTraks zero calibrated and placed on run start. DW S of bus stop on N fenceline. UW on S side of staging area just SW of soil stock pile.

1105 - START at Prop #21, EQM continues excavating in NW garden area of FY. EQM utilizing mini excavator 324 with mini tracked dozer 320. Small excavator on sidewalk to load truck to transfer excavated soil to staging area soil stock pile pad. EQM to load and transfer about 6-8 yd^3 to not overload truck.

1200 - EQM breaking for lunch.

1245 - EQM continues excavation work.

1330 - START ~~back on site~~ at Prop #21 to collect single pt of 5pt comp soil sample for bioavailability.

Rain in the Rain

7-31-17 HOC REM

1345 - single pt collected in center of FY NW garden 6" bgs of original grade. Garden above ground with 12" of soil above original grade. EQM to excavate additional 6" to a total of 2ft below original grade.

1435 - EQM hand digging near gas line on S side of FY to determine depth bgs.

1500 - EQM excavating along garden area starting on NW side. Gardens to 2ft bgs.

1530 - ALS confirmed as lab for waste characterization sample. START to collect sample. Sample to be shipped by EQM. 5pt comp from prop PA-480 tomorrow at 1400.

1639 - EQM transfers 2nd truck load of excavated soil from prop #21 to staging area stock pile pad.

1715 - EQM demobing for the day. PDR run stopped and brought back by EQM START to stop Dust Trak runs for the day.

1720 - START collects personal air samples.

1723 - Time off for personal air sample HOC-PAS-003 End flow: 1.9428 L/min Labadee's Gillian pump #17.

1724 - Time off for personal air sample HOC-PAS-001

7-31-17 HOC REM

End flow: 1.9372 L/min

1724 cont. - Operator Gillian pump #15.

1725 - Time off for personal air sample End Flow: 1.9408 L/min HOC-PAS-002 driver Gillian pump #16.

1727 - End flows measured with Bios DryCal.

1730 - START capped Blank sample, HOC-PAS-BL-001.

1740 - START taking down Dust Traks, Links, + Gateway for the day. EQM, CMC, OSC Thomas off-site.

1800 - START off-site.

7-31-17

0700 - START Allardy, ERRS (EQM+CMC), EPA OSC Thomas on site. EQM holds daily safety + scope meeting.

0710 - Weather 74°F mostly cloudy, high of 85°F today, wind SSE 4mph. Chance of thunderstorms ~40% in afternoon around 1300-1500.

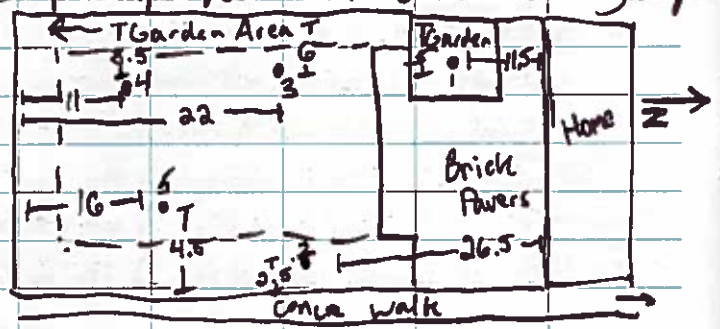
0712 - EQM + CMC mobilizing for removal work. START calibrating Gillian pump flow rates for second day of personal air sampling.

0719 - Gillian Pump #015 with sample HOC-PAS-005 with operator start flow 2.0781 L/min. Pump #016 driver sample HOC-PAS-004 ST FL: 2.0236 L/min, @0720

0721 - Pump #017 laborer sample HOC-PAS-006 ST FL: 2.0514 L/min.

0740 - START at prop #21 EQM + CMC continue excavation and direct load to transfer truck.

0810 - EQM to spot excavate to 6" bgs for comp sample locations for bioavailability sample.



0830 - START collects 5pt comp sample at 6" bgs interval for lead bioavailability analysis, sketch on pg. 28 indicates comp pt locations in FY.

0840 - Pump fault on Pump #16, START to re calibrate pump flow and restart personal air sample HOC-PAS-004.

0851 - Pump #016 driver, sample HOC-PAS-004 ST FL: 2.0394 L/min.

0905 - START trouble shooting pDR. Appears to have software glitch preventing data log enabling during monitoring.

0940 - EQM completing 1st load of day (3rd prop #21) to transfer to staging area soil stock pile pad. START to SA to set DustTraks prior to soil transfer.

0950 - START fresh air calibrating DustTraks.

1010 - DW DustTrak placed at Bus stop, UW placed to SW of soil stock pile pad.

1019 - EQM dropping truck load #3 for prop #21 at SA STP.

1040 - START at prop #21, continue trouble shoot of pDR.

1130 - START downloads new firmware to upgrade version on pDR (v.1.26 to v.1.34 current version) to fix data log glitch.

Rite in the Rain

1230 - Data log glitch on pDR corrected but pDR will no longer fresh air calibrate. START continues trouble shoot. Unit may need factory calibration.

1330 - START orders rental of pDR from Field Envr. Inst. for delivery tomorrow.. START preps for Waste Characterization sampling at prop #10 (PA-480). START to collect 5pt comp 0-6" bgs to be submitted to AS for waste characterization by EQM.

1350 - START at prop #10. FY grass areas on N + S side of prop, N side at rd grade S side ~ 4ft below rd grade.

1400 - START reviews Weston 2013 sample information to confirm PA-480 prop #10 comp FY grass sample location.

1420 - Prop #10 2 parcels N parcel PA-479 w/ grass FY + garage E. S parcel PA-480 w/ grass FY + house E. START to collect comp sample in FY grass area of PA-480 (higher lead results historically than PA-479) with similar comp 5pts as Weston in 2013.

1435 - START 5pt ~~Soil sample comp~~ sample comp collection Complete, sample ID HOC-WCS-001 0-6" bgs interval for Waste characterization,

1440 - Waste Characterization analysis to include TCLP Metals, TCLP VOA, TCLP SVOA, pH, Reactive Cyanide, Reactive Sulfide, Phenol, + Paint filter. START measures sample point locations + sketches sample area. Comp sample points collected by lifting up + replacing top grass layer.

1448 - START at SA to obtain XRF for XRF screening at prop #21.

1458 - START at prop #21 but heading back to SA to take down Dust Traks + VIPER system due to incoming storm.

1510 - ~~SA area~~ START at staging area demobing Dust Traks + VIPER heavy rain + strong winds.

1600 - EQM + CMC demobing from prop #21 due to heavy rains w/ standing water in excavation + storm w/ lightning.

1620 - EQM takes load to SA area SSPP #4 from prop #21.

1640 - START packing WCS HOC-WCS-001 for shipment to ALS by EQM (ALS in Holland, MI).

Backnote: 1624 time off for HOC-PAS-004 pump 016 driver EN FL: 2.0200. 1626 time off for HOC-PAS-005 pump 015 operator EN FL: 2.0237. 1625 - Time of HOC-PAS-006 pump 017

Rite in the Rain

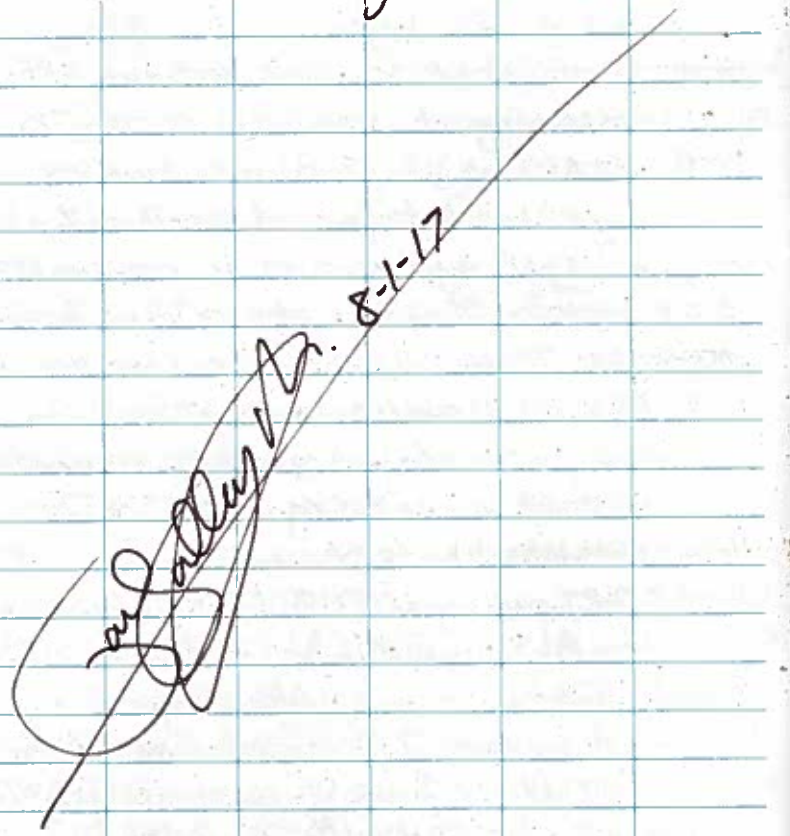
8-1-17 HOC REM

Footnote cont: laborer EN FL: 2.0448. Blank HOC-PAS-BL-002 STat 0725 EN at 1628.

1715 - START gives packed cooler with sample HOC-WCS-001 to EQM for shipment to ALS.

1720 - EPA OSC Thomas off site, CMC offsite. EQM demobing, START demobing.

1745 - START Pallardy off site.



8-2-17 HOC REM

0700 - START Pallardy, ERRS (EQM + CMC), + EPA OSC Thomas on site. EQM holds daily safety + scope meeting.

0715 - EQM + CMC mobing for continued excavation work at prop #21. START calibrating Gillian pumps flow rates.

0725 - HOC-PAS-BL-003 blank personal air sample start time.

0726 - Gillian pump #015 operator start time, start flow 2.0333 L/min, sample HOC-PAS-007.

0727 - Pump #16 laborer start time, start flow 2.0467 L/min, sample HOC-PAS-008.

0728 - Pump #17 driver start time, start flow 2.0423 L/min, sample HOC-PAS-009.

0750 - START calibrating and prepping upwind + downwind Dust Traks.

0800 - Weather 73°F, high of 86°F, mostly cloudy, wind SSW 5.5 mph. Storms not likely.

0835 - START placing UW + DW Dust Traks.

0931 - VIPER runs started for Dust Traks.

1000 - START packaging bioavailability sample for lead HOC-LBS-001 for delivery to U.S. EPA Chicago Regional Laboratory (CRL) by EPA OSC Thomas.

1010 - Sample HOC-LBS-001 in cooler provided to EPA OSC Thomas for delivery to CRL.

1015 - EQM transfers load to SA stockpile pad. #5 from prop #21.

1115 - START receives new pDR from Field EMRA.

1127 - START fresh air calibrating pDR unit ~~and uploading to~~

1140 - UW Dust Trak reading negative particulate values. START fresh air calibrates Dust Trak.

1240 - START at Prop #21. ~~EQM placing~~

1300 - EQM placing plastic liner in transfer truck bed. START to XRF screen in excavation area. Will screen in-situ for indication on whether or not additional excavation is necessary.

1305 - START calibrates + standardizes XRF with Si blank + NIST standards

1310 - START screening in excavation -

Prop	Pt	Location	(mg/kg) Lead Result	Error
21	A	4's of brick, 6' W of E wall	142	3
21	B	10's of brick, 9' E of W Prop Line	129	2
21	C	15's of brick, 5.5' W of E Wall	336	4
		Avg:	202	3

1325 - XRF in situ screening at ~ 1' 3" bgs to clay layer. EQM to continue scrapping

1325 cont - 12's of brick pavers based off pt. C XRF screening result. Once excavation is complete START will collect 1 5pt comp of yard area to 6" bgs screen with XRF + ship sample to CT Labs for lead analysis if screening results are low.

1340 - START places pDR for air monitoring of respirable particulates near removal work

1520 - START at staging area, EQM dropping off load #7 from prop #21, Load #6 transfer to soil stock pile pad (ssp) earlier today.

1600 - START at prop #21 EQM continues excavation work.

1700 - EQM + CMC demobing from prop #21 for day. START + ERRS to staging area.

1715 - START stops pDR run for day + conducts end of day Si + NIST standardization of XRF.

1730 - EQM, EMC, EPA OSC Thomas demobing and heading off site.

1746 - End sample HOC-PAS-007, pump #15 end (operator) flow 1.9827 L/min.

1751 - End sample HOC-PAS-008, pump #16

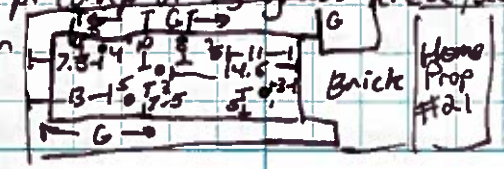
8-2-17 HOC REM

1751 cont - end flow 1.9944 L/min, Laborer.
1755 - End sample HOC-PAS-009, pump#17 end flow 2.0018 L/min, Driver.
1810 - START taking down DustTraks + Viper.
1830 - START packing Personal Air samples from last 3 days for shipment to ALS, 9 personal air samples 3 for driver, laborer, + operator each + 3 blanks.
1900 - START off site to ship air samples to ALS.
Backnote - 1700 ERRS to drop excavated soil load #8 From prop #21 at SA SASP.

8-2-17

8-3-17 HOC REM

0700 - START Pallardy, CMC + EQM (ERRS), EPA OSC Thomas on site. EQM holds daily safety + scope meeting.
0715 - START fresh air calibrating DustTraks. No personal air samples today. START fresh air calibrating pDR.
0725 - START placing UW + DW DustTraks for day + starting VIPER run
0745 - Weather 77°F partly cloudy, high of 83°F. Wind S 9mph, 30% chance of thunderstorms at ~1600.
805 - START at prop #21 places pDR for respirable particulate monitoring near removal work.
0905 - START at staging area picks up XRF for confirmation sample screening + sample supplies.
1020 - START begins calibration + Standardization of XRF (start of day) for excavation confirmation sample screening.
1040 - START randomly places points for 5pt comp of EU grass area, see sketch.



Rite in the Rain

1040 cont - Pt 1: 5'W of E walk, 3's of brick
Pt 2: 8'E of W prop line, 11'S of brick
Pt 3: 10'E of W prop line, 14.5's of brick
Pt 4: 6.5'E of W prop line, 7.5 N of S prop line.
Pt 5: 7.5'W of E Walk, 13'N of S prop line.

1055 - Comp 5pt excavation confirmation sample (ECS) collection complete, sample ID will be HOC-ECS-001 to be screened once homogenized in plastic bag 5pt screen on plastic bag 60 second.

1100 - XRF screening sample composite HOC-ECS-001

Screen	(mg/kg) Lead Result	error
A	52	2
B	40.4	2
C	39	2
D	116	3
E	112	3
Avg:	71.9	2.4

1130 - START measures excavation depths ~2'3" in garden areas, ~1'3" in yard area.

1152 - Backfill soil being dropped off at staging area Truck load placed in Backfill soil storage area SW corner of prop on plastic liner.

1209 - ERRS to load transfer truck with Backfill Soil. Truck decon'ed prior to Backfill load.

1210 - ERRS dropped load #9 from prop #21 at SASSP

1230 - START conducting end of screening Standardization with XRF.

1240 - ERRS loading transfer truck with backfill soil for prop #21.

1255 - START to prop #21, ERRS mobilized to begin backfill.

1310 - ERRS backfilling at prop #21.

1405 - ERRS continues backfilling.

1430 - START at staging Area. Beginning to rain. START takes down Dust Traks and VIPER System.

1440 - START beginning to collect 5pt comp sample of CA6 gravel pile for backfill. START collecting gravel fines.

1500 - Gravel fines backfill sample collected sample ID HOC-BACKFILL-04-080317.

1530 - START at prop #21, ERRS continues backfilling.

1540 - Slight rain, START takes down pDR

1545 - pDR run stopped.

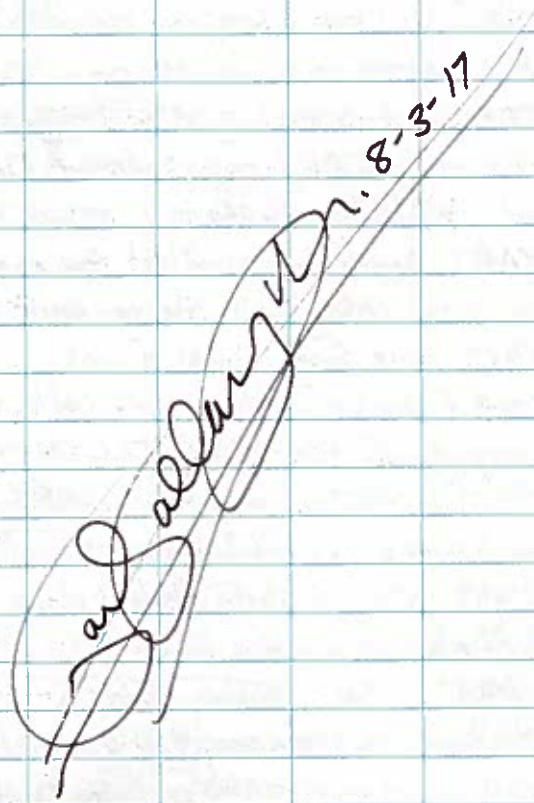
1600 - START at SA.

1655 - ERRS demobing from prop #21 backfill work for day. START packing cooler with samples HOC-ECS-001 & HOC-BACKFILL-04-080317 for shipment

Rite in the Rain

8-3-17 HOC REM

1655 cont. - to CT Labs.
1715 - ERRS at SA demobing for day.
1730 - EPA OSC Thomas off site. START Pallardy off site to ship samples. EQM + CMC off site.

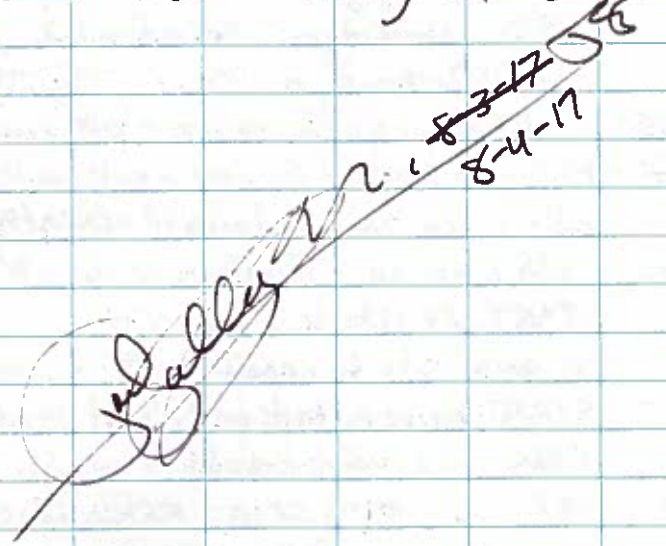


~~8-3-17~~ 8-4-17 HOC REM

0700 - START Pallardy on site. EQM + CMC (ERRS), EPA OSC Mendoza on site. EQM holds daily safety + scope meeting.
0715 - ERRS prepping to continue backfill work at prop #21.
0725 - START Fresh air calibrating air monitoring equipment for the day.
0745 - START placing UW + DW DustTraks at staging area for day + starting VIPER
0755 - 58°F cloudy current weather, high of 67°F today. Wind WSW 16 mph. 15% chance of precipitation from 1100 to 20% chance at 1700.
0815 - START to prop #21 to start PDR run.
0825 - PDR run started for respirable particulates, ERRS continuing backfill operations.
1030 - ERRS Cont. backfill work at prop #21.
1140 - START off site to Pilsen OU2 removal site to conduct XRF screening.
1345 - START Pallardy back on site at Prop #21. ERRS continuing backfill work.
1435 - START at staging area. ERRS obtaining a load of backfill soil to continue backfill work at prop #21.

~~8-3-17~~ 8-4-17 HOC REM

1530 - ERRS continues backfill work at prop#21.
1600 - ERRS holds daily work order meeting.
1645 - ERRS demobing from Prop#21, backfill work complete.
1520 - START stops Dust Trak Run for day.
1525 - ERRS demobing at staging area.
1530 - START at prop#21 to stop pDR run. ERRS continuing demobe at prop#21.
1540 - START at staging area taking down Dust Traks.
1550 - ERRS heading off-site.
1600 - START Pallandy off-site.



8-4-17

8-7-17 HOC REM

0700 - START Pallandy on site, OSC Thomas, EQM + CMC on site. EQM holds daily safety + scope meeting.
0715 - START fresh air calibrating Dust Traks + pDR for the day.
0730 - START places UW + DW Dust Trak at SA.
0735 - START calibrating down wind gillian flow rates for SA + Excavation work.
0750 - Weather 71°F partly cloudy, wind NNE 10mph, high of 73°F today. 15-20% chance of precipitation all day.
0810 - ERRS + START mobilize to prop#19.
0830 - START placed pDR for respirable particulate monitoring at prop.#19.
1000 - START at staging area. EQM ~~took~~ put Dust Traks + gateway in trailer due to rain. START places DW + UW Dust Traks back out at SA.
1115 - ERRS clearing bricks and other items stored in BY of prop#19. ERRS placing bricks on trailer to place in SA.
1130 - ERRS beginning excavation work in BY of prop.#19.
1150 - START to SA for XRF to screen in excavation area of prop.#19.

8-7-17 HOC REM

1200- ERRS off site for lunch.

1225- START at prop.#19 for XRF screening. START calibrating + start of day standardization of XRF.

1235- ERRS arriving back at prop. #19.

1250- START conducts in situ screening in prop. #19 excavation area to determine if additional excavation to 2ft is needed after initial 1ft excavation.

1255- PROP19-XRF-INSC-001 - Lead Result 445ppm ± 6
PROP19-XRF-INSC-002 - Lead Result 318ppm ± 5
INSC Point 001 8 ft E of W prop line, 1.5ft N of home.
INSC Point 002 8.5 ft E of W prop line, 1.5ft N of home.
Pt 001, dark grayish Br sandy silt with gravel
Pt 002 gray gravelly sandy silt.

1305- ERRS will excavate to 2ft in area next to XRF screening.

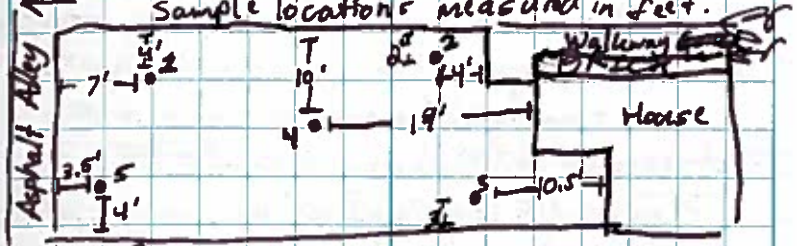
1315- ERRS to begin transferring loads of excavated material from prop. #19 to SA SSP.

1320- ERRS transfers small excavator to load transfer truck with excavated material from Prop. #19.

1400- ERRS drops off truck load of excavated material at SA SSP, 1st from Prop #19.

1450- START at Prop #19 to collect 5pt bioavailability comp soil sample from 6" interval.

1450- 5pts dug to 6" bgs prior to sample collection, see sample collection sketch. Sample locations measured in feet.



1540- Bioavailability sample for lead collected from prop #19, Sample ID HOC-LBS-002. START to hold sample on ice until delivery to CRL.

1645- ERRS demobing from Prop #19 removal work for day. ERRS transferring excavated load to SA SSP, 4th from Prop #19.

1715- START taking down air monitoring equipment for the day. EPA OSC Thomas off site.

1730- ERRS off site. START continues working with air monitoring equipment.

1845- START Pollardy off site.

*Backnote - START calibrated end of day flow rates for DW gilliams at SA + Prop #19 at 1730.

8-7-17

0700-START Pallardy on site. EPA OSC Thomas on site, EQM+CMC on site(ERRS). EQM holds daily safety + scope meeting.

0715- ERRS prepping to mobilize to Prop #19 to continue removal work. —

0730- Weather 67°F sunny, high of 82°F today, wind NE to E 7mph. 0% chance of precipitation.

0800- START fresh air calibrating Dust Traks, pDR, + calibrating gillian flow rates for downwind at Prop #19 + SA. —

0830- START placing UW + DW DustTraks at SA.

0930- START places excavation area air monitoring pDR + gillian at Prop #19. —

0950- START calibrating + start of day standardizing XRF for in situ screening at Prop #19.

0953- INSC-003 157ppm ±3 Pb at 1ft bgs 9ft E of W prop line, 16.5ft N of house, INSC-004 427±6 Pb at 6" bgs 10.5ft W of E prop line, 13.5ft N of house, INSC-005 130ppm±3 Pb at 1ft bgs 3.5ft W of E prop line, 2.5ft N of brick paved walkway. INSC-006 42±2 ppm Pb at 6" bgs 10.5ft S of N prop line, 9.5ft W of E prop line. —

1010- ERRS will excavate to gravel layer in vicinity of INSC-004. INSC-003, 005 + 006 were at the surface of gravel layer. —

1040- START XRF screening additional point along E side of BY on N side. INSC-007 reading 772ppm Pb initially START did not finish screen ~10ft S of N prop line, ~2ft W of E prop line. ERRS to excavate this area to gravel layer ~1ft to 2ft bgs. —

1115- ERRS continues Prop #19 removal work.

1145- ERRS off site for lunch. —

1220- ERRS back on site ~~START XRF~~ START XRF

1245- Screens additional point NW corner of Prop #19 ~2's of N prop line + ~2' E of W prop line depth ~1ft of ~15" bgs. —

1250- INSC-008 796ppm ±16 Pb. ERRS will continue to excavate to 2ft bgs in vicinity of INSC-008. ~~START~~

1310- off C6 START to Prop #16 to collect confirmation soil sample from under porch area, to be collected as a 5pt comp. ERRS dropping 7th Prop #19 excavation load off at SA SSP. —

1400- HOC-CSS-001 collected from 0-6" bgs interval as 5pt comp at Prop #16.

1420- START measures off sample points, sketched on separate sheet. —

8-8-17

1430 - START at Prop #09-10 to collect lead bioavailability samples. EPA OSC would like START to XRF screen soil in rose bed owner would like to keep.

1445 - START collects 3 pt comp from rose bed from 0-6" bgs interval to homogenize in plastic bag, XRF screen 5pts on homogenized bag.

Screen	Lead Result (mg/kg)	Error (+/-)
PROP10-SCR-001a	314	4
001B	383	5
001c	331	4
001D	317	4
PROP10-SCR-001e	332	4
Avg	335	4

1515 - START collects HOC-LBS-003 from Prop #10 (PA-480) grass yd area (FY) 5pt comp at 6" bgs matching Weston sampling sketch & WCS sampling.

1530 - HOC-LBS-004 collected from Prop #9 (PA-479) FY grass 5pt comp at 6" bgs matching Weston sampling. HOC-LBS-003+004 to be shipped to CRL for Lead Bio.

1600 - START at Prop #19 for XRF & Confirmation Excavation sample.

1630 - Sample collected from area of 8Y excavated to gravel and native clay N center portion of prop. N from stairway to N prop line and width equal to driveway entrance.

Field Notes from 8-8-17 continued in LB# page 2

INCH

MADE IN TACOMA
SINCE 1916
Rite in the Rain
DEFYING MOTHER NATURE

Name 2nd in Series

START FIELD LOGBOOK

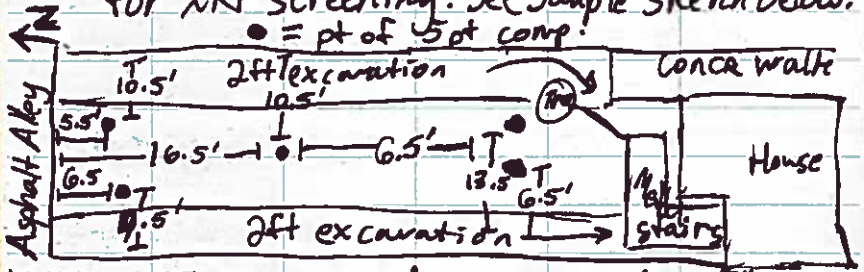
Logbook Tracking Number CH253
Site Name Heart of Chicago Removal Site
Issue to Paul Pallardy
Date Issued 8-3-17
TDD # 0001-1706-002

MADE IN USA RITE GREEN Archival
RiteintheRain.com

CONTENTS

8-8-17 HOC REM

1630 cont - Excavation confirmation sample from Prop #19 collected as 5pt comp. from 12-18" bgs excavated area. Sample collected from 12-18" bgs interval. Soil placed in plastic bag and homogenized for XRF screening. See sample sketch below.



1640 - XRF Screening of ECS sample of prop #19.

Screen	Lead Result (ppm)	Error (+/-)
A	140	3
B	145	3
C	157	3
D	127	3
E	167	3
Avg	147	3

1650 - XRF reading average of 147 ± 3 ppm for lead well below 290ppm XRF confidence interval. START to ~~collect confirmation~~ label excavation confirmation sample HOC-ECS-002 and will package for shipment to CT Labs for

8-8-17 HOC REM

1650 cont. - lead analysis.

Backnote 1635 - START ends pDR monitoring and Gillian pump in vicinity of excavation area.

1700 - START at SA, ERRS demobing for day.

1720 - EPA OSC Thomas & ERRS off site.

1730 - START taking down UW & DW Dust Traks for day & stopping runs.

1740 - START conducting end of day flow calibration for Gillians at excavation & SA.

1820 - START conducting end of day standardization for XRF.

1845 - START off site to ship confirmation sample HOC-CSS-001 collected from Prop #6 & HOC-ECS-002 collected from Prop #19 to CT Labs for lead analysis.

8-8-17

8-9-17 HOC REM

0700 - START Renner on-site, EPA @ Thomas on site, EQM & CMC on site (ERRS). EQM holds daily Safety meeting.

Notes: ERRS preparing to begin prep for removal activities @ Prop #19, removal of Fence, & bushes

0730 - START put out UW & downwind Dust Trak & Gillian pumps

0745 - START to Prop #19 to document pre-removal conditions

0800 - START took photo documentation of pre-removal Condition @ Prop #19

Background - START calibrated dust-trak, & PPR and recorded the flow for the gillian pumps

0840 - START checked on Prop #19, backfill is continuing w/ no issues.

0855 - START @ Prop #9 & #10, Set up PPR & Gillian pump w/ nozzle right

1005 - 2 loads of dirt & 1 load of 2" rock loaded out

1109 - People gas & ERRS @ Prop #9 & 10

1240 - ERRS begins excavation @ Prop 9/10

8-9-17 HOC REM

1500 - A fence post & corner of yard wall was damaged by ERRS during soil removal. The damage was documented & the owner informed

1530 - No issues w/ particulates

1535 - Backfill continues @ Prop #19, no issues to report

1640 - Excavation completed for the day, ERRS brought plastic to cover the pits @ Prop #9

1645 - START collected PPR & Gillian @ Prop 9

1700 - START collected Dust-trak & gillian @ staging area

1710 - START off-site

8-10-17 HOC REM

0700- START Renner on-site. EPA & ERRS on-site & daily safety meeting conducted by ERRS.

Notes: Work conducted @ Prop #19 and backfilling will be completed. Removal continuing @ Prop #9&10, loading out dirt will begin today.

0730- START renner calibrated Dustraks, PDR, and Gillian pumps

0740 - START set up Dust traks & gillian in staging area

0820- START set up PDR & Gillian @ Prop #19

0900- START checked backfilling @ Prop#19 no issues to report

1000- 5 loads of dirt loaded so far from Prop #9&10

1200- Break for lunch

1230- Return from lunch, ERRS continue removal @ Prop 9&10

1430- START renner goes to staging area to swap out omni directional rod of dust trak w/ new one

1445- OSC Kondra & Thomas @ Prop 9&10

1515- ERRS begins to lay Fence on bottom of removal zone, only

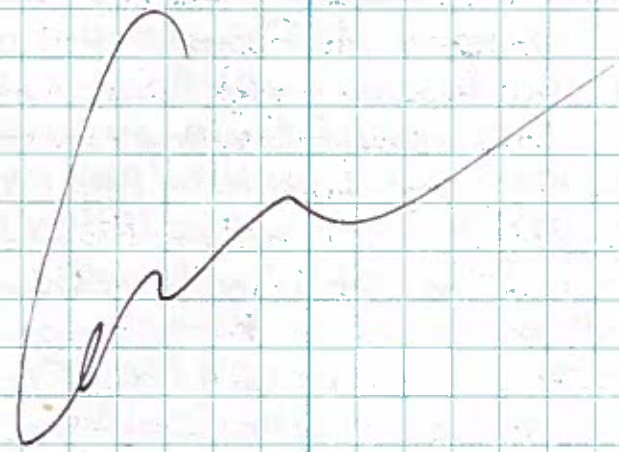
8-10-17 HOC REM

Cont. - the lower yard has been excavated & will be backfilled before excavating upper yard @ Prop 9&10

1630- START Renner collected PDR & Gillian from Prop #9, still backfilling lower yard

1700- START Renner collected Dust traks & Gillian pumps

1710- Equipment on charge & START 6 hr. silt



8-11-17 HOC REM

0700 - START Pallardy, EQM, ~~ERRS~~, CMC, (ERRS) on site. EQM holds daily safety + scope meeting.

0715 - ERRS prepping to begin backfill work for day. Weather 70°F partly cloudy, high of 77°F, wind NW 9mph, 10% chance of precipitation. OSC Benning on site.

0730 - START begins zero calibrating Dust Traks + pDR for the day.

0750 - START places UW+DW Dust Traks at SA.

0815 - START calibrating gillian pump flows.

0819 - Gillian placed at SA with DW Dust Trak.

0825 - START at ~~pDR~~ Prop #9+#10 placing Gillian pump + pDR for particulate monitoring. ERRS backfilling Prop #10.

0930 - ERRS continue backfilling Prop #10.

0935 - ERRS to SA for additional backfill material.

1030 - START to SA to correct VIPER Dust Traks connection.

11~~3~~0 - ERRS continues backfill of Prop #10

1200 - ERRS takes lunch.

1230 - ERRS back on site continues Prop #10 backfill.

1245 - ERRS begins to excavate small rose garden,

8-11-17 HOC REM

1245 cont. - on the NE side of Prop #10 FY. ERRS takes rose bushes out but keeps root system in tact. Rose bushes will be immediately placed back in garden area once backfill begins. ERRS excavating to 2ft bgs.

1410 - Excavation of rose bush area of Prop #10 FY continues.

1450 - ERRS begins backfilling Prop #10 FY ~~area~~ garden area.

1505 - 9 rose bushes to be placed back in garden

1630 - Rose garden backfilled and roses replaced. ERRS demobing + placing caution tape. Excavat. to remain in the yard over the wicken plastic underneath + caution tape off.

1640 - ERRS rolling straw out in FY of Prop #10 ~~for future seeding~~ to cover backfilled soil for weekend. START stopping gillian + pDR rnn.

1700 - START at SA taking down Dust Traks. ERRS Demobing.

1730 - START flow calibrating Gillians, ERRS off site.

1745 - VIPER run stopped, START off site.

8-14-17 HOC REM

0700 - START Pallardy on site. EQM + CMC on site. EQM holds daily safety + scope meeting.

0715 - EPA OSC Benning on site. Weather 71°F sunny, high of 83°F, wind SSW 6mph, 15% chance of precipitation today.

0730 - START placing DustTraks at SA after fresh air calibration. —GC

0745 - START flow calibrating gillian pumps.

0750 - START places gillian w/ N DustTrak at SA.

0800 - START at Prop #9 placing pDR with gillian for air monitoring.

0820 - ERRS would like in situ screening in excavation area with XRF. START calibrating + standardizing XRF.

0830 - START begins in situ screening
INSC-001 - 12" bgs 50ppm ± 2 Pb, 6ft N of s parcel boundary, 3.5ft E of W prop line.
INSC-002 - 12" bgs 1353 ± 13 pb, 3 s of N prop line, 4.5 E of W prop line.
INSC-003 - 12" bgs 70 ± 2 pb, 11 s of N. prop line, ~~4~~ E of W prop line.
INSC-004 - 12" bgs 890 ± 9 Pb, 11 s of N prop line, 3.5 ft E of W prop line.

8-14-17 HOC REM

0830 cont. - INSC-005 - 12" bgs 299 ± 5 Pb, 6.5 N of S parcel boundary, 10 ft E of W prop line.

0900 - ERRS to conduct additional excavation to 2ft bgs in vicinity of INSC-002, 004, & 005. 001 in SW corner of Prop #9 & 003 in gravel on W side of Prop #9. —GC

0910 - START off site to check in on removal activities at Pilsen 042 while EPA OSC Mendoza is on leave. —GC

0950 - START back at HOC REM. ERRS continue removal work in Prop #9 FY working W to E.

1000 - ERRS has transferred 1 truckload to SA today to SSP 1st from Prop #9.

1030 - INSC-006 6" bgs 1190 ppm ± Pb. 15.5 E of W boundary, 4.5 N of S parcel. ERRS to continue to excavate to 2ft bgs. ERRS transfers 2nd load to SA SSP. —GC

1135 - Rem work at Prop #9 cont's. START INSC-007 6" bgs 807 ppm ± 9 Pb 19ft E of W prop line, 10.5ft N of S parcel.

8-14-17 HOC REM

1140 - ERRS taking a break for lunch. ERRS has transferred 3 excavation loads to SA SSP from Prop #9.

1230 - ERRS back from lunch.

1255 - ERRS transferring 4th excavation truck load to SA SSP from Prop #9.

1325 - ERRS transfer 5th exc. truck load to SA SSP.

1405 - START to Pilsen OU2.

1435 - START back at Prop #9 ERRS continues removal work.

1445 - ERRS transferring 5th excavation load to SA SSP.

1550 - ERRS transfers 6th excavation load to SA SSP.

1630 - ERRS transfer soil to SA SSP, ERRS begins demobing for the day. START takes down PDR + gillian.

1650 - START + ERRS to SA.

1700 - START taking down DustTraks + gillian. ERRS demobing.

1730 - ERRS off site. START end of day standardizing XRF, end of day flow calibrating gillians, ending VIPER run, + loading air data.

[redacted] START Pallardy off site.

1825

8-15-17 HOC REM

0700 - START Pallardy on site, EQM CMC on site (ERRS), EQM conduct daily safety + scope meeting.

0715 - OSC Benning on site. ERRS mobilizing to continue Rem work at Prop #9. START fresh air calibrating DustTraks + pDR, Flow calibrating gillian pumps

0800 - START placing DustTraks + OU2

0915 - Weather 78°F sunny, high of 81°F today, wind NNE 8mph, 15% chance of precipitation. VIPER run started.

0930 - pDR + gillian placed for air monitoring at Prop #9.

0931 - START to Pilsen OU2.

0955 - START back on site at Prop #8 (Weston PA-478) to collect bioavailability sample while yard is utility located by GARS.

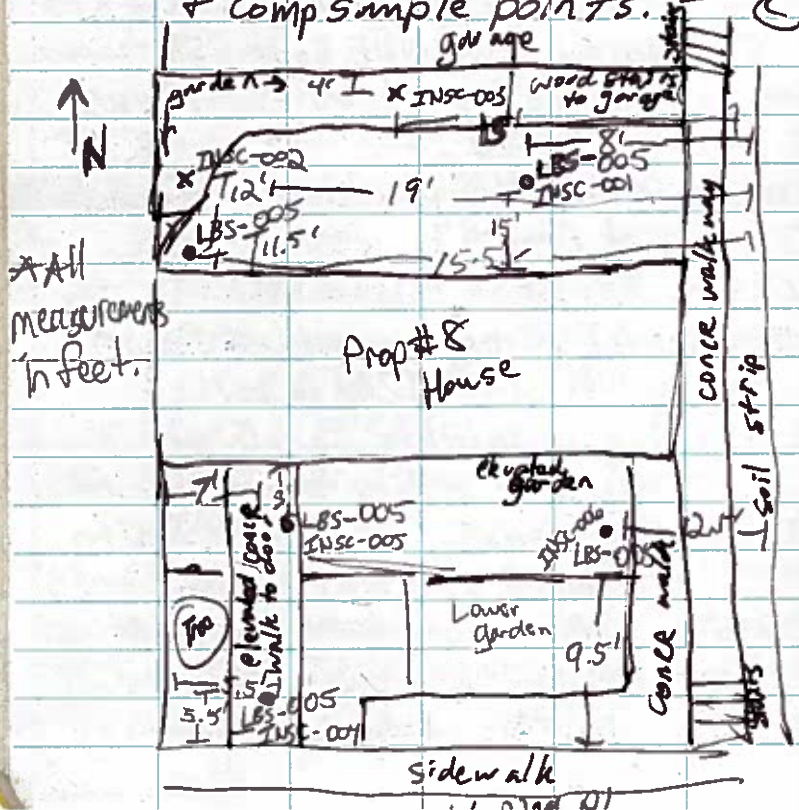
1005 - EPA + Owner would like in situ screening with XRF conducted.

1015 - START standardizing + calibrating XRF. START begins screening in BY. Lead bioavailability

8-15-17 HOC REM

1015 cont - comp. sample collection will closely follow Weston comp. sample. 3 pts in FY + 2 pts in BY outside of garden. FY now garden area. Lead bioavailability sample will be collected at 6" bgs interval.

1030 - See sketch for in situ screening pts + comp sample points.

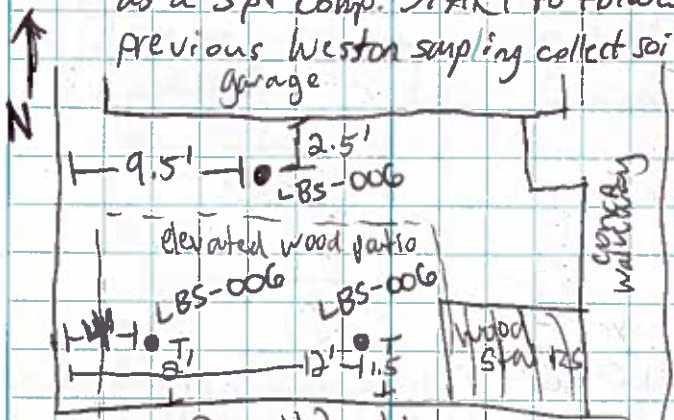


8-15-17 HOC REM

1100 - LBS-005 is lead bioavailability comp. pts for HOC-LBS-005 sample from Prop #8
INSC-001 - 820ppm lead ± 8 0" interval
002 - 746 ± 7 ppm for Pb 0" interval
003 - 500 ± 6 ppm Pb 0" interval.
004 - 937 ± 9 ppm Pb 0" interval
005 - 269 ± 4 ppm Pb 0" interval
006 - 1074 ± 10 ppm Pb 0" interval.

1115 - Owner does not want lower garden in FY dug out & does not want BY garden dug out.

1145 - START at Prop #2 (Weston PA-472) to collect lead bioavailability comp. sample. Only BY sampled in 2013 as a 3 pt comp. START to follow previous Weston sampling collect soil @ 6" bgs



↓ W 22nd Pl to S

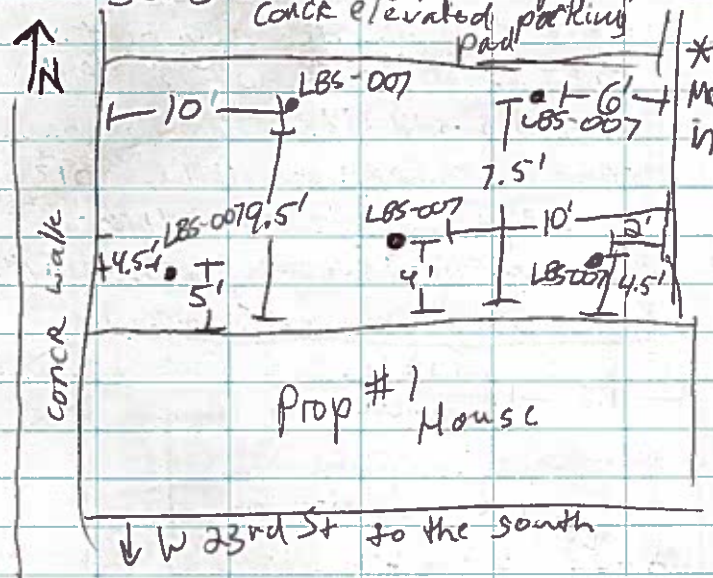
8-15-17 HOC REM

1200 - HOC-LBS-0006 lead bioavailability sample from Prop #2 (3pt comp, BY, 6" bgs interval) collected.

1215 - START at Prop #9, ERRS at lunch.

1220 - START to [redacted] Prop #1 (Weston PA-471) to collect a lead bioavailability sample. Sampling to follow Weston 2013. 5pt Comp sample from BY only.

1230 - START at Prop #1 to collect sample See sketch for comp. sample pt locations.



1250 - HOC-LBS-007 lead bioavailability sample collected from Prop #1 (5pt comp, BY, 6" bgs interval).

8-15-17 HOC-REM

1315 - START at SA to check on Asst Trades

1420 - START to Pilsen OU2

1500 - START at Prop #9, ERRS continues backfill work.

1515 - Orange fencing placed in excavation of Prop #9. Whole grass area FY of Prop #9 excavated to 2 ft bgs.

1535 - START at Prop #19, START to collect 5pt comp. of gravel backfill used at property for driveway area. Sample collected from gravel/backfill pile at staging area (HOC-BACKFILL-04-080317) had concentrations above EPA RSLs + IEPA Residential TACO standards for Benzo(a)anthracene + Benzo(b)fluoranthene Prop #19 5pt comp of gravel/fines in place will be analyzed for Benzo(a)anthracene + Benzo(b)fluoranthene to confirm whether or not concentrations of material in place meet EPA RSLs + IEPA Residential TACO Standards.

1600 - Sample HOC-CGRS-001 collected from Prop #19, 5pt comp points

8-15-17 HOC REM

1600 cont- were measured off, collection depth was top 3" of gravel/plant
Pt 1 - 4ft S of N prop line & 11ft W of E prop line.
Pt 2 - 5ft S of N prop line & 10ft E of W prop line
Pt 3 - 19ft S of N prop line & 11.5ft W of E prop line.
Pt 4 - 6ft N of house & 5ft E of W prop line
Pt 5 - 3ft N of house & 9ft W of E prop line.
1630 - START at Prop#9. ERRS continues backfill work.
1645 - ERRS finishing backfill work for the day at Prop#9, START stops pDR & gillian pump run for day.
1700 - START at SA, taking down DustTraks for day.. OSC Benning off-site.
1720 - ERRS demobing for day.
1730 - ERRS off site.
1815 - START Pallardy off site.

8-15-17

8-16-17 HOC REM

0700 - START Pallardy on site, EQM & CMC onsite. EQM holds daily safety & scope meeting.
0715 - Truck on site for excavated material load to haul off site to Lansing.
0720 - START begins fresh air calibration of DustTrakst pDR & flow calibration of gillians. ERRS prepping for removal work. Weather 74°F sunny, High of 84°F, wind E 8mph, 15% chance of precipitation
0800 - DustTraks and gillian placed at SA. START begins VIRER run.
0900 - START at Prop#2 and Prop#8, ERRS prepping for removal work. START placing pDR + gillian for air monitoring. ERRS will likely begin removal work at Prop#2
Backnote: START at Prop#9, ERRS continues backfilling work @0845
0900cont - City of Chicago workers concrete cutting and breaking up concrete & asphalt for utility work.

8-16-17 HOC REM

0900 cont - City of Chicago utility work generating significant dust across the street.

0950 - START off site to Pilsen OU2 Rem.

1120 - START at Prop #9, backfill work continues

1125 - START at Prop #2, ERRS conducting removal work in BY

1150 - ERRS would ~~START~~ to XRF 1 ft excavation area to determine if excavation needs to be conducted to 2ft bgs. ERRS to lunch.

1205 - START standardizing & calibrating XRF for XRF screening.

1220 - In Situ screen 001 at Prop #2 complete. Lead 628 ± 7ppm at 1 ft bgs in NW corner of BY 0.5ft E of W prop line, 1ft S of garage.

1240 - START off site for lunch.

1305 - START at Prop #2, ERRS continues removal work.

1340 - ERRS hand digging BY, transferring excavated soil to boxer + then placing in FY to stage for load out.

1530 - START at Prop #9, ERRS continues backfill + grading

8-16-17 HOC REM

1545 - ERRS continues removal work at Prop #2 in BY.

1630 - Storms likely, START taking down Dust Trakes + gillian for day at SA.

1640 - ERRS demobing from Prop #9 and Prop #2 for day.

1650 - START at Prop #2, ERRS demobe complete START taking down PDR + gillian.

1700 - START ends VIPER run. ERRS at SA demobing for day.

1710 - START standardizing XRF.

1720 - START off site.

* 3 loads off site today for disposal of excavated material to Lakeway.

8-16-17

Rite in the Rain

8-17-17 HOC REM

0705 - START Pallarday onsite, EQM + CMC on site. EQM held daily safety + scope meeting. ERRS prepping for removal work at prop #2. ERRS to wait on backfill work at Prop #9 until rain stops and backfilled area is drier.

0710 - ERRS loading truck with excavated soil from SSP for off site disposal.

0715 - Weather 73°F cloudy + raining high of 84°F, partly cloudy + 15% chance of rain 10 through remainder of the day. Wind SW 15mph. FB

0725 - ERRS mobilizing to prop #2. START to wait to deploy DustTraks + pDR, + gilliams until rain stops.

0900 - Rain has stopped START places DustTraks + gillian at SA + begins VIPER run for the day.

0925 - START at Prop #2 ERRS continues removal work. START begins pDR + gillian run for day at Prop #2.

0940 - START to in situ screen in Prop #2 BY excavation. Standardizing +

8-17-17 HOC REM.

0940 cont. — calibrating XRF.

0950 - In situ screening at surface of 1ft bgs interval. INSC-002 2.5ft S of garage, 6.5ft E of W prop line. 680 ± 7ppm for Pb

0955 - INSC-003 3ft N of house 5.5ft E of W prop line. 637 ± 7 ppm for Pb.

1000 - ERRS will excavate to 2ft bgs interval in this area.

1125 - START to Pilsen au2 Rem.

1205 - START at Prop #2. ERRS at lunch. START to SA.

1355 - START at Prop #2. ERRS continuing removal work, excavating to 2ft bgs in BY area.

1530 - ERRS transferring truck loads from Prop #2 to SA SSP with small truck.

1639 - ERRS transferring truck load to SA SSP.

1645 - ERRS begins demobing from removal work at Prop #2 for day. START stops pDR + gillion runs for day.

1655 - START at SA, taking down DustTraks and gillian for day.

8-17-17 HOC REM

1705- ERRS on site demobing for day. OSC Benning off site for day.

1720- START ends VIPER run, ERRS off site.

1730- START Pallardy off site.

Backnote - 3 truck loads hauled off site for disposal at Waraway today.

8-17-17

8-18-17 HOC REM

0700- START Pallardy on site, EQM + CMC on site (ERRS). EQM holds daily safety + scope meeting.

0705- START fresh air calibrating DustTraks + pDR. ERRS prepping to continue backfill grading at Prop #9 and removal work at Prop #2 today.

0715- START placing DustTraks at SA with Gillian.

0725- Weather 69°F sunny, high of 84°F today. Wind W at 13mph + 0% chance of precipitation.

0730- START standardizing + calibrating XRF for the day. Gilliams flow calibrated.

0830- START at Prop #2 placing pDR and gillian pump for air monitoring.

0850- START to Pilsen OU2.

1230- START at HOC REM. ERRS off site for lunch.

1255- START off site to Pilsen OU2.

1355- START back on site at Prop #2.

1400- START at Prop #8 back yard

8-18-17 HOC REM

1400 cont - ERRS excavating BY, a portion excavated to 12" bgs. START to screen 3pts at 12" bgs. INSC-007 (006 on 8-15 pg 15) - 854 ppm for Pb ± 8. Located 12.5 ft N of house, 15 ft W of E prop line. INSC-008 - 664 ppm for Pb ± 7 12 ft N of house, 11 ft W of E prop line. INSC-009 - 1269 ± 11 ppm for Pb. 17 ft N of house, 11.5 ft W of E prop.

1425 - ERRS will excavate to 2 ft bgs in these areas of the BY.

1530 - Removal work continues at Prop #2.

1630 - ERRS begins demobing from site for the weekend.

1645 - START stops pDR + gillian run.

1655 - START at SA takes down Dust Trak and gillian.

1715 - End of day XRF standardization, end flow calibrate gillians, + stop VIPER run

1725 - ERRS at SA demobing for weekend

1730 - START off site.

Jn. 8-18-17

8-21-17 HOC REM

0705 - START Pallardy on site. EQM + CMC, + EPA OSC Thomas on site. EQM holds daily safety + scope meeting

0710 - ERRS prepping for removal work at Prop #2 + 8. START fresh air calibrating Dust Traks + pDR Flow calibrating gilliams.

0715 - Weather 77°F partly cloudy, wind SW 8 mph, 15% chance of precipitation

0740 - START placing Dust Traks at the staging area.

0800 - START places pDR + gillian for dust monitoring near Prop #2 + 8 removal

0830 - ERRS utilizing small excavator for removal work in FY of Prop #2 + 8. Removal work in BY of Prop #2 + 8 complete

1040 - ERRS requests START to XRF in situ screen in FY garden of Prop #8 START standardizing + calibrating XRF.

1055 - XRF screening results - INSC-010 - 328 ± 5 ppm Pb at 2" bgs, located 13 ft W of E Prop line 4 ft S of House.

8-21-17 HOC REM

1055 cont. – INSC-011 - 320 ppm ± 5 Pb 20" bgs, Located 15.5 W of E Prop line & 4.5 ft S of House. INSC-012 - Same location as INSC-011 at 21" bgs 331 ± 5 ppm for Pb.

1100 - ERRS excavating to 2 ft bgs in this area.

1120 - START to Pilsen OU2.

1310 - START back at Prop #2. ERRS continues removal work in FY area.

1610 - ERRS requests START to XRF in Prop #2 FY, excavation at clay like layer ~18" bgs.

1620 - INSC-004 - 116 ± 3 ppm for Pb at 18" bgs. Located 3 ft S of house & 3 ft E of W prop line. INSC-005 - 54 ± 2 ppm for Pb at 18" bgs. Located 5 ft N of S prop line & 3.5 E of W prop line.

1635 - ERRS will continue excavation in FY of Prop #2 to clay like layer.

1645 - ERRS demobing from Prop #2 removal work.

8-21-17 HOC REM

1650 - START ends pDR & gillian pump run for the day.

1700 - START and ERRS at SA transfer ring partial truck load to SSP from Prop #2.

1705 - START taking down Dust Trak and gillian pump for the day.

Backnote - 1640 end of day standardization of XRF completed.

1715 - End of day gillian pump calibration.

1730 - ERRS + EPA OSC Thomas offsite. START downloading air data.

1735 - START ends VIPER run.

1800 - START off site (START Pollard)

8-21-17

8-22-17 HOC REM

0700 - START Pallardy on site, EQM, CMC, + EPA OSC Thomas onsite. EQM holds daily safety + scope meeting.

0705 - ERRS prepping for removal work at Prop #2.

0715 - START fresh air calibrating Dust Trahs, pDR, + flow calibrating gillians. Weather 72°F, high of 78°F, wind WNW 13mph, no chance of rain today.

0730 - START placing Dust Trakr.

0745 - START begins VIPER run.

0830 - START at Prop #2, places pDR + gillian for air monitoring near removal work. ERRS continuing removal work in FY of Prop #2.

0950 - START off site for staging area site walk at E. Pilsen Rem.

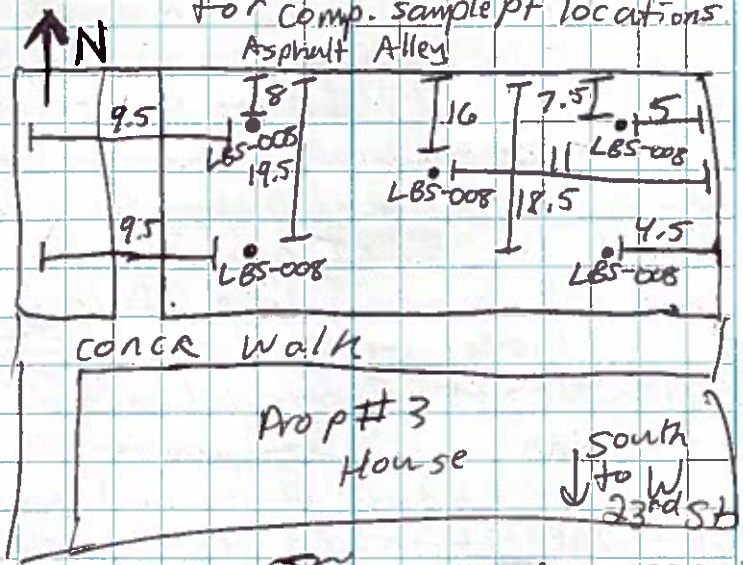
1230 - START back on site at Prop #2.

1305 - START to Prop #3 (Weston PA-473) to collect bioavaibbity sample.

1400 - Sample HOC-LBS-008 lead bioavailibity collected from Prop #3 (5pt comp., BY

8-22-17 HOC REM

1400 cont. - 6" bgs interval). See sketch for comp. sample pt locations.



1440 - START ~~East~~ Prop #4 (Weston PA-474). Property is 2 parcels START will collect 2 lead bioavaibbity samples, 1 from BY + 1 from FY.

1515 - ERRS would like START to XRF screen at Prop #3. START to comp back to sample Prop #4.

1520 - START standardizing + calibrating XRF.

1540 - XRF screening complete at 12" bgs INSitu screening INSC-001 at 8.5 ft E of w prop line 10.5 N of house

8-22-17 HOC REM

1540 cont - 875 ± 8 ppm for Pb.

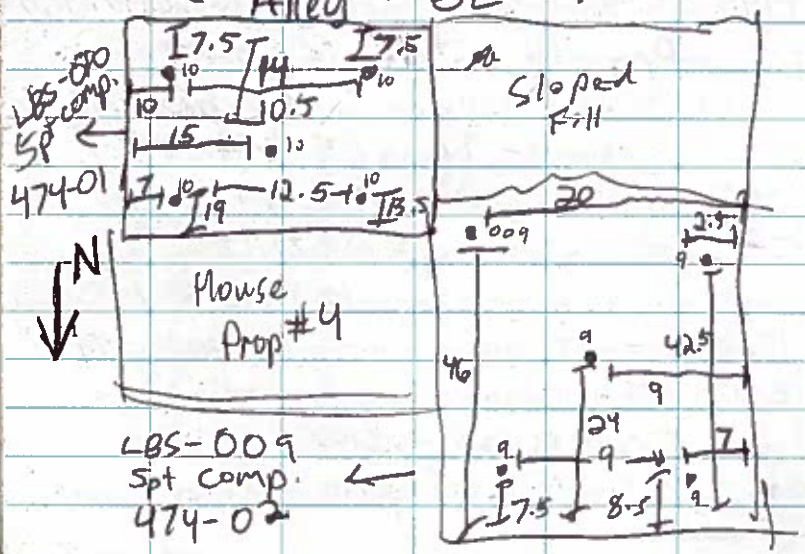
INSC-002 - 19.5 ft S of N prop line, 2.5 W of E prop line, 12" bgs. 771 ± 8 ppm for Pb.

INSC-003 - 6 ft S of N prop line, 2.5 W of E prop line, 12" bgs. 575 ± 7 ppm for Pb.

ERRS to excavate to 2 ft bgs in these areas.

1550 - START XRF screened potted plant. 17.9 ± 1.5 ppm for Pb. looks like potting soil mix.

1610 - START at Prop #4 for Lead Bioavailability.



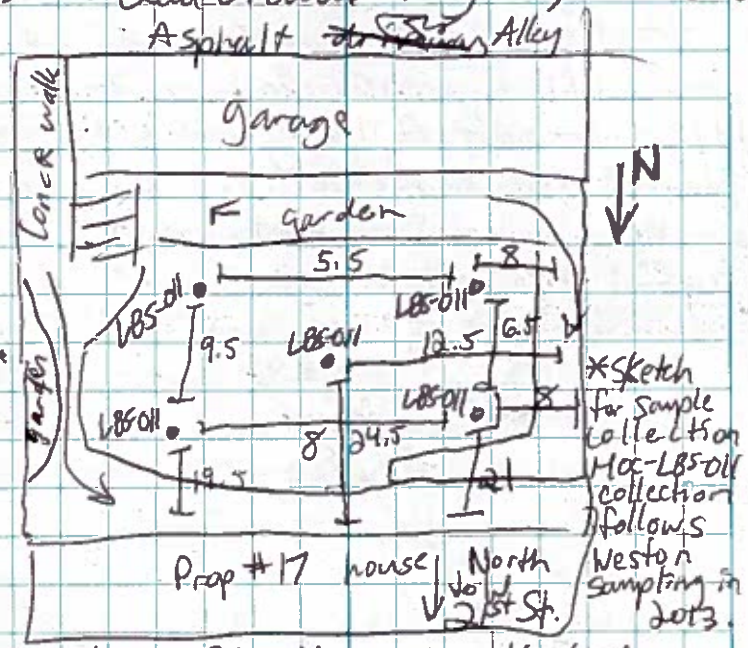
8-22-17 HOC REM

1620 - Sample HOC-LBS-009 collected as 5 pt comp FY from 6" bgs following Weston sampling. See sketch.

1640 - HOC-LBS-010 collected (5 pt comp BY 6" bgs), follow Weston sampling.

1710 ~~1510~~ - START at Prop #2 + 8 and stops ppRt gillian run.

~~1530~~ START at Prop #17 for 1730 Lead Bioavailability sample collected.



1745 - HOC-LBS-011 sample collected as 5 pt comp from 6" bgs in BY of Prop #17.

1800 - START at SA. START taking down Dust Traks and gillian for day. ERRS & EPA OSC Thomas

8-22-17 HOC REM

1800 cont.- off-site.

1815 - START end of day flow calibrating gillion pumps. End of day standardization of XRF.

1830 - START packing Lead bioavailibity samples HOC-LBS-005, 006, 007, 008, 009, 010, & 011 for drop off at CRL by START Renner tomorrow.

1910 - START Pallardy off site.

Backnote - ERRS did not observe clay layer through all of FY at Prop#2, only on E portion Prop#2 FY excavated to 2ft bgs.

8-22-17

8-23-17 HOC REM

0700 - START Pallardy on site. EQM, CMC, & EPA OSC Mag were onsite. EQM holds daily safety & scope meeting.

0705 - ERRS prepping for removal and backfill work. START fresh air calibrating DustTraks & pDRs. Flow calibrating gillion pumps.

0715 - Weather 63°F partly cloudy, high of 76°F, wind NNW 12mph, and 0% chance of precipitation.

0740 - START placing DustTraks at SA and START begins VIPER run.

0805 - START at Prop#2, ERRS conducting backfill work.

0825 - START at Prop#3, ERRS conducting removal work. ERRS request START to XRF screen in excavation area.

0840 - START XRF screening in situ at surface of excavation. INSC-004 - 2.5ft W of E prop line, 9.5 ft N of house. XRF screening 73 ± 3 ppm for Pb at 16" bgs.

8-23-17 HOC REM

0840 cont. - INSC-005 - 6ft N of house 7ft E of W prop line. XRF screening. 160 ± 3 ppm Pb at 16" bgs.

INSC-006 - 2.5ft E of W prop line, 13.5 N of house. 646 ± 7ppm at 16" bgs.

0900 - INSC-006 at surface which was packed down with surface soil from BY. ERRS scrapes surface to Br clay in this area and scrapes another ~~Br clay~~ area to Br clay for another XRF screen. INSC-007 - 2ft E of W prop line, 14.5 ft N of house 121 ± 3 ppm at 14" bgs. ERRS to continue excavate to clay layer.

1045 - START conducts additional XRF screening in Prop # 3 excavation area. INSC-008 - 9ft S of N prop line, 1.5 ft E of W prop line. 67 ± 2 ppm Pb at 14" bgs.

INSC-009 - 2.5ft S of N prop line, 1.5 E of W prop line. 301 ± 5 ppm Pb at 14" bgs. ERRS will conduct

8-23-17 HOC REM

1045 cont. - additional scrapping in this area through to additional clay. INSC-010 - 2.5ft S of N prop line 3 ft W of E prop line. 72 ± 3ppm for Pb at 16" bgs.

1215 - START at Prop # 2 + #8. ERRS off site for lunch.

1245 - ERRS back on site.

1320 - ERRS continues backfill work at Prop # 2 + #8.

1430 - START at Prop # 3, ERRS continues removal work. ERRS loading truck for transferring excavated material to SA SSP

1520 - START Kuc on site. START Pallardy walking Kuc through site for Friday coverage.

1540 - START at Prop # 2 + 8.

1555 - START at Prop # 3.

1600 - START at SA.

1640 - START Kuc off site.

1655 - START at Prop # 2 + 8.

8-23-17 HOC REM

1655 cont. — ERRS demobing from Prop #2&8.

1705 - START at Prop #3, ERRS demobing from Prop #3 for the day. START ends pDR + gillian run for day. ERRS covers pile of excavated soil in BY of Prop #3.

1715 - START at SA. START taking down Dust Traks for day.

1720 - START ends gill. on pump run.

1730 - ERRS demobed and off site, EPA OSC Thomas off site.

1740 - START off site.

D. 8-23-17

8-24-17 HOC REM

0700 - START Pallardy on site, CMC, EQM (ERRS), + EPA OSC Craig Thomas. EQM holds daily safety + scope meeting.

0705 - ERRS mobing for removal + backfill work. START fresh air calibrating Dust Traks + pDR. Gillians flow calibrated

0715 - Weather 64°F partly cloudy, 72°F high for today, Wind 14 NNE mph, 15% chance of precipitation.

0730 - START placing Dust Traks at SA and gillian

0750 - START at Prop #3 placing pDR + gillian.

0805 - START to conduct additional XRF screening in excavation. START standardizing + calibrating XRF.

0825 - XRF screening complete, In situ at 2 surface points of excavation floor.

0830 - ENSC-011 - 5.5 ft N of E prop line, 19 ft N of house, 242 ± 4 ppm for Pb at 16" bgs.

8-24-17 HOC REM

0830 cont. – INSC-012 · 8ft E of W prop line, 13.5ft N of house, 37±2 ppm for lead at 16" bgs.

0845 - ERRS continues removal work at Prop #3.

1030 START at Prop #2 + 8.

1045 - ERRS finishing backfilling ~~at Prop #2~~ grading at Prop #2 and backfilling Prop #8.

1050 - Owner of Prop #8 out to discuss restoration efforts - Owner would like ERRS to place largest rock in SE corner of BY soil area Owner to place remainder of rocks and will place moss and ground cover vegetation back. Owner would like ERRS to fill dirt back in between placed rocks. Owner would like small tree/shrub in NW corner of BY moved from current location to hole slightly north dug by owner. Owner stated they will place bricks back in FY area.

1120 - START at Prop #3. ERRS continues

8-24-17 HOC REM

1120 cont. – removal work.

1150 - START at SA.

1210 - START at Prop #2 + 8, ERRS off site for lunch.

1250 - ERRS back on site. Continues backfill.

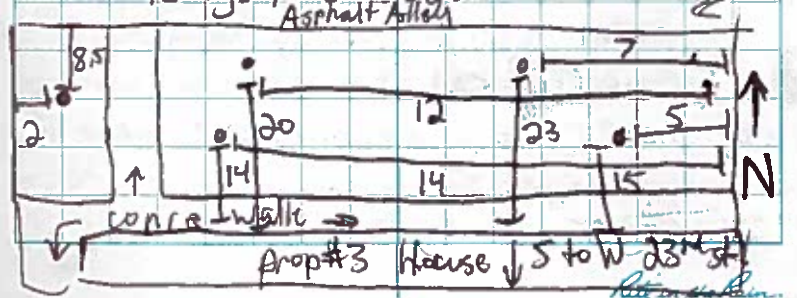
1320 - START at Prop #3. ERRS continues removal work.

1420 - START at Prop #9 + 10, Prop #10 on S side landscaped, Prop #9 on N side not landscaped yet, straw covered.

1445 - START at Prop #2 + 8, ERRS Continues backfill work.

1520 - START at Prop #3, ERRS completing removal work. Majority of excavation to 16" bgs or slightly deeper. START to collect a 5pt comp from excavation @ 16" bgs to 22" bgs.

• = ECS comp. pts.



8-24-17 HOC REM

1545 - 5pt comp sample collection of excavation confirmation sample from Prop #3 @ 16-22" bgs interval complete. Sample ID HOC-ECS-003. See sketch on page 41 for sample points.

1615 - XRF screening of sample HOC-ECS-003 complete, XRF screening results -

Screen	Reading (Pb ppm)	Error (+/-)
a	25.1	1.8
b	40.2	2.0
c	50	2.0
d	48	2.0
e	32.6	2.0
Avg	39.2	2.0

1620 - Excavation at Prop #3 complete. ERRS begins demobe from excavation work at Prop #3. BY will be backfilled tomorrow.

1635 - ERRS demobing, START taking pDR and gillion down for day from Prop #3.

1640 - START at SA, ERRS demobing for day.

1700 - START taking down Dust Traks and gillion at staging area.

1730 - START standardizing XRF + end of

8-24-17 HOC REM.

1730 cont. - day flow rate calibrating gillions. ERRS off site, OSC Thomas off site.

1745 - START packing samples HOC-ECS-003 for shipment to CT Labs for analysis.

1800 - START Pallardy off-site.

8-24-17

0700 START (Kuc) on site. CMC, EQM & EPA OSC Craig Thomas on site. EQM holds daily safety & scope meeting

0705 START fresh air cal dust traks & Gillian flow calibrated. START place upwind & downwind dust traks, Gillian at downwind

Weather 61°F high of 71° partly cloudy wind NE 3mph 0% precipitation

0810 START at rear of property 3 for backfill.

0900 START at property 9 for sodding (picture).

1020 sodding at property 9 concluded (picture)

1080 START at property 2 for sodding (picture)

1500 ERRS at property 3 compacting top soil (picture).

1520 START taking down dust trak & Gillian at staging area, calibrating Gillian flow rate

1550 START (Kuc) off site

8.28.17

8-28-17

0705 - START (Pallardy) on site. CMC, EQM (ERRS), EPA OSC Craig Thomas on site. EQM holds daily safety & scope meeting.

0710 - ERRS prepping for removal work at Prop # 1 today. START fresh air calibrating of DustTraks and pDR for day. Flow calibrating gillians.

0745 - DustTraks placed on N & S side of staging area, gillian by bus stop at N side.

0800 - Weather 67°F & Mostly sunny, wind S 7mph, high of 75°F today. 30% to 40% chance of storms from 1400 to 1800.

0830 - ERRS mobilizing to Prop # 1.

0855 - START at Prop # 1 placed pDR and gillian downwind dust monitoring.

0910 - ERRS requests XRF screening by START. START calibrating and standardizing XRF.

0930 - BY area of Prop # 1 XRF screened. In situ screening at bottom of excavation. INSC-001 - 2.5ft N of house, 1.5 ft W of E prop line at 12" bgs. 469 ± 6ppm Pb.

8-28-17 HOC REM

0930 cont. — START to XRF screen deeper interval to determine if Pb concentrations are less. INSC-002 3'N of house, 3.5ft W of E prop line at 16" bgs. 802 ± 8ppm Pb. ERRS to excavate this area to 2ft bgs.

0955 - START at SA, ERRS loading truck for hauling excavated material off site.

1010 - START at Prop #1.

1015 - ERRS taking out plants in SW corner of FY garden. Taking out hostas around rose bush to be put back. Rose bush to stay ERRS to excavate around it. NE portion of FY plants to be discarded replaced with sod.

1100 - ERRS transferring BY soil by dozer to small truck on W. 23rd St. Truck transferring loads to SA SSP.

Backnote - Prop #3 restoration of BY completed on 8-25, START took pictures of completed yard at 0905.

1130 - Hostas removed and staged for replacement from SW corner of FY. ERRS continues removal to 2ft bgs in BY.

8-28-17 HOC REM

1145 - ERRS breaking for Lunch.

1230 - ERRS back on site. Continuing removal work at Prop #1.

1420 - ERRS continues excavation of BY to 2ft bgs.

1440 - Thunder heard by START and ERRS 30 min work stoppage. Will continue to monitor.

1450 - START takes down pDR + gillian Will leave running to put back out when storm passes.

1455 - START at SA to collect Dust Traks, gillian + gateway. Plan to leave running to place back out when storm passes.

1520 - Rain + storm continue, gillian runs stopped, pDR run stopped, Dust Trak run stopped. Rain will prevent any dust migration off site should removal work continue.

1530 - VIPER run stopped, gillian flows ~~calibrations~~ at end of day recorded.

1600 - Storms continue, ERRS to demobe.

1610 - ERRS demobing for day.

1630 - ERRS + EPA OSC Thomas off site

48

8-28-17 HOC REM

1645- START Pallardy off site. ZG

8-28-17

INCH

MADE IN TACOMA — SINCE 1916 —
Rite in the Rain®
DEFYING MOTHER NATURE

Name 3rd in Series

START FIELD LOGBOOK

Logbook Tracking Number CH254
Site Name Heart of Chicago Removal Site
Issue to Paul Pallardy
Date Issued 8-3-17
TDD # 0001-1706-002

RiteintheRain.com

CONTENTS

PAGE	REFERENCE	DATE
2-48	Residential Removal Work Heart of Chicago RV Site	8-29 to 9-18-17

0700 – START Allardy onsite, CMC, EQM, (ERRS) + EPA OSC Thomas on site. EQM holds daily safety + scope meeting.

0705 – ERRS begins to mobilize for removal work at Prop #1. START fresh air calibrating DustTraks + pDR. Flow calibrating gillians.

0715 – Weather 69°F partly cloudy, high of 76°F today, wind 7mph ENE, 20% chance of precipitation.

0730 – START placing N + S DustTraks today. Gillian placed with N DustTrak. ERRS mobilizing to Prop #1.

0800 – START at Prop #1, places pDR + gillian for dust monitoring.

0820 – ERRS completing removal work in BY and then moving to removal work in FY.

1040 – Removal work of BY complete to to 2ft bgs at Prop #1. ERRS placing orange snow fencing.

1135 – Rain coming in, START takes down pDR + gillian at Prop #1 ~~to~~ SA until rain stops.

1140 – START to staging area to take

1140 cont. – down DustTraks until the rain stops, takes down gillian and gateway. ERRS off site for lunch.

1157 – ERRS covered soil backfill load at Prop #1 placed in BY excavation prior to heading to lunch.

1225 – ERRS at Prop #1.

1240 – ERRS continues backfill at BY of Prop #1. ERRS plants rose bush in BY of Prop #3.

1400 – ERRS continues backfill work in BY of Prop #1. Using small compactor to ~~grout~~ compact backfill soil as they backfill. START places pDR + gillian back out as the rain stopped.

1430 – START places DustTraks and gillian back up at SA, rain stopped.

1550 – ERRS completes backfill of Prop #1 BY. ERRS grading topsoil for sod placement.

1610 – ERRS begins placing sod in Prop #1 BY.

1650 – Sod placement complete ERRS demobing

~~1705~~ ~~1706~~ ERRS to SA.

~~1715 START takes down~~

1756

8-29-17 HOC REM

1715- START takes down pDR + gillian for day.

1720 - START at SA, ERRS demobing, EPA OSC Thomas off site.

1730 - ERRS off site, START takes down dust Traks, gillian for day.

1735 - START end of day flow calibrates gillians.

1745 - START ends VIPER run.

1750 - START off site for day.

*Backnote, no clay layer noted in BY of Prop #1 from 0-2ft bgs.

8-29-17

8-30-17 HOC REM

0700 - START Pallardy on site, EQM + CMC (ERRS) + EPA OSC Thomas on site. EQM holds daily safety + scope meeting.

0705 - ERRS mobing for removal work at Prop #1. START fresh air calibrating Dust Traks + pDR. Flow rate calibrating gillians.

0715 - Weather 69°F sunny, high of 78°F wind NNW 6mph, 0% chance of precipitation

0730 - ERRS mobing to Prop #1, START placing Dust Traks on N + S sides of SA, places gillian with N Dust Trak.

0750 - START begins VIPER run.

0835 - START at Prop #1.

0840 - START places pDR + gillian. ERRS conducting removal work in FY of Prop #1 with excavator + hand excavation where excavator cannot reach.

0850 - ERRS requests XRF screen, START calibrating + standardizing XRF.

0910 - XRF Insitu screening in FY excavation. INSC-003 - SAS of mound, 8.5ft E of W prop line @ 12" bgs

Rite in the Rain

8-30-17 HOC REM

0910 cont - INSC-003 1479±14 ppm Pb XRF. INSC-004 - 5 ft S of house, 2.5 ft E of W prop line @ 12" bgs XRF reading 1045 ± 10 ppm Pb.

0920 - ERRS will excavate to 2ft bgs in FY.

1020 - ERRS continues excavation to 2ft Bgs in FY of Prop #1.

1145 - ERRS off site for lunch.

1220 - ERRS back on site, continues FY removal work.

1240 - Removal work in NE portion of the ~~yard~~ FY is complete to 2ft bgs.

1310 - ERRS conducting removal work in the garden area of the FY on the SW side, ERRS to excavate to 2ft bgs.

1320 - ERRS hand excavating around the rose bush in the SE corner of FY.

1430 - ERRS continues excavation work.

1600 - Excavation work ~~and~~ transfers by truck of excavated material to SA. SSP continues from FY of Prop #1.

1650 - START to SA, load of gravel from quarry placed at SA. START to collect sample of gravel fines.

1705 - Sample HOC-BACKFILL-05-083017 collected as a 5pt comp. sample from the gravel pile at the SA.

Backnote - 1610 - ERRS completed removal in FY of Prop #1 to 2ft bgs, began backfill.

1715 - ERRS demobing from Prop #1, START packing sample HOC-BACKFILL-05-083017 for shipment to ALS for analysis.

1730 - ERRS + EPA OSC Thomas off site, START to Prop #1 to stop DPT + gillian run

1740 - START at Prop #1, stops DPT + gillian pump run. ERRS completed backfill in front yard of Prop #1.

1750 - START at SA taking down Dust Trak, gillian, + gateway.

1810 - START ends gillian run at SA. START flow calibrating gillians, end of day standardizing XRF.

1835 - START off site to ship HOC-BACKFILL-05-083017 sample to ALS.

8-30-17

Rite in the Rain

8 8-31-17 HOC REM

0700 - START Pallardy on site, EQM, CMC (ERRS), + EPA OSC Thomas on site. EQM holds daily safety + scope meeting.

0705 - ERRS mobilizing to begin placing sod at Prop#1. ERRS will clear out porch area in FY of Prop#16 after Prop #1 sod placement is complete.

0710 - ERRS loading truck with excavated material from SA SSP for off site disposal at Laraway.

0715 - START fresh air calibrating DustTraks. START will not be placing a PDR or gillian today as there is no removal work.

0730 - START places N+S DustTrak at SA, gillian with N DustTrak.

0745 - Weather 67°F cloudy, high of 70°, wind NE 10mph, no precipitation.

0748 - ERRS mobilized to Prop #1.

0835 - Sod placement at Prop #1 complete in NE portion of FY.

0845 - ERRS obtaining mulch for FY, ERRS to also concrete patch on S side of drain cover in FY.

8-31-17 HOC REM

1000 - ERRS complete mulch and concrete patch work at Prop #1. ERRS mobing to Prop #16.

1005 - START mobing to Prop #17 to XRF screen in small FY area. 2013 weston sampling was in the BY only.

1020 - START at Prop #17.

1035 - XRF calibration + standardization complete.

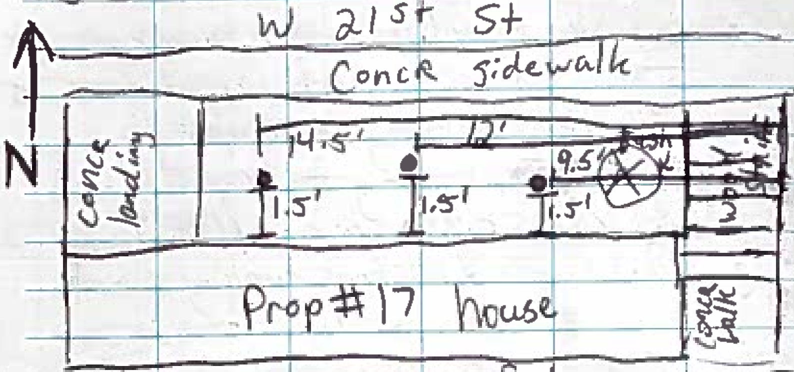
1050 - Soil from FY collected as a 3pt comp from 0-6" bgs interval to confirm whether or not the FY soil needs to be removed.

1105 - XRF screening of FY soil composite complete, XRF screening results below.

Screen	Pb Reading (ppm)	Error (+/-)
a	842	8
b	942	9
c	928	9
d	937	9
e	795	8
Avg.	889	8.6

1110 - ERRS will need to excavate FY soil, see sketch on pg. 10 for comp. sample pt locations.

Rite in the Rain



* All measurements in feet.

1130 - START at Prop #16. ERRS removed a portion of fence from the SE side of the area under the concrete landing for the house entrance. ERRS cleared out trash from under the concrete landing. ERRS to break for lunch after disposing of trash.

1140 - START to SA.

1200 - ERRS to lunch.

1230 - ERRS back from lunch working in SA area to demobe for long weekend.

1530 - ERRS off site. 8hr run of Dust Traks complete, START to take down Dust Traks.

1540 - EPA OSC Thomas off site.

1545 - START ends VIPER run.

1545 cont. - START calibrates and flow for SA gilliam.

1550 - End of day standardization for XRF

1600 - START Pallardy off site.

Removal work to begin again on 9-6-17.

8-31-17

9-6-17 HOC REM

0705- START Pallardy on site. EQM, CMC, Union Laborers, + EPA OSC Mendoza on site. EQM holds daily safety + scope meeting.

0710 - EQM + CMC (ERRS) prepping for removal work. START zero filtering DustTraks + pDR, flow calibrating gillians.

0730 - Weather 54°F, high of 66°F today. Wind NNW 11mph, 15% chance of precipitation.

0745 - START placing DustTraks + gillian pump for the day.

0810 - START to ~~Prop~~ Prop # 4.

0830 - START calibrating + standardizing XRF for day.

0855 - START places pDR + gillian at prop # 4.

0900 - ERRS + Union Laborers (UL) excavating in N portion of Prop # 4.

0910 - START collecting soil composite from elevated gravelly driveway area on SW portion of property.

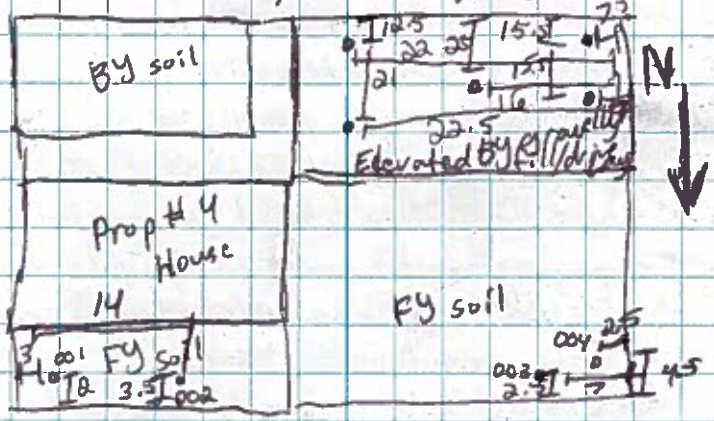
0940 - Spt soil comp collected from gravel driveway area, soil mostly gravel + fill, START to XRF screen.

9-6-17 HOC REM

0950- XRF screening complete of gravelly driveway area of Prop # 4. Spt comp. 0-6" bgs interval.

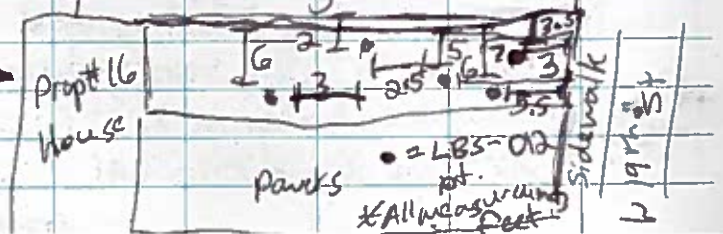
Screen	Result Pb (ppm)	Error (+/-)
a	~~956~~ 524	~~5~~ 6
b	~~293~~ 389	~~5~~ 5
c	~~48~~ 4574	~~3~~ 32
d	~~129~~ 855	~~13~~ 9
e	~~120~~ 568	~~8~~ 6
Avg.	1382	11.6

Sketch of ~~samp~~ Comp & sample pts →



1015- START conducts in situ screening in yard areas of Prop # 4. INSC-001, 002, 003, + 004 see sketch above for In situ screen locations.

1030- XRF screening results →
INSC-001 - 1340 ± 12 ppm ~~pb~~ Pb 9" bgs, ERRS to excavate deeper in this area.
INSC-002 - 151 ± 3 ppm Pb at 10" bgs in pea gravel, ERRS will not excavate further in pea gravel areas.
INSC-003 - 154 ± 4 ppm Pb at 3" bgs in pea gravel, ERRS to excavate around pea gravel.
INSC-004 - 15,600 ± 1000 ppm Pb at 3" bgs, ERRS to continue excavating in this area.
1115- START at Prop #16, ERRS + UL conducting excavation under porch. START to collect lead bioavailability sample but will work comp. pts around where ERRS + UL have already excavated.
1130- Lead bioavailability sample HOC-LBS-012 collected as Sp + comp from 6" bgs from Prop #16.



1200- START XRF screened in situ at 12" bgs 7 ft E of W prop line (INSC-005) + 5.5 ft S of N prop line, 1543 ± 13 ppm for Pb. ~~15~~ In situ screen INSC-001 at 15" bgs at 11.5 ft S of N prop line and 6 ft E of W prop line, 520 ± 6 ppm Pb.
1205- ERRS + ULs to excavate to 2 ft bgs in these areas, ERRS + ULs off site for lunch.
1245- ERRS + ULs back on site from lunch
1315- START at Prop #4.
1330- START to conduct additional XRF screening.
INSC-005- 12" bgs, 3 ft W of house, ~~15~~ 5 ft S of N prop line, 603 ± 2 ppm Pb, clay layer.
INSC-006- 12" bgs, 3 ft W of house, 13 ft S of N prop line, 378 ± 6 ppm Pb, gravelly fill.
INSC-007 - 12" bgs, 10 ft S of N Prop line, 14 ft E of W prop line, 460 ± 6 ppm Pb, Dark Red clay.
INSC-008 - 14" bgs, 10 ft S of N Prop line, 14.5 ft E of W prop line

Rite in the Rain

9-6-17 HOC REM

1330 cont. — INSC-008-32±2 ppm Pb, light/Dr Br mottled clay layer. INSC-009 - under concrete landing for house entrance, 6ft S of N prop line, 12.5ft W of E prop line at 8" bgs, over 1,000ppm Pb START did not do full screen due to high ~~fev~~ concentration of ~~Pb~~.

1415 - ERRS to excavate additional depth in vicinity of INSC-006 grave fill, excavate additional 3" bgs in clay area of INSC-007. ERRS to hand excavate to 2ft bgs under stairs and under concrete landing for house entrance.

1440 - START at Prop #16, ERRS continues hand excavation under concrete landing for house entrance to 2ft bgs.

1545 - ERRS continuing excavation work at Prop #4.

1620 - START at SA, may take down DustTraks due to rain on radar.

1700 - START at Prop #4, ERRS demobed for day, pDR + gilian take down.

1730 - START at SA taking down

9-6-17 HOC REM

1730 cont. - DustTraks + gilliam

1740 - ERRS off site, EPA OSC Mendoza off site, START end of day flow check gilliams. End of day standardization of XRF.

1750 ~~1800~~ START downloaded DustTrak data, gateway issues today not able to run VIPER, will review data Replacement Gateway ordered.

9-6-17

Rite in the Rain

9-7-17 HOC REM

0700 - START on site, EQM, CMC (ERRS), union laborers (11) on site, EQM holds daily safety + scope meeting.

0705 - ERRS + UL prep for removal work at Prop #4 + 16.

0710 - START fresh air calibrating Dust Traks, PDR, flow calibrating gillians, calibrating + standardizing XRF start of day.

0730 - START placing Dust Traks, gillians and start + VIPER run.

0740 - Weather 60°F mostly sunny, high of 69°F, wind W 9mph, 15% chance of precipitation.

0750 - START at Prop #16, ERRS + ULs continue removal work, START to XRF screen.

0849 - XRF screening complete

INSC-010 - 24 ft S of N prop line, 1 ft W of house, 8" bgs, 49 ± 2 ppm for Pb.

INSC-011 - 5 ft S of N prop line, 21 ft W of prop line, 12" bgs, 927 ± 11 ppm for Pb.

INSC-012 - 19.5 ft S of N prop line, 6.5

0849 cont. - ft E of W prop line, 103 ± 3 ppm Pb.

INSC-013 - 34's of N prop line, 5 ft W of house, 1962 ± 16 ppm Pb.

INSC-014 - 33.5's of N prop line, 4 ft E of W prop line, 48 ± 2 ppm Pb.

0910 - INSC-013 ERRS to conduct additional excavation, 4 ft by 8 ft strip of fill to 2 ft bgs.

INSC-011 under landing for house entrance, ERRS to continue excavation to 2 ft bgs.

1035 - START at Prop #16, ERRS + ULs completing excavation to 2 ft bgs under concrete house entrance landing. ERRS + ULs working around concrete columns.

1115 - START at Prop #4 to XRF screen.

INSC-015 - 3.5 ft E of W prop line, 40 ft N of S prop line, 8" bgs, 4388 ppm ± 28 Pb.

INSC-016 - 4 ft E of N prop line, 47 ft N of S prop line, 6" bgs, 2291 ± 18 ppm Pb.

INSC-017 - 10 ft E of W prop line, 52 ft N of S prop line, 12" bgs, 5832 ± 37 ppm Pb.

INSC-018 - 4.5 ft N of house, 51 ft N of S prop line 12" bgs, 3228 ± 24 ppm Pb.

Rita in the Rain

1200 - ERRS to excavate screened areas of fill to clay layer of to 2ft bgs. ERRS off site to lunch.

1240 - ERRS back on site, continues excavation work at Prop #4.

1320 - START at Prop #16, hand excavation to 2ft bgs complete, ERRS + ULs placing dimarcation barrier at excavation bottom. ERRS + ULs begin backfill with quarry gravel.

1347 - START at Prop #4, ERRS continues excavation work.

1430 - START conducts XRF in situ screen in SW corner of BY, INSC-019, 4ft N of S, 2ft W of E, 12" bgs, 457 ± 5ppm for Pb, ERRS to excavate this area to 2ft bgs.

1530 - Prop #4 excavation continues.

1620 - ERRS continues excavation at Prop #4.

1647 - START at Prop #16, ERRS + ULs demobing for day, layer of gravel at bottom of excavation.

1700 - START at Prop #4, ERRS demobing. START takes down pDR & gillian for day.

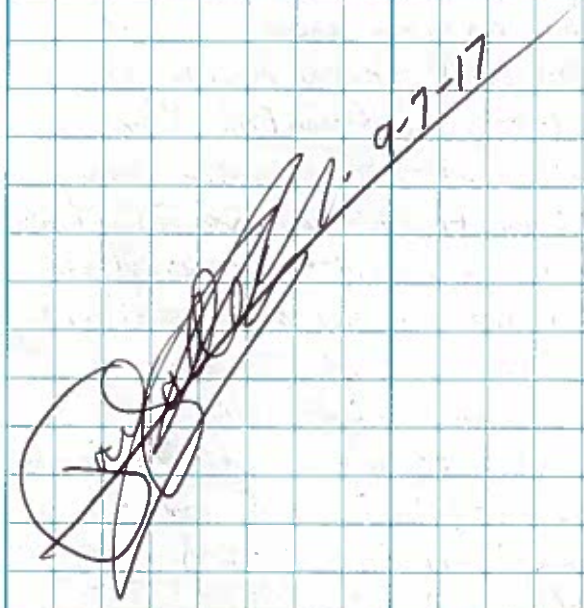
1715 - START at SA, ERRS + ULs demobing for day, ERRS placing track trans. load of excavated soil from Prop #4 in SSP at SA.

1730 - ERRS + ULs off site, START taking down Dust Trak + gillian.

1740 - START end of day standardizing XRF, end of day flows gillians.

1755 - START ends VIPER run.

1810 - START off site.



0700 - START Pallardy, EQM, CHC (ERRS), Union Laborers (ULs), + EPA OSC Thomas onsite, EQM holds daily safety and Scope meeting.

0710 - ERRS + ULs prepping for removal work. START fresh air calibrating DustTraks, pDR, flow calibrating gilliaans.

0730 - ERRS + ULs to Prop #16 to continue backfill work and Prop #4 to continue removal work in the backyard S of the house.

0735 - START placing DustTraks + gillion at the staging area.

0755 - Weather 63°F, partly cloudy, high of 66°F, wind 8 mph ENE, 5% chance of precipitation today.

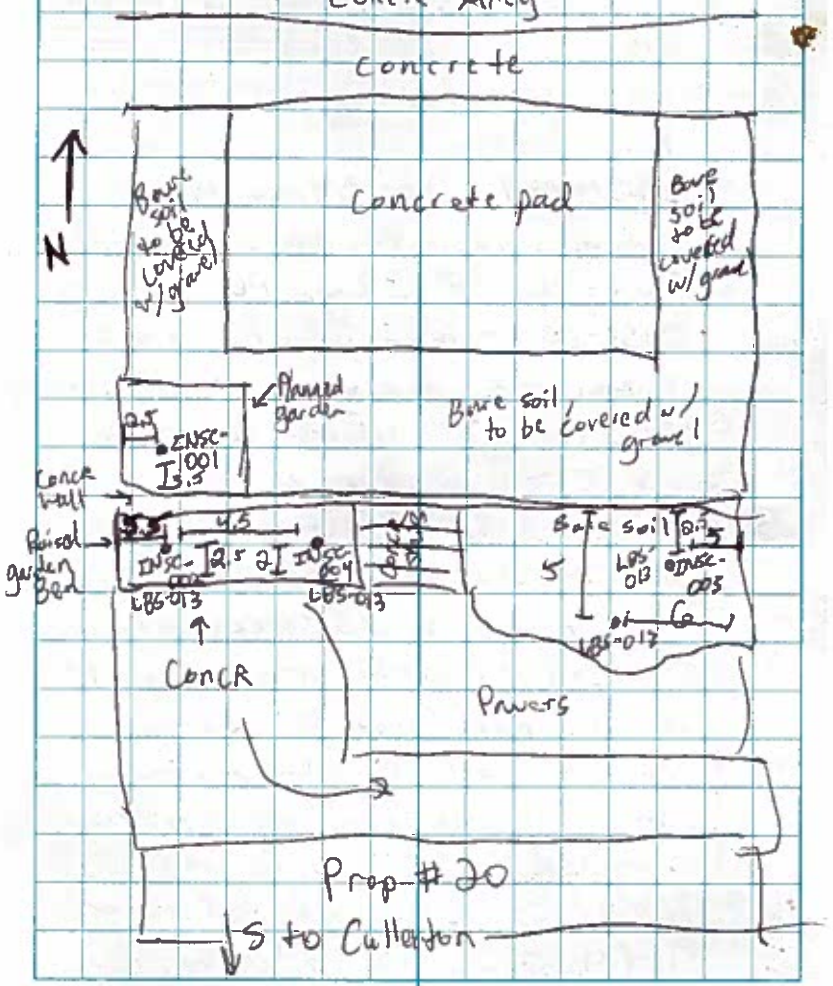
0810 - START at Prop #4, ERRS conducting excavation in the BY. START placing pDR + gillian for air monitoring.

0953 - START, ERRS, EPA OSC Thomas, + utility locate GPRS at Prop #20 (Weston Prop #516) for utility locate. START to collect lead bioavailibility sample from BY no FY.

1005 - EPA OSC would like START to XRF screen.

1005 cont. - START calibrating + standard XRF.

1015 - START XRF screening in BY. Sketch of screening points below.



9-8-17 HOC REM

1050 - HOC-LBS-013 collected from BY of Prop#20. START collected sample as 4pt. comp. from 6" bgs. Followed Weston 2013 sampling but 5th comp pt from 2013 now in pavers area so excluded from START comp.

1100 - XRF In situ screening results from Prop # 20.

INSC-001 - 206 ± 4 ppm Pb, no removal work in this area based on XRF reading.

INSC-002 - 183 ± 3 ppm Pb

INSC-004 - 228 ± 4 ppm Pb, no removal work in this area based on XRF readings.

INSC-003 - 364 ± 5 ppm Pb, ERRS will excavate this area of bare soil.

1125 - START at Prop #12 (Weston 484) with ERRS, GPRS, & EPA OSC Thomas.

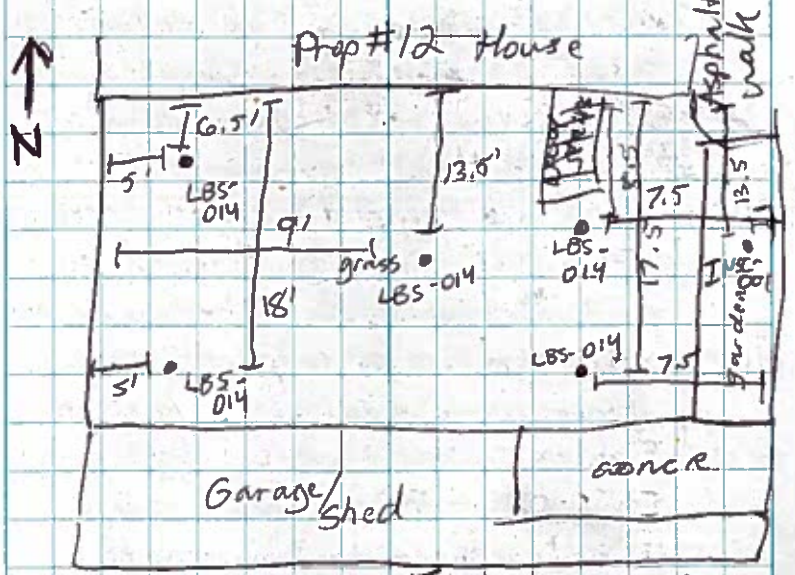
1130 - EPA OSC request XRF screen in garden. INSC-001 at Prop #12 1682 ± 14 ppm Pb, Garden area will be excavated.

1145 - START to collect 5pt comp sample in BY following 2013 Weston sampling for lead bioavailability analysis.

1155 - HOC-LBS-014 collected from BY of Prop #12 at 6" bgs as 5pt. comp.

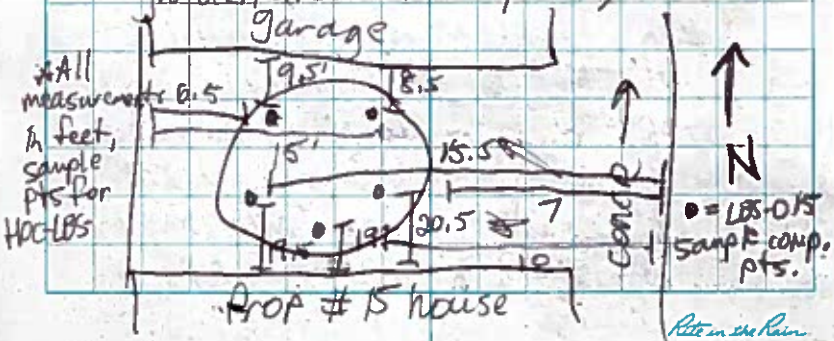
9-8-17 HOC REM

1215 - See sketch of sample pts below



1230 - START at Prop #15 (Weston 487) START to collect lead bioavailability sample, follow 2013 Weston sampling

1255 - HOC-LBS-015 collected as 5pt comp from 6" bgs from BY garden area of Prop #15, See Sketch.



Rite in the Rain

9-8-17 HOC REM

1320 - START at Prop #14 (Weston Prop#486), for XRF screening + collection of Lead Bioavailability Samples.

1330 - ERRS request XRF screening at Prop #4.

1340 - START at Prop #4 for XRF screening. START to screen points on the N portion of the gravelly driveway in BY.

1405 - XRF screening complete, In Situ Screening readings of bottom of excavation ~6" bgs.

INSC-020 - 7ft S of House, 7ft W of House, 6" bgs, in gravel, 8313 ppm for Pb.

INSC-021 - 4.5ft E of N prop boundary, 34.5ft N of S Prop line, 6" bgs, in Dr Br sandy silt w/fill, 2401 ± 18 ppm for Pb.

INSC-022 - 4ft E of W prop line, 31.5ft N of S Prop line, 6" bgs in gravel, 86 ± 3 ppm Pb.

ERRS to additionally excavate in vicinity of INSC-021 to clay, gravel or 2ft bgs.

1415 - START back at Prop #14 to collect lead bioavailability samples + to XRF screen. Prop#14 2 parcels, Weston only sampled E Prop#14 BY in 2013. START to

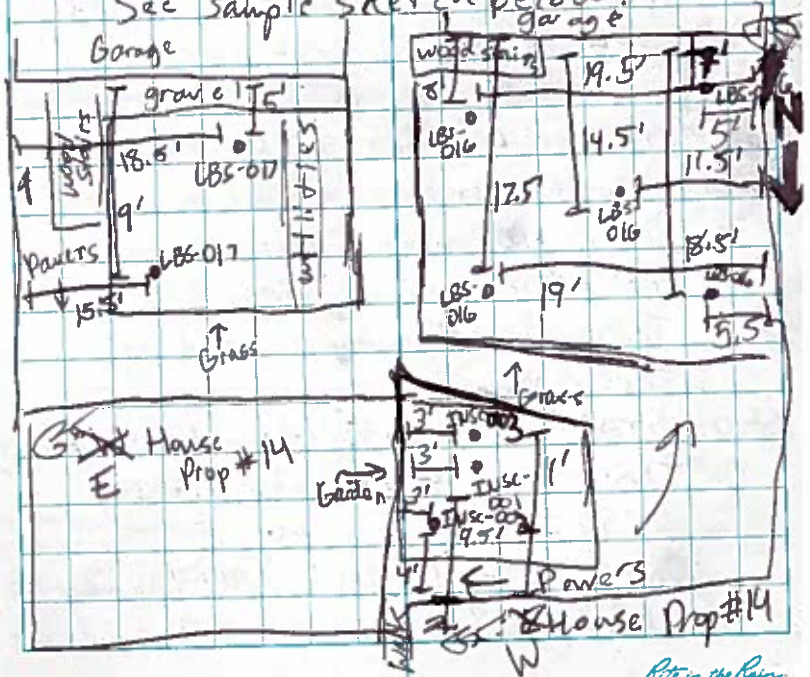
9-8-17 HOC REM

1415 cont. - follow 2013 Weston sampling for E BY, 5pt comp. START to collect lead bioavailability sample from W BY as 2pt comp due to small area and utilities. START will XRF screen 2pt comp from W BY to confirm excavation.

1435 - HOC-LBS-016 collected from W BY of Prop #14 as 5pt comp from 6" bgs

1450 - HOC-LBS-017 collected from E BY of Prop #14 as 2pt comp from 6" bgs.

See sample sketch below.



Rita in the Rain

1500 - START XRF screens 2pt comp.
HOC-LBS-017 5 screens of homogenized plastic bag
soil in

Screen	Result Pb (ppm)	Error (+/-)
a	444	6
b	420	5
c	409	5
d	369	5
e	463	6
Avg	421	5.4

1540 - START In Situ screens in garden
INSC-001 - at surface, 165±3 ppm
Pb. START to check additional
points in garden.

1555 - START at Prop#20, START did not
relay that owner wanted to keep
vine in NE corner of bare soil area.
ERRS + ULs removed vine. EPA OSC
Thomas to call owner regarding
vine removal.

1640 - START at Prop #14 for additional XRF screen.
INSC-002 - ~~[illegible]~~, at surface,
756±8 ppm for Pb.
INSC-003 - 6" bgs, 691±7 ppm for Pb
See sketch pg. 27 for screen point locations.

1700 - START at Prop #4, ERRS continues
Removal work on S side gravelly drive.
1720 - ~~XRF~~ START end of day standardizing
XRF. ERRS demobing from Prop #4.
1730 - START takes down pDR + gillian
from Prop #4.
1750 - START at staging area
takes down DustTraks + Gillian.
ERRS and ULs demobing, EPA
OSC Thomas off site.
1800 - ERRS + ULs off site, START
downloads pDR data, end of
day flow gillians.
~~1815 - START [illegible] packing~~
1815 - START takes in solar panels
1830 - START Pallardy off site.

9-8-17

0705 - START Pallardy onsite, EQM, CMC, (ERRS), Union Laborers, EPA OSC Thomas on-site, EQM held daily safety and scope meeting.

0710 - ERRS + Union Laborers (ULs), prepping for removal work. START fresh air calibrating Dust Traks, pDR, flow calibrating gillian pumps.

0730 - START placing Dust Traks and gillians at SA.

0740 - START begins VIPER run.

0800 - START at Prop #20, ERRS excavating to 2ft bgs, ERRS to place barrier and backfill.

0830 - START at Prop #04, ERRS continues removal work. START places pDR & gillians

0900 - START to East Pilsen Soils Removal Site for XRF screening.

1015 - START back on site at SA. START checking Dust Traks.

1100 - START at Prop #04, ERRS continues removal work.

1200 - ERRS off site for lunch.

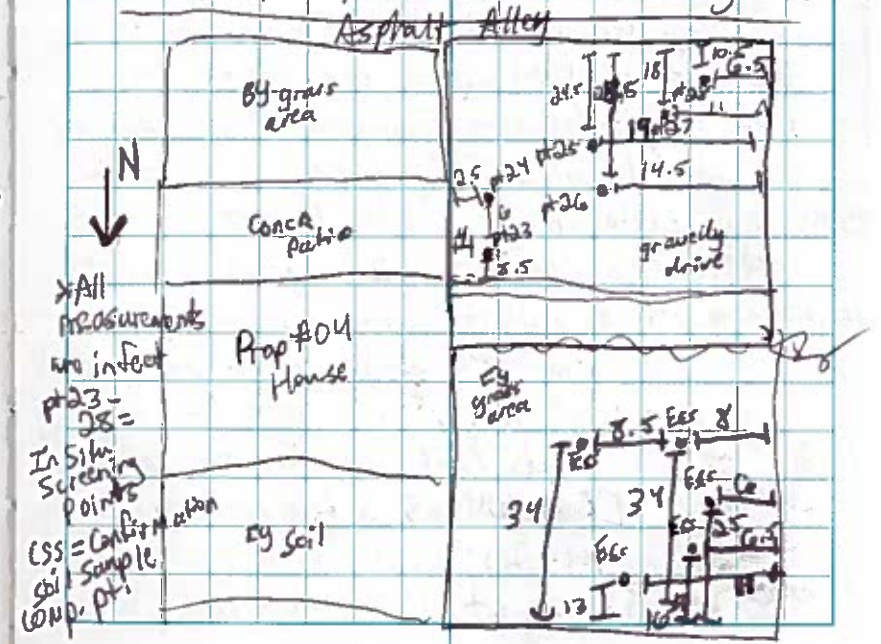
1230 - ERRS continues removal work at Prop #04.

1300 - START at SA, ~~[illegible]~~ working with Dust Traks + gateway connection.

1440 - START to Prop #04 to conduct XRF screening and to collect a Confirmation Soil Sample.

1500 - START to XRF screen in gravelly driveway on S side of BY. Owner only wants sod placed after 2ft excavation, XRF screening to determine what lead concentrations remain.

1520 - XRF screening complete see sketch for XRF point Insitu screening.



Rite in the Rain

1530- XRF In situ point screening results in gravelly driveway area.

In Situ Pt	XRF Result (ppm Pb)	Error (+/-)
23	4714	32
24	222	4
25	839	9
26	469	6
27	62	2
28	96	3

1535- Pt 23, In situ screening at ~~light~~ gray sandy silt with gravel + some fill. Pt 24 light gray gravel fines, Pt 25 Br sandy silt with gravel and fill, Pt 26 same as Pt 25, Pt 27 & 28 light gray gravel fines. ERRS backfilling gravelly drive, covering with layer of top soil.

1540- demarcation barrier placed over screening points 23 - 26.

1545- START to collect excavation confirmation soil sample from ~~E~~ grass area excavated to ~14" bgs.

1630- START collects excavation confirmation soil sample HOC-EES-004 as a 5pt comp. from 14-20" bgs.

1645- Backfilling at Prop # 04 complete

1645 cont. → for day. START takes down pDR + gillian.

1700- ERRS demobing from Prop #04, START to SA.

1710- ERRS demobing from SA, START taking down Dust Trak.

1730- ERRS off site, EPA OSC Thomas off-site. Gillian run ended.

1745- START end of day flow checks gillians. VIPER run ended START demobing.

1800- START off site.

*Backnote - Weather today mostly sunny low of 55°F, high of 73°F, Wind SE at 5 mph, no precipitation.

9-11-17

9-12-17 HOC REM

0700 - START Pallordy on site, EQM, CMC (ERRS), Union Laborers (ULs), EPA OSC Thomas on site. EQM holds daily safety + scope meeting.

0710 - ERRS + ULs prepping for Backfill work at Prop#04. START fresh air calibrating Dust Trak.

0725 - ERRS + ULs to Prop#04, START placing Dust Traks + gillian at SA.

0730 - Weather 65°F sunny, high of 75°F today, wind NE 11mph, 0% precipitation.

0740 - START will not place pDR + gillian today until ERRS + ULs begin removal work at Prop#15.

0815 - START calibrating + standardizing XRF for start of day.

0820 - START to XRF screen HOC-ECS-004 collected from Prop#04 FY grass area yesterday.

Screen	Result (Pb ppm)	Error (+/-)
a	97	3
b	54	3
c	154	3
d	44	2
e	63	2

9-12-17 HOC REM

0840 - XRF screening of HOC-ECS-004 comp. See pg 34 for screening results.

0920 - ERRS + ULs continue Backfill work at Prop#04.

1020 - START at Prop#17 in the FY to XRF screen. ULs dig to 12" bgs for START to screen In Situ.

1025 - START places pDR + Gillian at Prop#17

1035 - XRF screening complete, INSC-001, 11ft E of W prop line, 0.5ft S of N prop line at 12" bgs.

1040 - XRF result 412 ± Ceppm for Pb.

1050 - ERRS + ULs beginning removal work in FY of Prop#17

1200 - ERRS + ULs break for lunch.

1230 - ERRS + ULs continue removal work in FY of Prop#17.

1350 - Removal work continues in FY of Prop#17.

1500 - START to XRF screen FY In Situ with XRF, ERRS to 8" bgs in one spot, 14" bgs in another.

1515 - XRF Result INSC-002, 13.5ft E of W Prop line, 1ft S of N prop line 12" bgs, 491 ± 6 ppm for Pb.

INSC-003, 18.5ft E of W Prop line, 1ft S of N prop line 14" bgs, clay layer. 224 ± 4 ppm for Pb.

9-12-17 HOC REM

1605 - START at Prop #04 to document backfill progress. START takes photos. ERRS + ULs will continue backfill work tomorrow.

1640 - START at Prop #17, ERRS + ULs demobing.

1645 - START takes down pDR + gillian for day.

1700 - START at SA, ERRS + ULs demobing.

1710 - EPA OSC Thomas off site. ERRS drops bucket load of excavated soil off at SA SSP. START begins taking down DustTraks + gillian.

1725 - START end of day flow calibrate gillian.

1735 - START end of day calibrate + standardize XRF. ERRS + ULs off site except for CMC. CMC stays on site for equipment maintenance.

1750 - START demobing CMC on site.

1800 - START Pallardy off site. START to ship sample HOC-ECS-004 for analysis.

9-12-17

9-13-17 HOC REM

0705 - START Pallardy on site, EQM, CMC (ERRS), Union Laborers (ULs), + EPA OSC Thomas on site. EQM holds daily safety and scope meeting.

0710 - ERRS + ULs prepping for removal + backfill work.

0715 - Weather @ 59°F, high of 69°F, cloudy winds E 5-10mph, raining, 15% chance of rain remainder of day 0900-1700.

0720 - ERRS + ULs to Prop #04 to continue backfill + to Prop #17 to continue removal.

0730 - START to wait to place Dust Traks + pDR until rain stops.

0830 - Rain slowing START fresh air calibrating DustTraks + pDR and flow calibrating gilliams.

0850 - START places Dust Traks at SA.

0930 - START at Prop #15, ERRS + ULs excavating in BY grass/garden area. START places pDR + gilliam

0950 - ERRS would like soil area screened portion of yard grass not above concrete

1000 - Screening complete In Situ with XRF. INSC-001 - 10" bgs, 20.5ft Nof house, 8ft Wof Eprop line, 603 ± 7 ppm for Pb.

Rain in the Rain

1110 - Excavation work continues by ERRS + ULs in BY of Prop #15.

1130 - START at SA packing up lead bioavailability samples to delivery to Chicago Regional Lab of EPA.

1205 - Lead bioavailability Samples HOC-LBS-02 to HOC-LBS-017 packed. START off site to EPA CRL for sample dropoff.

1245 - START back on site.

1325 - START at Prop # 15. To conduct additional XRF screen.

1340 - INSC-002 - XRF screen complete, ~~[illegible]~~ ~6" bgs from original raised garden grade. 21ft N of house, 9.5 ft E of W propline, 576ppm ± 6ppm Pb.

1350 - ERRS to excavate additional 6" bgs.

1355 - START to Prop #12 for XRF screening. Moves pDR + Gillian to Prop #12 as Pb concentrations much higher for removal work than Prop #15. Prop #12 will also be excavated with excavator + operator not hand digging.

1410 - START at Prop #12 places gilian pumps (2) 1 in excavation area, 1 along sidewalk places pDR for air monitoring.

1420 - XRF In Situ screening in BY of Prop #12 complete.
INSC-002 - 6" bgs in garden, 4.5s of house (ft), 3ft w of e prop line, gray Br 1053 ppm ± 11 Pb.
INSC-003 - 14" bgs appears reddish Br mottled sandy silt to be silty clay grayish Br, 13ft s of house, 8ft e of w prop line, w/gravels fill 202 ± 3 ppm for Pb.
INSC-004 - ~14.5" bgs appears to be gray brown reddish brown mottled sandy silt w/gr + fi. 14.5 ft S of house, 8 ft w of Prop line. 540 ± 8 ppm for Pb.

1445 - START completes additional In Situ XRF screen in garden area.
INSC-005 - ~19" bgs Dr grayish br sandy silt, 21.5ft w of e prop line. 6ft S of house, 946 ± 10ppm Pb.

1500 - ERRS will excavate to 2ft bgs or clay layer whichever occurs first.

1535 - START at Prop #15. ERRS + ULs complete BY excavation to 2ft bgs.

1600 - ERRS + ULs to place demarcation barrier over excavation bottom + backfill.

Rite in the Rain

9-13-17 HOC REM

1610 - START at Prop #12. ERRS continuing BY removal work. Mini excavator in the BY, medium excavator on sidewalk W of BY to load excavated material to truck for load transfers. Visqueen placed over sidewalk for any soil spills.

1645 - Excavation work at Prop #12 continues.

1700 - ERRS demobing from Prop #12. OG

1710 - ERRS ~~+START 15~~ to SA area, START takes down gillians & pDR, heads to SA.

1730 - ERRS, ULs, EPA OSC Thomas ~~off~~ site. START end of day flow checks gillians.

1745 - START end of day standardizes XRE.

1800 - START Pallardy off site. OG

9-13-17

9-14-17 HOC REM

0700 - START Pallardy onsite, EQM, CMC, ~~Lemen~~ (ERRS), Union Laborers (ULLs), EPA OSC Thomas onsite. EQM holds daily safety + scope meeting. OG

0705 - ERRS + ULLs prepping for backfill + removal work. OG

0720 - ERRS + ULLs to Prop #12 for removal work + Prop #15 to continue backfill work. Sodding at Prop #4 will occur today.

0730 - START places DustTraks + gillian at SA after fresh air cal + flow cal. OG

0740 - Weather 63°F partly cloudy, high of 78°F, wind SE 8 mph, no chance of rain today.

0745 - START fresh air cal pDR + flow cal of gillians complete.

0755 - START to Prop #12. OG

0810 - START placing pDR + gillians at Prop #12. OG

0820 - ERRS conducting excavation work, water truck at Prop #12 for dust suppression. Truck to transfer loads.

Rite in the Rain

9-14-17 HOC REM

0900 - START off site to East Pilsen Soils Rem.
1015 - START back on site, EPA management on site to do site walk.
1035 - START at Prop #15, ERRS + ULs continue backfill work. ERRS + ULs will mobilize to Prop #04 for sod placement when sod comes in.
1055 - START at Prop #12.
1100 - ERRS continues removal work at Prop #12 + continues wetting soil with hose from water truck. EPA management at Prop #12 on site walk.
1110 - START calibrates + standardizes XRF for potential XRF screening today.
1130 - NE + NW portions of Prop #12 BY have been excavated to 2ft bgs. ERRS + ULs will lay demarcation barrier at the excavation bottom.
1200 - ERRS + ULs break for lunch.
1230 - ERRS back at Prop #12, continue removal work.
1315 - START off site for XRF screening at East Pilsen Soils Removal Site
1415 - START back on site at Prop #4, ERRS + ULs placing sod in yard.

9-14-17 HOC REM

1500 - START at Prop #12. Removal work continues.
1615 - ERRS continues removal work in BY of Prop #12.
1645 - ERRS demobing from Prop #12 removal work for day. START takes down gillians + ends pDR run.
1700 - START at SA, ERRS done dropping off excavated soil loads. START takes down DustTraks + gillian.
1715 - End of day flow gillians.
1720 - End of day DS standardize XRF.
1730 - START ends VIPER run, downloads pDR + DustTrak data.
1740 - START takes in solar panels.
Backnote - ERRS, ULs, EPA OSC Thomas off site at 1730.
1800 - START off site (Patlowly).

9-14-17

Rite in the Rain

9-15-17 HOC REM

0700 - START Pallardy on site. EQM, CMC (ERRS), Union Laborers (ULs), EPA OSC Thomas on site. EQM holds daily safety + scope meeting.

0710 - ERRS + ULs prepping for remodal + backfilling work. ERRS continue excavate at Prop #12, ERRS & ULs backfilling at Prop #15.

0715 - Weather 73°F sunny, high of 84°F, SSE 9mph wind, 0% chance of rain.

0730 - START fresh air calibrates Dust Traks, pDR, + flow cals gillians

0740 - START placing Dust Traks + gillian at SA.

0840 - START at Prop #12, ERRS conducting excavation work. START places gillian and pDR at excavation for ~~particulates~~ dust particulate monitoring.

0900 - START begins VIPER run.

1040 - ERRS continues excavation in BY of Prop #12

1100 - START at Prop #17 to conduct XRF screening in BY garden areas.

1110 - Standardizing & calibrating XRF start.

1115 - IN Situ screening of garden areas. INSC-004 - 3ft E of W prop line,

1115 cont - INSC-004 - 19.5s of house Garden at grade with grass, XRF Result 570 ± 7 ppm for Lead.

INSC-005 - Garden at grade w/grass 4.5ft E of W propline, 30ft s of house, 391 ± 5 ppm for Pb.

INSC-006 - Garden at grade w/grass 8.5ft E of W propline, 31.5ft s of house 260 ± 4 ppm for Pb.

INSC-007 - Garden at grade w/grass, 14.5ft E of W propline, 31ft S of house 547 ± 6 ppm for Pb.

INSC-008 - Upper tier Garden, 5.5E of W prop, 4.5ft N of garage, 338 ± 5 ppm Pb.

INSC-009 - Upper tier Garden, 5.5E of W prop, 1.5ft N of garage, 730 ± 8 ppm Pb.

INSC-010 - Upper tier Garden, 1ft E of W prop, 4ft N of garage, 299 ± 4 ppm Pb.

INSC-011 - Small garden strip between walk, 5.5 W of E Prop, 4ft N of garage, 292 ± 4 ppm Pb.

INSC-012 - Garden on E side of BY, 1.5 W of E Prop, 27.5ft S of house. 466 ± 6 ppm for Pb.

1220 - START at SA discuss XRF results

1220 cont. - with OSC Thomas. Areas with XRF readings below 300 ppm for Pb okay. Remainder of areas will be excavated to extent feasible as there are bushes + trees.

1330 - START collects HOC-POST-SA-002 for total lead from SA.

1355 - collect HOC-POST-SA-003 for total lead from SA, MS/MSD.

1415 - Collect HOC-POST-SA-004 from SA for total leads

1445 - Collect HOC-POST-SA-001 from SA for total lead.

1520 - Collect HOC-POST-SA-005 from SA for total lead.

1550 - samples matched PRE SA sample locations, changes collected on GPS.

1555 - collect equipment rinsate blank off trowel.

1600 - Collect equipment rinsate blank off shovel.

1620 - START Pallardy off site to ship post SA samples + air particulate samples from Prop #12 excavation on 9-13 + 9-14-17

1645 - START Lerner collected AM equipment

0700 - START Pallardy on site, EQM, CMC (ERRS), Union laborers (ULs), + EPA OSC Thomas on site.

0710 - ERRS + ULs prepping for removal + backfill work. START calibrating (fresh air) DustTraks + flow calibrating gilliams.

0720 - Weather 67°F, high of 74°F today, Sunny, wind 6mph NNE, no chance of rain.

0730 - START placing DustTraks + gilliam at SA.

0740 - START fresh air calibrating pDR flow calibrating gilliam.

0820 - START places pDR + gilliam at Prop 17. ERRS + ULs conducting removal work.

0830 - START to XRF screen, START cals + standardizes XRF.

0850 - In situ screening in BY grass area complete. XRF results →

INSC-013 - 23 ft S of house, 6 ft W of E prop line 12" bgs, 631 ± 7 ppm for Pb.

INSC-014 - 23 ft S of house, 6 ft W of E prop line, 18" bgs, 567 ± 6 ppm for Pb.

INSC-015 - 21.5 ft S of house, 12.5 E of W prop line, 18" bgs, 428 ± 5 ppm for Pb.

INSC-016 - 18.5 ft S of house, 1 ft W of E prop line 0" bgs, 539 ± 6 ppm for Pb.

48 9-18-17 HOC REM

0915- ERRS + ULs will excavate to 2ft bgs in grass area of BY.
START XRF in situ screen INSC-016 on N side of small garden on E side of property at 0" bgs. ERRS + ULs to excavate in garden.
Confirmed with OSC that ERRS + ULs may remove plants in their way in the gardens.
1030- ERRS + ULs continue removal work in BY of Prop #17.
1125- START at Prop #12, ERRS backfilling.
1145- ERRS + ULs continue removal in BY of Prop #17.
1150- START at Prop #12, soil placement complete.
1155- ERRS + ULs take lunch.
1230- ERRS + ULs continue removal work.
1335- START off site to Pilsen 012 removal site
1410- START back on site at Prop # 14.
1430- START conducted In situ screening of excavation at Prop #14 (E BY area)
INSC-004 - 10.5ft N of garage, 15ft W of E prop line, 269 ± 4 ppm for Pb at 9" bgs.
INSC-005 - 5ft N of garage, 20ft W of E prop line at 9" bgs, 331 ± 5 ppm for Pb.
INSC-006 - Same location as 005 at 12" bgs 473 ± 10 ppm for Pb.

MADE IN TACOMA — SINCE 1916 — Rite in the Rain — DEFYING MOTHER NATURE

Name 4th in Series

START FIELD LOGBOOK

Logbook Tracking Number CH260

Site Name Heart of Chicago Removal Site

Issue to Paul Pallardy

Date Issued ~~9-18-17~~ 9-17-17

TDD # 0001-1706-002

Made in USA — Rite Green — Archival

RiteintheRain.com

CONTENTS

PAGE	REFERENCE	DATE
2-20	Residential Removal Work Heart of Chicago RV site	9-18 to 9-22-17

1500 - ERRS + ULs continue removal work in BY of Prop #14.

1550 - START at Prop #17, ERRS + ULs conducting removal in BY grass area to 2ft bgs.

1620 - START at Prop #14, ERRS + ULs continue conducting removal work in BY.

1635 - IN situ screen w/ XRF conducted in E BY excavation. INSC-007, 17ft W of E prop line, 6.5ft N of garage, 16" bgs 629 ± 7 ppm for Pb. ERRS + ULs to continue excavation.

1650 - Clay observed on N side of E BY excavation at ~16" bgs. START screens, INSC-008, 16 ft W of E prop line, 8ft N of garage, 695 ± 8 ppm for Pb.

1655 - ERRS excavates an additional inch of surface clay to 17" bgs, START screens, INSC-009 same location as 008, 100 ± 3 ppm for Pb.

1700 - ERRS begins demobe for day, START end of day standardizing XRF.

1715 - START at Prop #17, ERRS + ULs demobed for day, START takes dumpOR + gilliam pump.

1720 - START at SA, ERRS + ULs demobing for day, EPA OSC Thomas at site

1730 - ERRS off site, START taking down Dust Traks and gilian.

1740 - START ends VIPER run.

1755 - End of day flows gilians, retrieving data off equipment.

1810 - START takes in solar panels.

1815 - START Pallardy off site.

9-18-17

9-19-17 HOC REM

0700 - START Pallardy, EQM, CMC, (ERRS), Union Laborers (ULs), EPA OSC Thomas on site, ERRS holds daily safety + scope meeting.

0710 - ERRS + ULs prepping for removal work.

0715 - Weather 69°F, high of 76°F, cloudy, wind ENE 7mph, 15% chance of precipitation.

0720 - START freshair calibrating Dust Traks + pDR, flow calibrating gilliams.

0730 - START places Dust Traks + gillian at SA. ERRS loading out trucks for off site disposal of excavated soil from the SSP at the staging area.

0800 - START at Prop #14 to place pDR + gillian.

0810 - Rain starting, START to SA to take down Dust Traks + gillian. Will wait to place pDR + gillian.

0820 - Dust Traks down + in site trailer continue run, will place back when rain stops.

1015 - START places Dust Traks + gillian at SA.

9-19-17 HOC REM

1040 - START at Prop #14 places pDR + gillian, to conclud XRF screening in W BY grass excavation.

1050 - XRF cal + standardized, screening →
INSC-010 - 18.5ft N of garage, 45ft E of W Prop line, @ 9" bgs, 774 ± 8 for Pb.
INSC-011 - 8ft N of garage, 4.5 E of W Prop line, @ 9" bgs, 609 ± 7 for Pb.
INSC-012 - 8ft N of garage 4.5 E of W Prop line, @ 15" bgs, 1807 ± 15 for Pb.

1100 - ERRS + ULs will excavate to 2ft bgs in vicinity of INSC-012 or to clay.

1130 - START at Prop #14 XRF Screening;
INSC-017 - 11ft E of W prop line, 24.5ft S of house, 20" bgs, 84 ± 3 ppm Pb, br silty clay w gravel.
INSC-018 - 3ft E of W prop line, 17.5ft S of house, 12" bgs, 6084 ± 8 ppm Pb, clay layer, ERRS to scrape
INSC-019 - 3ft E of W Prop line, 17.5ft S of house, 13" bgs, 125 ± 3 ppm Pb, clay layer.

1140 - ERRS to excavate to clay or br silty sandy cl.

1150 - ERRS off site for lunch.

1220 - ERRS back on site.

1330 - START off site to Pilsen OU2 Removal.

1430 - START back on site at Prop #14, ERRS uncovered clay START to XRF screen

1500 - XRF screening, INSC-013 - 4.5ft E of W prop line, 7ft N of garage, 396 ± 6 ppm for Pb, 12" bgs.
INSC-014 - 2.5 ft E of W prop line, 16ft N of garage, 381 ± 6 ppm for Pb, 15" bgs.
Areas only need a surface scrape to clay.

1530 - START Pallardy at Prop # 17.

1540 - ERRS + UCs completing excavation work. SW corner portion of BY grass area excavated to approximately 14" bgs; START to collect a 5pt comp. of area to determine if additional excavation is needed. Area primarily clay.

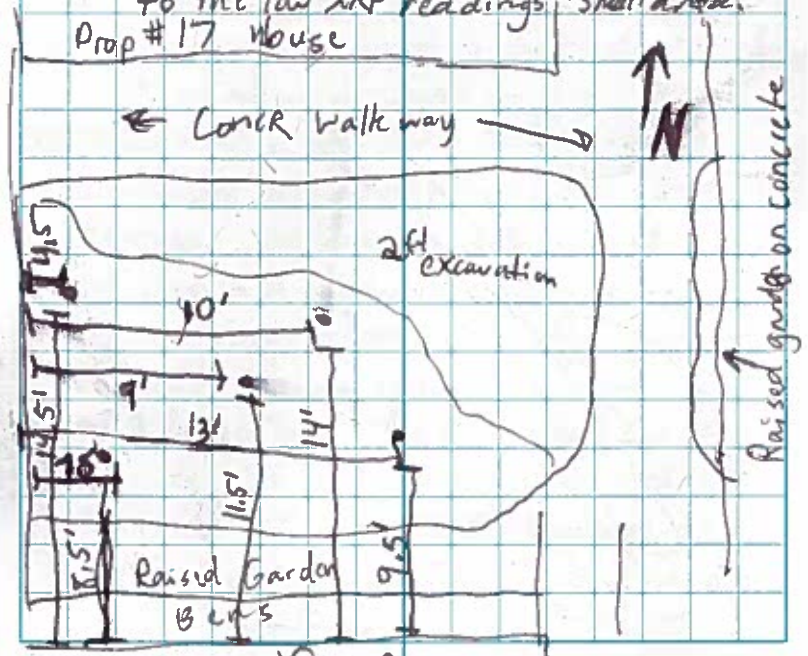
1620 - XRF screening of 5pt comp. of BY area of Prop #17 at 14" bgs to 20" bgs.

Screen	Result (Pb ppm)	Error (+/-)
a	253	4
b	224	4
c	225	4
d	302	5
e	338	5
Avg	268	4.4

* Sample HOC-ECS-005 collected at 1600.
Sample pt collection sketch pg. 7.

1645 - In situ screen in FJ soil area excavation w/ XRF.
INSC-020 - 1.5ft N of house, 7.5ft W of E Prop line, 151 ± 4 ppm for Pb.
INSC-021 - 1.5ft N of house, 10.5ft W of E Prop line, 14.6 ± 1.7 ppm for Pb.
INSC-022 - 2ft N of house, 14ft N of E Prop line, 32 ± 2 ppm for Pb.

1655 - START confirms with EPA OSC no confirmation sample is needed due to the low XRF readings & small area.



9-19-17 HOC REM

1700- ERRS + ULs demobing for day.
1715- START to Prop #14.
1230- START at Prop #14 + collects pDR + gillion
1735- START at SA START collects Dust Traks, Gillian, + Solar panels.
1745- START end of day flow checks gillians
1755- START standardizes XRF end of day.
1800- START ends VIPER run.
1805- START Pallardy off site.

9-19-17

9-20-17 HOC REM

0700- START Pallardy, EQM, CMC (ERRS), Union Laboratt (ULs), EPA OSC Thomas onsite, ERRS holds daily safety + scope meeting.
0710- ERRS + ULs prepping for removal work at Prop #14 and backfill work at Prop #17. ERRS cleaning backfill equipment
0715- START Pallardy fresh air calibrating Dust Traks, pDR, flow calibrating gillians
0720- ~~WX~~ weather 71°F high of 89°F today, wind SSE 10mph, no chance of rain.
0720- START places Dust Traks + gillian at SA.
0815- START at Prop #14, ~~ERRS~~ + ULs continue excavation work in BY.
0900- START places pDR + gillian for dust monitoring.
1040- START XRF screens W BY area of Prop #14 excavation, ERRS + ULs uncover clay at 10" bgs. In-situ XRF screen results
INSC-015- 10" bgs, 7ft E of W property line, 18.5 S of house, 23.7 ± 1.9 ppm for Pb.
INSC-016- 10" bgs, 7.5ft E of W property line, 30ft S of house, 43 ± 2 ppm for Pb.

Rite in the Rain

1040 cont - INSC-017 - 10" bgs, 13ft E of W prop line, 14ft S of house, 44±2ppm Pb.

INSC-018 - 10" bgs, 16.5ft E of W prop line, 21ft S of house, 136±3 ppm for Pb.

1047 - ERRS & ULs will continue to excavate to clay layer.

1100 - START at SA area to assess post removal SA soil comp. sample 002 (HOC-SAS-POST-002) in NE portion of SA.

1230 - START to In Situ screen with XRF comp. pt locations. 002 post sample above residential RML, original results were below.

Depth

0" bgs - 002A - 125±3 ppm for Pb.
002B - 82±3 ppm for Pb.
002C - 84±3 ppm for Pb.
002D - 116±3 ppm for Pb.
002E - 500±7 ppm for Pb.

1245 - IN Screening indicates elevated lead concentration at comp. pt. 002E, ERRS to scrape area. START delineating lead concentration w/ XRF screening.

1315 - Lead concentration area delineated w/ 6ft x 6ft area.

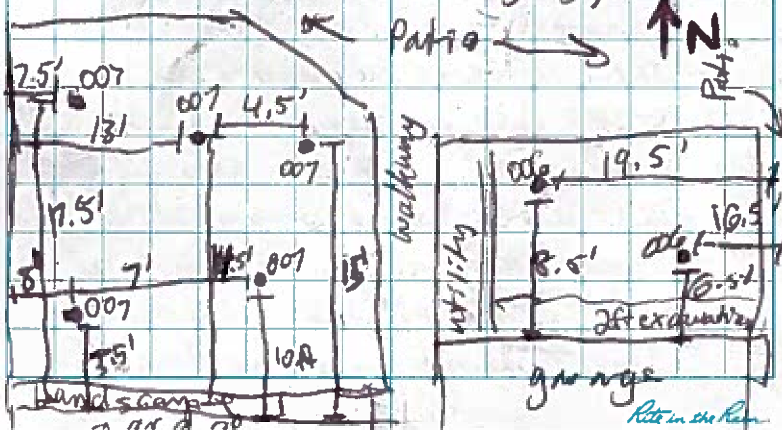
1330 - XRF Results - pts GPS located

002E-01 - 240±4 ppm Pb
-02 - 174±3
-03 - 155±3
-04 - 187±4
-05 - 241±4
-06 - 249±5

1350 - START at Prop#4, ERRS & ULs completing excavations in BY grass areas. START to collect ECS (Excavation Confirmation Samples).

1405 - HOC-ECS-006 collected from E grass BY area as 2pt comp 14-20" bgs.

1425 - HOC-ECS-007 collected from W grass BY area as 5pt comp 10-16" bgs. 006-007 collected from clay layer, see sketch.



1450 - START XRF'ing HOC-ECS-006 comp.

screen	Result (Pb ppm)	Error (+/-)
a	161	3
b	134	3
c	170	3
d	199	4
e	228	4
Avg.	178	3.4

1505 - START XRF'ing HOC-ECS-007 comp.

screen	Result (Pb ppm)	Error (+/-)
a	253	5
b	269	4
c	191	4
d	331	5
e	416	6
Avg.	292	4.8

1520 - HOC-ECS-006 + HOC-ECS-007 will be shipped to lab for analysis.

1525 - START off site to Pilsen OU2 Removal.

1550 - START back on site at SA.

1600 - START packing HOC-ECS-005, HOC-ECS006, & HOC-ECS-007 excavation confirmation samples for shipment to lab.

1640 - START at Prop #19, ERRS + ULs demobed from removal work for day.

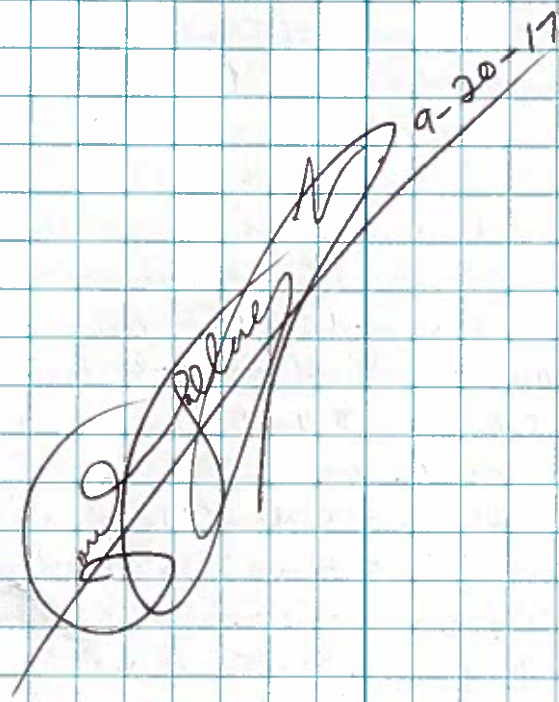
1645 - START ends pDR run & gillian

1700 - START at SA. ERRS & ULs demobing for day.

1715 - START talking down DustTrak & gillian at SA.

1720 - START end of day standardizers XRF, end of day flow check gillians.

1730 - START off site (Palladay), ERRS & EPA OSC Thomas off site.



0700- START Pallardy, EQM, CMC(ERRS), Union Laborers (ULs), EPA OSC Thomas on site. ERRS holds daily safety + stage meeting.

0705- ERRS prepping for removal work + backfill work at Prop #14.

0710 - START fresh air calibrating DustTrak + pDR, flow calibrating gillians.

0715- Weather 75°F, high of 92°F today, wind S-SSW 7mph, sunny, ~~hig~~ SD no chance of precipitation. SD

0725- START places DustTraks + gillian at SA. ERRS + ULs mobilizing to Prop #14.

0750 - START at Prop #14, place pDR + gillian. ERRS + ULs backfilling at Prop #14.

0930- START at SA, ERRS excavated area of elevated lead (SE corner of NE quad) ~6x6 ft area to 1 foot

1030- START at Prop #14, ERRS excavating within garden area. ERRS identified clay layer on N side of garden area at ~10" bgs. Prior to excavation owner removed some topsoil from garden. EPA OSC Thomas spoke with owner. Owner stated

1030 cont. – the topsoil was fresh topsoil he placed there. OSC told owner if he had concerns regarding the soil it could be replaced. Owner would like to keep soil + reuse it.

1045- START XRF screening clay layer in garden. Insitu screen at 9" bgs INSC-019 -257±5 ppm for Pb, 7ft S of house, 23 ft E of W Prop line at 9" bgs.

1100- ERRS + ULs to continue garden excavation, will stop at clay layer.

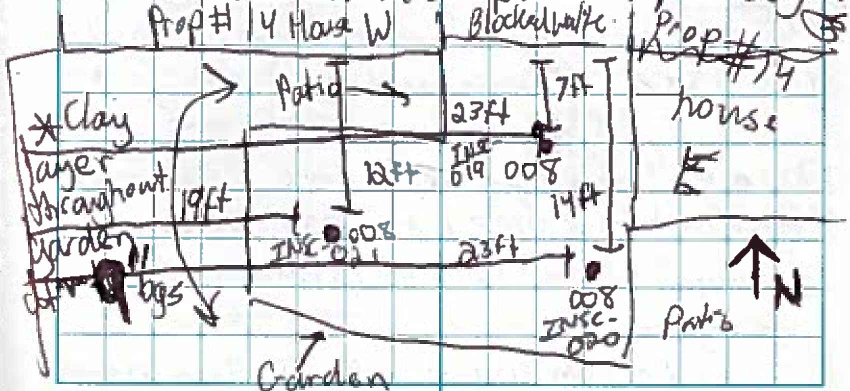
1200- ERRS + ULs break for lunch.

1230- ERRS + ULs continue removal work.

1330- START off site to Pilsen OU2 Rem.

1430- START back on site at Prop #14.

1455- START collecting excavation confirmation sample from Prop #14 B4 garden SD



1455cont.— START INSitu screens clay layer at INSC-020 + 021. See sketch for screen points. INSC-020 - 147 ± 3 ppm for PG INSC-021 - 228 ± 4 ppm for PG HOC-ECS-008 collected as 3pt comp. from 9-15" bgs in garden in BY of Prop #14, see sketch for sample points on page 15.

1520 - ERPS & ULs will continue work to backfill Prop #14 remainder of day. START takes down gillian and pDR.

1530 - Since removal work is complete OSC Thomas gives okay for START to take down DustTraks & gillian.

1550 - START end of day flow cal gillians.

1615 - START downloading DustTraks & pDR data.

1700 - End of day standardize XRF.

*Backnote - EQM & EPA OSC Thomas at Prop 9 & 10 at 1215 to return gate key to owner.

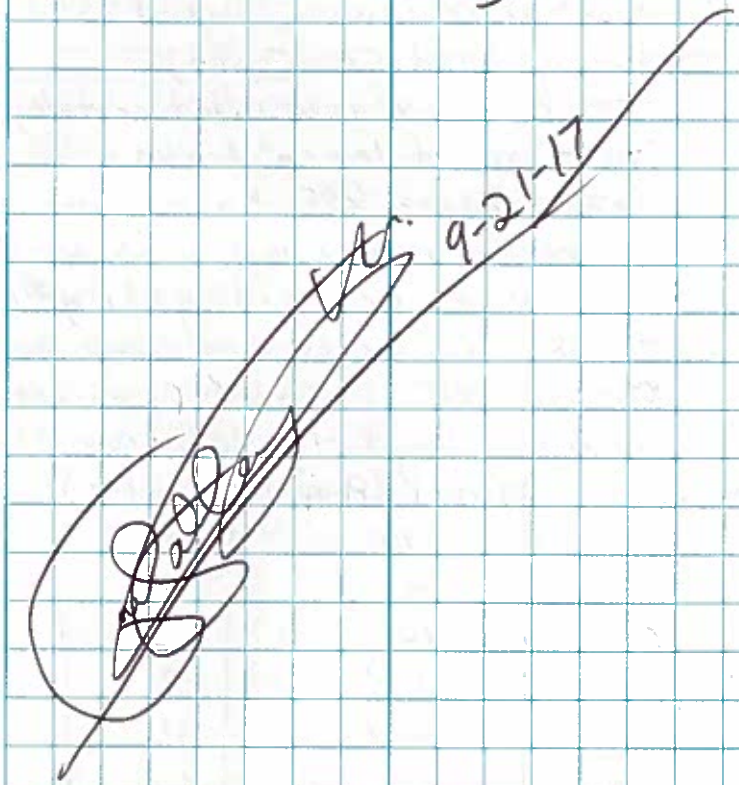
1715 - VIER run ended, EPA OSC Thomas

1715cont - off site.

1725 - ERPS & ULs demobing for day. START packing DustTraks, pDR, & Bios DryCal to return.

1750 - START takes in solar panels, EQM off site.

1800 - START Pall and off site.



0700- START Palladay on site, EQM, CMC (ERRS), Union Laborers on site. EQM holds daily safety + scope meeting.

0705- ERRS + ULs prepping to continue backfill work in BY areas (E & W) of Prop#14 and in garden area.

0710- Weather 78°F sunny, high of 93°F today, wind SSW 8mph, 0% chance of precipitation today.

0715- START begin of day calibrates + standardizes XRF. No air monitoring will be conducted today as work will only be backfilling at Prop#14.

0725- START XRF screening comp. sample HOC-ECS-008. Excavation confirmation sample from Prop#14 garden (3pt. comp, 9-5' bgs)

Screen	Result (Pb ppm)	Error (+/-)
a	90	3
b	97	3
c	101	3
d	114	3
e	227	4
Avg	125	3.2

*START to ship sample HOC-ECS-008 for analysis (lead) today.

0845- EPA OSC Benning on site.

0900- START will assess stock pile pad area once truck load out is completed today. If any stock pile pad sand remains in place START will collect a composite sample of the material over the concrete.

1055- HOC-ECS-008 sample packed and ready for shipment. XRF data downloaded.

1130- ERRS continues truck load out of excavated material + stock pile pad. ERRS + ULs continue backfill work at Prop#14.

1200- START takes lunch.

1220- START off lunch.

1400- START off site to Pilsen OU2 Rem.

1425- START on site at Prop #17. backfill work almost complete in BY, gravel needed in FY soil area.

1435- START on site at Prop#14. Backfill work complete.

1500- START at SA packing up equipment including solar panel array

1550- Soil Stock pile pad (SSPP) at SA

Retain as Rem

9-22-17 HOC REM

1550 cont- cleared off, START to assess pre-removal sample locations to determine if a post sample could be collected.

1605- Previous pre-removal sample locations now on concrete so sample will be collected.

1700 - START Pallardy off site, ERRS demobing for day.

9-22-17

APPENDIX D

SUMMARY TABLES 1 – 12

Table 1
Removal Action Timeline Summary
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Property #	Began Excavation	Ended Excavation	Began Backfill	Completed Backfill	Excavation Confirmation Sample ID	Sample Depth	Comments
1	8/28/2017	8/30/2017	8/29/2017	8/30/2017	NA	NA	Excavation to 2 feet bgs
2	8/16/2017	8/22/2017	8/23/2017	8/24/2017	NA	NA	Excavation to 2 feet bgs
3	8/23/2017	8/24/2017	8/24/2017	8/25/2017	HOC-ECS-003	16-22 inches bgs	5 point composite collected from backyard
4	9/6/2017	9/11/2017	9/11/2017	9/13/2017	HOC-ECS-004	14-20 inches bgs	5 point composite collected from the front yard grass area
5	--	--	--	--	--	--	No Response
6	--	--	--	--	--	--	Covered with Brick, No Removal Action
7	--	--	--	--	--	--	Withdrawn Access
8	8/18/2017	8/21/2017	8/23/2017	8/24/2017	NA	NA	Excavation to 2 feet bgs
9	8/9/2017	8/14/2017	8/15/2017	8/18/2017	NA	NA	Excavation to 2 feet bgs
10	8/9/2017	8/11/2017	8/11/2017	8/11/2017	NA	NA	Excavation to 2 feet bgs
11	--	--	--	--	--	--	No Response
12	9/13/2017	9/17/2017	9/18/2017	9/18/2017	NA	NA	Excavation to 2 feet bgs
13	--	--	--	--	--	--	No Response
14	9/18/2017	9/21/2017	9/21/2017	9/22/2017	HOC-ECS-006, HOC-ECS-007, & HOC-ECS-008	14-20 inches bgs (HOC-ECS-006), 10-16 inches bgs (HOC-ECS-007), & 9-15 inches bgs (HOC-ECS-008)	2 point composite collected from east grass backyard area (HOC-ECS-006), 5 point composite collected from west grass backyard area (HOC-ECS-007), & 3 point composite collected from backyard garden area (HOC-ECS-008)
15	9/13/2017	9/13/2017	9/13/2017	9/15/2017	NA	NA	Excavation to 2 feet bgs
16	9/6/2017	9/7/2017	9/7/2017	9/7/2017	NA	NA	Excavation to 2 feet bgs
17	9/12/2017	9/19/2017	9/20/2017	9/20/2017	HOC-ECS-005	14-20 inches bgs	5 point composite collected from backyard grass area
18	--	--	--	--	--	--	Covered with Cement, No Removal Action
19	8/7/2017	8/8/2017	8/9/2017	8/10/2017	HOC-ECS-002	12-18 inches bgs	5 point composite collected from backyard
20	9/11/2017	9/11/2017	9/11/2017	9/11/2017	NA	NA	Excavation to 2 feet bgs
21	7/31/2017	8/3/2017	8/3/2017	8/4/2017	HOC-ECS-001	15-21 inches bgs	5 point composite collected from front yard grass area

Notes:
-- = No information available
bgs = below ground surface
ECS = excavation confirmation sample
HOC = Heart of Chicago
NA = not applicable
= No response or withdrawn access
= Engineered barrier in place, no removal action

Table 2
Lead Bioavailability Sample Collection Summary
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Property #	Bioavailable Lead Sample	Date Collected	Weston Property ID #	Comment
1	HOC-LBS-007	8/15/2017	PA-471	Collected from backyard
2	HOC-LBS-006	8/15/2017	PA-472	Collected from backyard
3	HOC-LBS-008	8/22/2017	PA-473	Collected from backyard
4	HOC-LBS-009 and HOC-LBS-010	8/22/2017	PA-474	HOC-LBS-009 collected from front yard on east side of the property and HOC-LBS-010 collected from the backyard on the southeast side of the property
5	--	--	PA-475	No Response
6	--	--	PA-476	Covered with Brick, No Removal Action
7	--	--	PA-477	Withdrawn Access
8	HOC-LBS-005	8/15/2017	PA-478	Sample collection matched Weston sampling, sample collection split between front yard and backyard
9	HOC-LBS-004	8/8/2017	PA-479	Collected from front yard
10	HOC-LBS-003	8/8/2017	PA-480	Collected from front yard
11	--	--	PA-481	No Response
12	HOC-LBS-014	9/8/2017	PA-484	Collected from backyard
13	--	--	PA-485	No Response
14	HOC-LBS-016 and HOC-LBS-017	9/8/2017	PA-486	HOC-LBS-016 collected from east portion of backyard following 2013 Weston sampling. HOC-LBS-017 collected from west portion of backyard as a 2 point composite sample.
15	HOC-LBS-015	9/8/2017	PA-487	Collected from backyard raised garden
16	HOC-LBS-012	9/6/2017	PA-488	Collected from front yard soil underneath concrete landing for front door
17	HOC-LBS-011	8/22/2017	PA-502	Collected from backyard
18	--	--	PA-503	Covered with Cement, No Removal Action
19	HOC-LBS-002	8/7/2017	PA-507	Collected from backyard
20	HOC-LBS-013	9/8/2017	PA-516	Collected from backyard
21	HOC-LBS-001	8/1/2017	NA	Collected from front yard

Notes:

-- = Not sampled or no information available

HOC = Heart of Chicago

LBS = Lead Bioavailability Sample

PA = Pilsen Area

= No respones or withdrawn access

= Engineered barrier in place, no removal action

Table 3
Pre-Removal Work Staging Area Samples - TAL Metal Results
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Analyte	CAS_NO	EPA Industrial RSL (mg/kg) [1,2]	EPA Residential RSL (mg/kg) [1,2]	Concentrations of Inorganic Chemicals in Background Soils (mg/kg) [3,4]	IEPA Residential Route Specific Values for Soil [3,4] Ingestion [3,4]	IEPA Residential Route Specific Values for Soil [3,4] Inhalation [3,4]	Client Sample ID:	Date Collected:	Time Collected:	HOC-SAS-PRE-001		HOC-SAS-PRE-002		HOC-SAS-PRE-002-D		HOC-SAS-PRE-003		HOC-SAS-PRE-004		HOC-SAS-PRE-005		HOC-SAS-PRE-006		HOC-SAS-PRE-007	
										7/17/2017		7/17/2017		7/17/2017		7/17/2017		7/17/2017		7/17/2017		7/17/2017		7/19/2017	
										12:40		12:55		12:55		13:22		13:25		14:40		15:20		17:05	
										Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier
Aluminum	7429-90-5	1100000	77000	9500	--	--				4960		4580		6160		6210	J	3230		4390		4760		1690	
Antimony	7440-36-0	470	31	4	31	---				0.37	J	ND		ND		0.37	J-	0.33	J	ND		ND		ND	
Arsenic	7440-38-2	3	0.68	13	13.0/11.3	750				7.0		7.0		11.3		7.1	J	7.4		4.4		3.0		3.7	
Barium	7440-39-3	220000	15000	110	5,500	690,000				128		80.2		89.5		140	J-	128		84.1		102		9.1	
Beryllium	7440-41-7	2300	160	0.59	160	1,300				ND		ND		ND		ND		ND		ND		ND		0.19	
Cadmium	7440-43-9	980	71	0.6	78	1,800				0.9		1.5		2.7		1.9	J-	1.3		0.91		0.65		0.093	
Calcium	7440-70-2	--	--	9300	---	---				84700		129000		107000		107000	J	78500		67100		125000		62900	J
Chromium	7440-47-3	--	--	16.2	230	270				19.8		23		19.2		39.8	J-	25.7		14.2		13.8		4.5	
Cobalt	7440-48-4	350	23	8.9	4,700	---				3.9		3.5		4.1		3.3	J-	3.2		2.9		2.8		1.9	
Copper	7440-50-8	47000	3100	19.6	2,900	---				44.8		44.2		40.7		199	J	556		20.8		18.7		6.9	
Iron	7439-89-6	820000	55000	15900	--	---				10700		14600		20500		13800	J	10900		9250		7560		5050	
Lead	7439-92-1	800	400	36	400	---				132		152		149		172	J	174		86.5		54.2		2	
Magnesium	7439-95-4	--	--	4820	325,000	---				44400		69400		52900		60600	J	42300		68500		51500		39200	J
Manganese	7439-96-5	26000	1800	636	1,600	69,000 / 8,700*				603		341		472		1330	J	374		392		277		184	
Mercury	7439-97-6	46	11	0.06	23	10 / 0.1*				0.23		0.14		0.18		0.19	J	0.14		0.088		0.081		0.0029	J
Nickel	7440-02-0	22000	1500	18	1,600	13,000				8.0		9.6		9.9		9.3	J-	7.6	J-	5.8	J-	5.3	J-	5.4	
Potassium	7440-09-7	--	--	--	--	--				803		746		947		853		606		796		754		245	
Selenium	7782-49-2	5800	390	0.48	390	---				1.6		1.3	J+	2.5		1.8	J	1.2	J+	ND		ND		ND	
Silver	7440-22-4	5800	390	0.55	390	---				0.27	J+	0.25	J+	0.39	J+	0.51	J-	0.24	J+	0.24	J+	0.28		ND	
Sodium	7440-23-5	--	--	130	---	---				600		487		315		341	J	572		444		238		110	
Thallium	7440-28-0	12	0.78	0.32	6.3	---				ND		0.5	J	1.4	J	ND		ND		ND		ND		ND	
Vanadium	7440-62-2	5800	390	25.2	550	---				17.5		13.1		13.5		27.8	J	13.2		12.2		13.3		5.9	
Zinc	7440-66-6	350000	23000	95	23,000	---				152		214		212		265		283		113		81.7		16.9	

Notes:

* - Construction Worker Inhalation Objective from Appendix B, Table B [3,4]

8.7 - Analyte was detected but the concentration only exceeds TACO background soil concentrations

1.28 - Analyte was detected and result exceeds EPA RSLs

-- = No data, no criteria, or not analyzed

CAS No. - Chemical Abstracts Service
EPA - United States Environmental Protection Agency
IEPA - Illinois Environmental Protection Agency
mg/kg - Milligrams per kilogram
ND - Not Detected
RSL - Regional Screening Level
TAL Metal - Target Analyte List Metal
TACO - Tiered Approach to Corrective Action
THQ - Target hazard quotients
TR - Target Cancer Risk

J = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+ = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J- = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.

1 - Analytical results compared to EPA Regional Screening Levels (RSLs) Residential Soil - Generic Table (TR of 1E-06, and THQ of 1.0)
2 - The applicable standards can be located here: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-june-2017
3 - Analytical results compared to IEPA Title 35: Environmental Protection, Subtitle G: Waste Disposal, Chapter I: Pollution Control Board, Subchapter F: Risk Based Cleanup Objectives, Part 742: Tiered Approach to Corrective Action Objectives
4 - The applicable standards can be located here: http://www.ipcb.state.il.us/documents/dsweb/Get/Document-38408

Table 4
Pre-Removal Work Staging Area Samples - PAH Results
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Analyte	CAS_NO	EPA Industrial RSL (mg/kg) [1,2]	EPA Residential RSL (mg/kg) [1,2]	Concentrations of Inorganic and PAH Chemicals in Background Soils (mg/kg) [3,4]	IEPA Residential Route Specific Values for Soil [3,4] Ingestion [3,4]	IEPA Residential Route Specific Values for Soil [3,4] Inhalation [3,4]	Client Sample ID:		HOC-SASP-PRE-001-D		HOC-SASP-PRE-002		HOC-SASP-PRE-003		HOC-SASP-PRE-004		HOC-SASP-PRE-005		HOC-SASP-PRE-008	
							Date Collected:	7/21/2017	7/21/2017		7/21/2017		7/21/2017		7/21/2017		7/21/2017		7/21/2017	
							Time Collected:	13:40	13:40		14:15		14:30		14:50		13:20		15:05	
								Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier
1-Methylnaphthalene	90-12-0	73	18	--	--	--	0.0874		0.136		0.111		0.288		0.307		0.0601	J	0.0357	J
2-Methylnaphthalene	91-57-6	3000	240	--	--	--	0.0731	J	0.123		0.0982		0.238		0.251		0.0585	J	0.0296	J
Acenaphthene	83-32-9	45000	3600	0.09	4,700	--	0.256		0.426		0.395		0.497		2.02		0.229	J+	0.192	
Acenaphthylene	208-96-8	--	--	0.03	--	--	0.0676	J	0.0664	J	0.128		0.158		0.197		0.116		0.0675	J
Anthracene	120-12-7	230000	18000	0.25	23,000	--	1.25		1.66		1.40		1.47		8.85		0.718		0.897	
Benzo(a)anthracene	56-55-3	21	1.1	1.1	0.9	--	4.24		5.18		5.28		5.67		25.2		2.95		2.25	
Benzo(a)pyrene	50-32-8	2.1	0.11	1.3	0.09	--	3.77		4.41		5.34		5.82		21.5		2.95		2.07	
Benzo(b)fluoranthene	205-99-2	21	1.1	1.5	0.9	--	4.77		6.01		7.14		8.62		30.4		3.94		2.94	
Benzo(g,h,i)perylene	191-24-2	--	--	0.68	--	--	2.33		2.34		2.82		3.24		8.76		2.20		1.07	
Benzo(k)fluoranthene	207-08-9	210	11	0.99	9	--	2.00		1.86		2.88		2.53		8.55		1.36		0.856	
Chrysene	218-01-9	2100	110	1.2	88	--	4.35		4.86		5.41		5.89		26.1		3.07		2.23	
Dibenzo(a,h)anthracene	53-70-3	2.1	0.11	0.2	0.09	--	0.575		0.638		0.664		0.703		2.34		0.491		0.257	
Fluoranthene	206-44-0	30000	2400	2.7	3,100	--	7.70		8.83		10.1		11.1		57.5		5.58		4.67	
Fluorene	86-73-7	30000	2400	0.1	3,100	--	0.282		0.419		0.407		0.573		3.00		0.225	J+	0.227	
Indeno(1,2,3-cd)pyrene	193-39-5	21	1.1	0.86	0.9	--	2.19		2.35		2.78		3.10		9.19		2.02		1.04	
Naphthalene	91-20-3	17	3.8	0.04	1,600	170 / 1.8*	0.113		0.177		0.202		0.155		0.303		0.0977		0.0516	J
Phenanthrene	85-01-8	--	--	1.3	--	--	3.76		4.67		4.87		6.04		33.2		2.46		2.20	
Pyrene	129-00-0	23000	1800	1.9	2,300	--	7.31		8.19		9.63		10.8		52.5		5.05		3.94	

Notes:

* - Construction Worker Inhalation Objective from Appendix B, Table B [3,4]

4.24 - Analyte was detected and concentration exceeds TACO background soil concentrations, TACO residential soil standards, and EPA residential RSL

3.77 - Analyte was detected and result exceeds EPA industrial RSLs

-- = No data, no criteria, or not analyzed
CAS No. - Chemical Abstracts Service
EPA - United States Environmental Protection Agency
IEPA - Illinois Environmental Protection Agency
mg/kg - Milligrams per kilogram
ND - Not Detected
PAH - Polycyclic Aromatic Hydrocarbon
RSL - Regional Screening Level
TACO - Tiered Approach to Corrective Action
THQ - Target hazard quotients
TR - Target Cancer Risk

J = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+ = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.

1 - Analytical results compared to EPA Regional Screening Levels (RSLs) Industrial and Residential Soil - Generic Tables (TR of 1E-06, and THQ of 1.0)
2 - The applicable standards can be located here: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-june-2017
3 - Analytical results compared to IEPA Title 35: Environmental Protection, Subtitle G: Waste Disposal, Chapter I: Pollution Control Board, Subchapter F: Risk Based Cleanup Objectives, Part 742: Tiered Approach to Corrective Action Objectives
4 - The applicable standards can be located here: http://www.ipcb.state.il.us/documents/dsweb/Get/Document-38408

Table 5
Pre-Removal and Post-Removal Work Staging Area Samples - Total Lead Result Comparison
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Analyte	CAS_NO	EPA Industrial RSL (mg/kg) [1,2]	EPA Residential RSL (mg/kg) [1,2]	Client Sample ID:		HOC-SAS-PRE-001		HOC-SAS-POST-001		HOC-SAS-PRE-002		HOC-SAS-PRE-002-D		HOC-SAS-POST-002		HOC-SAS-PRE-003		HOC-SAS-POST-003	
				Date Collected:		7/17/2017		9/15/2017		7/17/2017		7/17/2017		9/15/2017		7/17/2017		9/15/2017	
				Time Collected:		12:40		14:45		12:55		12:55		13:30		13:22		13:55	
				IEPA Residential Route Specific Values for Soil [3,4]		Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier
				Ingestion [3,4]	Inhalation [3,4]														
Lead	7439-92-1	800	400	400	--	132		82.9		152		149		552		172	J	343	

Analyte	CAS_NO	EPA Industrial RSL (mg/kg) [1,2]	EPA Residential RSL (mg/kg) [1,2]	Client Sample ID:		HOC-SAS-PRE-004		HOC-SAS-POST-004		HOC-SAS-PRE-005		HOC-SAS-POST-005		HOC-SAS-POST-005-D		HOC-SAS-PRE-006		HOC-SAS-PRE-007	
				Date Collected:		7/17/2017		9/15/2017		7/17/2017		9/15/2017		9/15/2017		7/17/2017		7/19/2017	
				Time Collected:		13:25		14:15		14:40		15:20		15:20		15:20		17:05	
				IEPA Residential Route Specific Values for Soil [3,4]		Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier	Analytical Data (mg/kg)	Data Qualifier
				Ingestion [3,4]	Inhalation [3,4]														
Lead	7439-92-1	800	400	400	--	174		94.4		86.5		58.5		38.8		54.2		2	

Notes:

343 - Analyte was detected, concentration does not exceed applicable standards but Post-Removal sample concentration is greater than the Pre-Removal sample concentration

552 - Analyte was detected, concentration exceeds TACO and EPA RSL residential standards and the Post-Removal sample concentration is greater than the Pre-Removal sample concentration

-- = No data, no criteria, or not analyzed
CAS No. - Chemical Abstracts Service
EPA - United States Environmental Protection Agency
IEPA - Illinois Environmental Protection Agency
mg/kg - Milligrams per kilogram
ND - Not Detected
RSL - Regional Screening Level
TACO - Tiered Approach to Corrective Action
THQ - Target hazard quotients
TR - Target Cancer Risk

J = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.

1 - Analytical results compared to EPA Regional Screening Levels (RSLs) Residential Soil - Generic Table (TR of 1E-06, and THQ of 1.0)
2 - The applicable standards can be located here: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-june-2017
3 - Analytical results compared to IEPA Title 35: Environmental Protection, Subtitle G: Waste Disposal, Chapter I: Pollution Control Board, Subchapter F: Risk Based Cleanup Objectives, Part 742: Tiered Approach to Corrective Action Objectives
4 - The applicable standards can be located here: http://www.ipcb.state.il.us/documents/dsweb/Get/Document-38408

Table 6
Backfill Source 1 - Sample Results
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Parameter	Analyte	CAS_NO	EPA Residential RSL (mg/kg) [1,2]	Concentrations of Inorganic and PAH Chemicals in Background Soils (mg/kg) [3,4]	Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil (mg/kg) [5,6]	IEPA Residential Route Specific Values for Soil [3,4]		Soil Component of Groundwater Ingestion Exposure Route Values [3,4]		Client Sample ID:	Date Collected:	Time Collected:
						Ingestion [3,4]	Inhalation [3,4]	Class I [3,4]	Class II [3,4]	HOC-BACKFILL-01-072517	7/25/2017	12:20
										Analytical Data (mg/kg)	Data Qualifier	
Inorganic	Aluminum	7429-90-5	77000	9500	--	--	--	--	--	12200		
	Antimony	7440-36-0	31	4	5	31	---	--	--	0.53	J-	
	Arsenic	7440-38-2	0.68	13	13	13.0/11.3	750	--	--	7.2		
	Barium	7440-39-3	15000	110	1500	5,500	690,000	--	--	113		
	Beryllium	7440-41-7	160	0.59	22	160	1,300	--	--	0.13	J	
	Cadmium	7440-43-9	71	0.6	5.2	78	1,800	--	--	ND		
	Calcium	7440-70-2	--	9300	--	---	---	--	--	13700		
	Chromium	7440-47-3	--	16.2	21	230	270	--	--	18.5		
	Cobalt	7440-48-4	23	8.9	20	4,700	---	--	--	10.6		
	Copper	7440-50-8	3100	19.6	2900	2,900	---	--	--	16.4		
	Iron	7439-89-6	55000	15900	15900	--	---	--	--	17000	J	
	Lead	7439-92-1	400	36	107	400	---	--	--	15.3		
	Magnesium	7439-95-4	--	4820	325000	325,000	---	--	--	8390	J+	
	Manganese	7439-96-5	1800	636	636	1,600	69,000 / 8,700*	--	--	607	J	
	Mercury	7439-97-6	11	0.06	0.1	23	10 / 0.1*	--	--	0.055	J	
	Nickel	7440-02-0	1500	18	100	1,600	13,000	--	--	20.5		
	Potassium	7440-09-7	--	--	--	--	--	--	--	1090		
	Selenium	7782-49-2	390	0.48	1.3	390	---	--	--	5.6	J-	
	Silver	7440-22-4	390	0.55	4.4	390	---	--	--	0.2	J	
	Sodium	7440-23-5	--	130	--	---	---	--	--	16.5	J	
	Thallium	7440-28-0	0.78	0.32	2.6	6.3	---	--	--	ND		
	Vanadium	7440-62-2	390	25.2	550	550	---	--	--	25.9		
	Zinc	7440-66-6	23000	95	5100	23,000	---	--	--	53.5		
Pesticide	4,4'-DDD	72-54-8	2.3	--	3	3	---	16	80	ND		
	4,4'-DDE	72-55-9	2	--	2	2	---	54	270	ND		
	4,4'-DDT	50-29-3	1.9	--	2	2	--- / 2,100*	32	160	ND		
	Aldrin	309-00-2	0.039	--	0.94	0.04	3	0.5	2.5	0.00442	J	
	alpha-BHC	319-84-6	0.086	--	0.0074	0.1	0.8	0.0005	0.003	ND		
	alpha-Chlordane	5103-71-9	--	--	--	--	--	--	--	ND		
	beta-BHC	319-85-7	0.3	--	--	--	--	--	--	ND		
	Chlordane (Technical)	12789-03-6	1.7	--	1.8	1.8	72 / 22*	10	48	ND		
	delta-BHC	319-86-8	--	--	--	--	--	--	--	0.00442	J	
	Dieldrin	60-57-1	0.034	--	0.603	0.04	1	0.004	0.02	0.00631	J	
	Endosulfan I	959-98-8	--	--	18	470	---	18	90	ND		
	Endosulfan II	33213-65-9	--	--	18	470	---	18	90	ND		
	Endosulfan sulfate	1031-07-8	--	--	--	--	--	--	--	ND		
	Endrin	72-20-8	19	--	1	23	---	1	5	ND		
	Endrin aldehyde	7421-93-4	--	--	--	--	--	--	--	ND		
	Endrin ketone	53494-70-5	--	--	--	--	--	--	--	ND		
	gamma-Chlordane	5103-74-2	--	--	--	--	--	--	--	ND		
	Heptachlor	76-44-8	0.13	--	0.871	0.1	0.1	23	110	ND		
	Heptachlor epoxide	1024-57-3	0.07	--	1.005	0.07	5	0.7	3.3	ND		
	Lindane	58-89-9	0.57	--	0.009	0.5	---	0.009	0.047	ND		
	Methoxychlor	72-43-5	320	--	160	390	---	160	780	ND		
	Toxaphene	8001-35-2	0.49	--	0.6	0.6	89	31	150	ND		
PCB	Aroclor-1016	12674-11-2	4.1	--	1	1	---	---	---	ND		
	Aroclor-1221	11104-28-2	0.2	--	1	1	---	---	---	ND		
	Aroclor-1232	11141-16-5	0.17	--	1	1	---	---	---	ND		
	Aroclor-1242	53469-21-9	0.23	--	1	1	---	---	---	ND		
	Aroclor-1248	12672-29-6	0.23	--	1	1	---	---	---	ND		
	Aroclor-1254	11097-69-1	0.24	--	1	1	---	---	---	ND		
	Aroclor-1260	11096-82-5	0.24	--	1	1	---	---	---	ND		
	Aroclor-1262	37324-23-5	--	--	1	1	--	--	--	ND		
	Aroclor-1268	11100-14-4	--	--	1	1	--	--	--	ND		
	PCB, Total	1336-36-3	0.23	--	1	1	--	--	--	ND		

Table 6
Backfill Source 1 - Sample Results
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Parameter	Analyte	CAS_NO	EPA Residential RSL (mg/kg) [1,2]	Concentrations of Inorganic and PAH Chemicals in Background Soils (mg/kg) [3,4]	Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil (mg/kg) [5,6]	Client Sample ID:				HOC-BACKFILL-01-072517	
						Date Collected:				7/25/2017	
						Time Collected:				12:20	
						IEPA Residential Route Specific Values for Soil [3,4]		Soil Component of Groundwater Ingestion Exposure Route Values [3,4]		Analytical Data (mg/kg)	Data Qualifier
						Ingestion [3,4]	Inhalation [3,4]	Class I [3,4]	Class II [3,4]		
Herbicide	2,4,5-T	93-76-5	630	--	--	--	--	--	--	ND	
	2,4,5-TP (Silvex)	93-72-1	510	--	11	630	--	11	55	ND	
	2,4-D	94-75-7	700	--	1.5	780	--	1.5	7.7	ND	
	2,4-DB	94-82-6	1900	--	--	--	--	--	--	ND	
	Dalapon	75-99-0	1900	--	0.85	2,300	--	0.85	8.5	ND	
	Dicamba	1918-00-9	1900	--	--	--	--	--	--	ND	
	Dichloroprop	120-36-5	--	--	--	--	--	--	--	ND	
	Dinoseb	88-85-7	63	--	0.25	78	--	0.34	3.4	ND	
	MCPA	94-74-6	32	--	--	--	--	--	--	ND	
	MCPP	93-65-2	63	--	--	--	--	--	--	ND	
VOC	1,1,1-Trichloroethane	71-55-6	8100	--	2	---	1,200	2	9.6	ND	
	1,1,2,2-Tetrachloroethane	79-34-5	0.6	--	--	--	--	--	--	ND	
	1,1,2-Trichloroethane	79-00-5	1.1	--	0.02	310	1,800	0.02	0.3	ND	
	1,1-Dichloroethane	75-34-3	3.6	--	36	7,800	1,300 / 130*	23	110	ND	
	1,1-Dichloroethene	75-35-4	230	--	0.06	3,900	290 / 3.0*	0.06	0.3	ND	
	1,2,3-Trichlorobenzene	87-61-6	63	--	--	--	--	--	--	ND	
	1,2,4-Trichlorobenzene	120-82-1	24	--	5	780	3,200 / 920*	5	53	ND	
	1,2-Dibromo-3-chloropropane	96-12-8	0.0053	--	0.002	0.46	11	0.002	0.02	ND	
	1,2-Dibromoethane	106-93-4	0.036	--	0.005	0.32	0.06	0.0004	0.004	ND	
	1,2-Dichlorobenzene	95-50-1	1800	--	17	7,000	560 / 310*	17	43	ND	
	1,2-Dichloroethane	107-06-2	0.46	--	0.02	7	0.4	0.02	0.1	ND	
	1,2-Dichloropropane	78-87-5	0.28	--	0.03	9	15 / 0.50*	0.03	0.15	ND	
	1,3-Dichlorobenzene	541-73-1	--	--	--	--	--	--	--	ND	
	1,4-Dichlorobenzene	106-46-7	2.6	--	2	---	11,000 / 340*	2	11	ND	
	1,4-Dioxane	123-91-1	5.3	--	--	--	--	--	--	--	R
	112Trichloro122trifluoroethane	76-13-1	6700	--	--	--	--	--	--	ND	
	2-Butanone	78-93-3	27000	--	--	--	--	--	--	ND	
	2-Hexanone	591-78-6	200	--	--	--	--	--	--	ND	
	4-Methyl-2-pentanone	108-10-1	33000	--	--	--	--	--	--	ND	
	Acetone	67-64-1	61000	--	25	70,000	100,000	25	25	ND	
	Benzene	71-43-2	1.2	--	0.03	12	0.8	0.03	0.17	ND	
	Bromochloromethane	74-97-5	150	--	--	--	--	--	--	ND	
	Bromodichloromethane	75-27-4	0.29	--	0.6	10	3,000	0.6	0.6	ND	
	Bromoform	75-25-2	19	--	0.8	81	53	0.8	0.8	ND	
	Bromomethane	74-83-9	6.8	--	0.2	110	10 / 3.9*	0.2	1.2	ND	
	Carbon disulfide	75-15-0	770	--	9	7,800	720 / 9.0*	32	160	ND	
	Carbon tetrachloride	56-23-5	0.65	--	0.07	5	0.3	0.07	0.33	ND	
	Chlorobenzene	108-90-7	280	--	1	1,600	130 / 1.3*	1	6.5	ND	
	Chloroethane	75-00-3	14000	--	--	--	--	--	--	ND	
	Chloroform	67-66-3	0.32	--	0.3	100	0.3	0.6	2.9	ND	
	Chloromethane	74-87-3	110	--	--	--	--	--	--	ND	
	cis-1,2-Dichloroethene	156-59-2	160	--	0.4	780	1,200	0.4	1.1	ND	
	cis-1,3-Dichloropropene	10061-01-5	--	--	0.005	6.4	1.1 / 0.39*	0.004	0.02	ND	
	Cyclohexane	110-82-7	6500	--	--	--	--	--	--	ND	
	Dibromochloromethane	124-48-1	8.3	--	0.4	1,600	1,300	0.4	0.4	ND	
	Dichlorodifluoromethane	75-71-8	87	--	--	--	--	--	--	ND	
	Ethylbenzene	100-41-4	5.8	--	13	7,800	400 / 58*	13	19	ND	
	Isopropylbenzene	98-82-8	1900	--	--	--	--	--	--	ND	
	m & p-Xylene	179601-23-1	$550^{m}/560^{p}$	--	$6.4^{m}/5.9^{p}$	16,000	$420^{m}/460^{p}$	$210^{m}/200^{p}$	$210^{m}/200^{p}$	ND	
	Methyl acetate	79-20-9	78000	--	--	--	--	--	--	0.0401	J
	Methyl tert-butyl ether	1634-04-4	47	--	0.32	780	8,800 / 140*	0.32	0.32	ND	
	Methylcyclohexane	108-87-2	--	--	--	--	--	--	--	ND	
	Methylene chloride	75-09-2	57	--	0.02	85	13	0.02	0.2	ND	
	o-Xylene	95-47-6	650	--	6.5	16,000	410	190	190	ND	
	Styrene	100-42-5	6000	--	4	16,000	1,500 / 430*	4	18	ND	

Table 6
Backfill Source 1 - Sample Results
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Parameter	Analyte	CAS_NO	EPA Residential RSL (mg/kg) [1,2]	Concentrations of Inorganic and PAH Chemicals in Background Soils (mg/kg) [3,4]	Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil (mg/kg) [5,6]	Client Sample ID:				HOC-BACKFILL-01-072517	
						Date Collected:				7/25/2017	
						Time Collected:				12:20	
						IEPA Residential Route Specific Values for Soil [3,4]		Soil Component of Groundwater Ingestion Exposure Route Values [3,4]		Analytical Data (mg/kg)	Data Qualifier
						Ingestion [3,4]	Inhalation [3,4]	Class I [3,4]	Class II [3,4]		
VOC	Tetrachloroethene	127-18-4	24	--	0.06	12	11	0.06	0.3	ND	
	Toluene	108-88-3	4900	--	12	16,000	650 / 42*	12	29	0.0097	J
	trans-1,2-Dichloroethene	156-60-5	1600	--	0.7	1,600	3,100	0.7	3.4	ND	
	trans-1,3-Dichloropropene	10061-02-6	--	--	0.005	6.4	1.1 / 0.39*	0.004	0.02	ND	
	Trichloroethene	79-01-6	0.94	--	0.06	58	5	0.06	0.3	ND	
	Trichlorofluoromethane	75-69-4	23000	--	--	--	--	--	--	ND	
	Vinyl chloride	75-01-4	0.059	--	0.01	0.46	0.28	0.01	0.07	ND	
SVOC	1,1'-Biphenyl	92-52-4	47	--	--	--	--	--	--	ND	
	1,2,4,5-Tetrachlorobenzene	95-94-3	23	--	--	--	--	--	--	ND	
	2,4,5-Trichlorophenol	95-95-4	6300	--	26	7,800	---	270	1,400	ND	
	2,4,6-Trichlorophenol	88-06-2	49	--	0.66	58	200	0.2	0.77	ND	
	2,4-Dichlorophenol	120-83-2	190	--	0.48	230	---	1	1	ND	
	2,4-Dimethylphenol	105-67-9	1300	--	9	1,600	---	9	9	ND	
	2,4-Dinitrophenol	51-28-5	130	--	3.3	160	---	0.2	0.2	ND	
	2,4-Dinitrotoluene	121-14-2	1.7	--	0.25	0.9	---	0.0008	0.0008	ND	
	2,6-Dinitrotoluene	606-20-2	0.36	--	0.26	0.9	---	0.0007	0.0007	ND	
	2-Chloronaphthalene	91-58-7	4800	--	--	--	--	--	--	ND	
	2-Chlorophenol	95-57-8	390	--	1.5	390	53,000	4	4	ND	
	2-Methylnaphthalene	91-57-6	240	--	--	--	--	--	--	ND	
	2-Methylphenol	95-48-7	3200	--	15	3,900	---	15	15	ND	
	2-Nitroaniline	88-74-4	630	--	--	--	--	--	--	ND	
	2-Nitrophenol	88-75-5	--	--	--	--	--	--	--	ND	
	3 & 4-Methylphenol	1319-77-3	6300	--	--	--	--	--	--	ND	
	3,3'-Dichlorobenzidine	91-94-1	1.2	--	1.3	1	---	0.007	0.033	ND	
	3-Nitroaniline	99-09-2	--	--	--	--	--	--	--	ND	
	4,6-Dinitro-2-methylphenol	534-52-1	5.1	--	--	--	--	--	--	ND	
	4-Bromophenyl-phenyl ether	101-55-3	--	--	--	--	--	--	--	ND	
	4-Chloro-3-methylphenol	59-50-7	6300	--	--	--	--	--	--	ND	
	4-Chloroaniline	106-47-8	2.7	--	0.7	310	---	0.7	0.7	ND	
	4-Chlorophenyl-phenyl ether	7005-72-3	--	--	--	--	--	--	--	ND	
	4-Nitroaniline	100-01-6	27	--	--	--	--	--	--	ND	
	4-Nitrophenol	100-02-7	--	--	--	--	--	--	--	ND	
	Acenaphthene	83-32-9	3600	0.09	570	4,700	---	570	2,900	ND	
	Acenaphthylene	208-96-8	--	0.03	--	--	--	--	--	ND	
	Acetophenone	98-86-2	7800	--	--	--	--	--	--	ND	
	Anthracene	120-12-7	18000	0.25	12000	23,000	---	12,000	59,000	ND	
	Atrazine	1912-24-9	2.4	--	0.066	2700	--	0.066	0.33	ND	
	Benzaldehyde	100-52-7	170	--	--	--	--	--	--	0.0317	J
	Benzo(a)anthracene	56-55-3	1.1	1.1	1.1	0.9	---	2	8	ND	
	Benzo(a)pyrene	50-32-8	0.11	1.3	1.3	0.09	---	8	82	ND	
	Benzo(b)fluoranthene	205-99-2	1.1	1.5	1.5	0.9	---	5	25	0.0373	J
	Benzo(g,h,i)perylene	191-24-2	--	0.68	--	--	--	--	--	ND	
	Benzo(k)fluoranthene	207-08-9	11	0.99	9	9	---	49	250	ND	
	Bis(2-chloroethoxy)methane	111-91-1	190	--	--	--	--	--	--	ND	
	Bis(2-chloroethyl)ether	111-44-4	0.23	--	0.66	0.6	0.2	0.0004	0.0004	ND	
	Bis(2-chloroisopropyl)ether	108-60-1	3100	--	--	--	--	--	--	ND	
	Bis(2-ethylhexyl)phthalate	117-81-7	39	--	46	46	31,000	3,600	31,000	ND	
	Butylbenzylphthalate	85-68-7	290	--	930	16,000	930	930	930	ND	
	Caprolactam	105-60-2	31000	--	--	--	--	--	--	ND	
	Carbazole	86-74-8	--	--	0.6	32	---	0.6	2.8	ND	
	Chrysene	218-01-9	110	1.2	88	88	---	160	800	ND	
	Dibenzo(a,h)anthracene	53-70-3	0.11	0.2	0.2	0.09	---	2	7.6	ND	
	Dibenzofuran	132-64-9	73	--	--	--	--	--	--	ND	
	Diethylphthalate	84-66-2	51000	--	470	63,000	2,000	470	470	ND	
	Dimethylphthalate	131-11-3	--	--	--	--	--	--	--	ND	

Table 6
Backfill Source 1 - Sample Results
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Parameter	Analyte	CAS_NO	EPA Residential RSL (mg/kg) [1,2]	Concentrations of Inorganic and PAH Chemicals in Background Soils (mg/kg) [3,4]	Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil (mg/kg) [5,6]	Client Sample ID:				HOC-BACKFILL-01-072517	
						Date Collected:				7/25/2017	
						Time Collected:				12:20	
						IEPA Residential Route Specific Values for Soil [3,4]		Soil Component of Groundwater Ingestion Exposure Route Values [3,4]		Analytical Data (mg/kg)	Data Qualifier
						Ingestion [3,4]	Inhalation [3,4]	Class I [3,4]	Class II [3,4]		
SVOC	Di-n-butylphthalate	84-74-2	6300	--	2300	7,800	2,300	2,300	2,300	0.497	J
	Di-n-octylphthalate	117-84-0	630	--	1600	1,600	10,000	10,000	10,000	ND	
	Fluoranthene	206-44-0	2400	2.7	3100	3,100	---	4,300	21,000	ND	
	Fluorene	86-73-7	2400	0.1	560	3,100	---	560	2,800	ND	
	Hexachlorobenzene	118-74-1	0.21	--	0.4	0.4	1	2	11	ND	
	Hexachlorobutadiene	87-68-3	1.2	--	--	--	--	--	--	ND	
	Hexachlorocyclopentadiene	77-47-4	1.8	--	1.1	550	10 / 1.1*	400	2,200	ND	
	Hexachloroethane	67-72-1	1.8	--	0.5	78	---	0.5	2.6	ND	
	Indeno(1,2,3-cd)pyrene	193-39-5	1.1	0.86	1.6	0.9	---	14	69	ND	
	Isophorone	78-59-1	570	--	8	15,600	4,600	8	8	ND	
	Naphthalene	91-20-3	3.8	0.04	1.8	1,600	170 / 1.8*	12	18	ND	
	Nitrobenzene	98-95-3	5.1	--	0.26	39	92/9.4*	0.1	0.1	ND	
	N-Nitroso-di-n-propylamine	621-64-7	0.078	--	0.0018	0.09	---	0.00005	0.00005	ND	
	N-Nitrosodiphenylamine & Diphn	86-30-6/122-39-4	110	--	1	130	--	1	5.6	ND	
	Pentachlorophenol	87-86-5	1	--	0.02	3	---	0.03	0.14	ND	
	Phenanthrene	85-01-8	--	1.3	--	--	--	--	--	ND	
	Phenol	108-95-2	19000	--	100	23,000	---	100	100	ND	
	Pyrene	129-00-0	1800	1.9	2300	2,300	---	4,200	21,000	ND	
Additional Analysis	Cyanide	57-12-5	23	0.51	40	1,600	---	--	--	0.271	J

Notes:

- Sample HOC-BACKFILL-01-072517 collected as a composite of DuPage Topsoil source to be used as backfill.

* - Construction Worker Inhalation Objective from Appendix B, Table B [3,4]

12200 - Analyte was detected but the concentration does not exceed the EPA RSLs and the TACO Tier 1 remediation objectives or the concentration is below either TACO background soil concentrations or Illinois MAC standard

5.6 - Analyte was detected but result is only above TACO background soil concentrations and Illinois MAC standard based on non-applicable soil to groundwater ingestion route

-- = No data, no criteria, or not analyzed

CAS No. - Chemical Abstracts Service
EPA - United States Environmental Protection Agency
IEPA - Illinois Environmental Protection Agency
Inorganic - Inorganic analytes or metals
MAC - Maximum Allowable Concentrations
mg/kg - Milligrams per kilogram
ND - Not Detected
PCB - Polychlorinated biphenyl
RSL - Regional Screening Level
SVOC - Semivolatile organic compound
TACO - Tiered Approach to Corrective Action
TCLP - Toxicity Characteristic Leaching Procedure
THQ - Target hazard quotients
TR - Target Cancer Risk
VOC - Volatile organic compound

J = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+ = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J- = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
R = The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.

1 - Analytical results compared to EPA Regional Screening Levels (RSLs) Residential Soil - Generic Table (TR of 1E-06, and THQ of 1.0)
2 - The applicable standards can be located here: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-june-2017
3 - Analytical results compared to IEPA Title 35: Environmental Protection, Subtitle G: Waste Disposal, Chapter I: Pollution Control Board, Subchapter F: Risk Based Cleanup Objectives, Part 742: Tiered Approach to Corrective Action Objectives
4 - The applicable standards can be located here: http://www.ipcb.state.il.us/documents/dsweb/Get/Document-38408
5 - Analytical results compared to IEPA Summary of Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil Used as Fill Material At Regulated Fill Operations (35 Ill. Adm. Code 1100.Subpart F)
6 - The applicable standards can be located here: http://www.epa.state.il.us/land/ccdd/new-max-allowable-concentrations-table.pdf

Table 7
Backfill Source 2 - Sample Results
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Parameter	Analyte	CAS_NO	EPA Residential RSL (mg/kg) [1,2]	Concentrations of Inorganic and PAH Chemicals in Background Soils (mg/kg) [3,4]	Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil (mg/kg) [5,6]	Client Sample ID:				HOC-BACKFILL-02-072617	
						Date Collected:				7/26/2017	
						Time Collected:				9:15	
						IEPA Residential Route Specific Values for Soil [3,4]		Soil Component of Groundwater Ingestion Exposure Route Values [3,4]		Analytical Data (mg/kg)	Data Qualifier
						Ingestion [3,4]	Inhalation [3,4]	Class I [3,4]	Class II [3,4]		
Inorganic	Aluminum	7429-90-5	77000	9500	--	--	--	--	--	7920	
	Antimony	7440-36-0	31	4	5	31	---	--	--	ND	
	Arsenic	7440-38-2	0.68	13	13	13.0/11.3	750	--	--	8.7	
	Barium	7440-39-3	15000	110	1500	5,500	690,000	--	--	89.6	
	Beryllium	7440-41-7	160	0.59	22	160	1,300	--	--	0.12	
	Cadmium	7440-43-9	71	0.6	5.2	78	1,800	--	--	0.51	
	Calcium	7440-70-2	--	9300	--	---	---	--	--	17700	
	Chromium	7440-47-3	--	16.2	21	230	270	--	--	18.1	
	Cobalt	7440-48-4	23	8.9	20	4,700	---	--	--	5.9	
	Copper	7440-50-8	3100	19.6	2900	2,900	---	--	--	28.2	
	Iron	7439-89-6	55000	15900	15900	--	---	--	--	15200	
	Lead	7439-92-1	400	36	107	400	---	--	--	63.2	
	Magnesium	7439-95-4	--	4820	325000	325,000	---	--	--	8700	
	Manganese	7439-96-5		636	636	1,600	69,000 / 8,700*	--	--	442	
	Mercury	7439-97-6	11	0.06	0.1	23	10 / 0.1*	--	--	0.064	J-
	Nickel	7440-02-0	1500	18	100	1,600	13,000	--	--	12.5	
	Potassium	7440-09-7	--	--	--	--	--	--	--	1760	
	Selenium	7782-49-2	390	0.48	1.3	390	---	--	--	0.28	J
	Silver	7440-22-4	390	0.55	4.4	390	---	--	--	0.24	J+
	Sodium	7440-23-5	--	130	--	---	---	--	--	70.6	
	Thallium	7440-28-0	0.78	0.32	2.6	6.3	---	--	--	ND	
	Vanadium	7440-62-2	390	25.2	550	550	---	--	--	18.3	
	Zinc	7440-66-6	23000	95	5100	23,000	---	--	--	115	
Pesticide	4,4'-DDD	72-54-8	2.3	--	3	3	---	16	80	ND	
	4,4'-DDE	72-55-9	2	--	2	2	---	54	270	0.0639	
	4,4'-DDT	50-29-3	1.9	--	2	2	--- / 2,100*	32	160	0.0276	
	Aldrin	309-00-2	0.039	--	0.94	0.04	3	0.5	2.5	ND	
	alpha-BHC	319-84-6	0.086	--	0.0074	0.1	0.8	0.0005	0.003	ND	
	alpha-Chlordane	5103-71-9	--	--	--	--	--	--	--	0.0291	
	beta-BHC	319-85-7	0.3	--	--	--	--	--	--	ND	
	Chlordane (Technical)	12789-03-6	1.7	--	1.8	1.8	72 / 22*	10	48	0.279	J
	delta-BHC	319-86-8	--	--	--	--	--	--	--	0.00508	J
	Dieldrin	60-57-1	0.034	--	0.603	0.04	1	0.004	0.02	0.00799	J
	Endosulfan I	959-98-8	--	--	18	470	---	18	90	ND	
	Endosulfan II	33213-65-9	--	--	18	470	---	18	90	ND	
	Endosulfan sulfate	1031-07-8	--	--	--	--	--	--	--	ND	
	Endrin	72-20-8	19	--	1	23	---	1	5	0.0174	J
	Endrin aldehyde	7421-93-4	--	--	--	--	--	--	--	ND	
	Endrin ketone	53494-70-5	--	--	--	--	--	--	--	ND	
	gamma-Chlordane	5103-74-2	--	--	--	--	--	--	--	0.0196	J
	Heptachlor	76-44-8	0.13	--	0.871	0.1	0.1	23	110	ND	
	Heptachlor epoxide	1024-57-3	0.07	--	1.005	0.07	5	0.7	3.3	0.00799	J
	Lindane	58-89-9	0.57	--	0.009	0.5	---	0.009	0.047	ND	
	Methoxychlor	72-43-5	320	--	160	390	---	160	780	ND	
	Toxaphene	8001-35-2	0.49	--	0.6	0.6	89	31	150	ND	
PCB	Aroclor-1016	12674-11-2	4.1	--	1	1	---	---	---	ND	
	Aroclor-1221	11104-28-2	0.2	--	1	1	---	---	---	ND	
	Aroclor-1232	11141-16-5	0.17	--	1	1	---	---	---	ND	
	Aroclor-1242	53469-21-9	0.23	--	1	1	---	---	---	ND	
	Aroclor-1248	12672-29-6	0.23	--	1	1	---	---	---	ND	
	Aroclor-1254	11097-69-1	0.24	--	1	1	---	---	---	ND	
	Aroclor-1260	11096-82-5	0.24	--	1	1	---	---	---	ND	
	Aroclor-1262	37324-23-5	--	--	1	1	--	--	--	ND	
	Aroclor-1268	11100-14-4	--	--	1	1	--	--	--	ND	
	PCB, Total	1336-36-3	0.23	--	1	1	--	--	--	ND	

Table 7
Backfill Source 2 - Sample Results
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Parameter	Analyte	CAS_NO	EPA Residential RSL (mg/kg) [1,2]	Concentrations of Inorganic and PAH Chemicals in Background Soils (mg/kg) [3,4]	Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil (mg/kg) [5,6]	Client Sample ID:				HOC-BACKFILL-02-072617	
						Date Collected:				7/26/2017	
						Time Collected:				9:15	
						IEPA Residential Route Specific Values for Soil [3,4]		Soil Component of Groundwater Ingestion Exposure Route Values [3,4]		Analytical Data (mg/kg)	Data Qualifier
						Ingestion [3,4]	Inhalation [3,4]	Class I [3,4]	Class II [3,4]		
Herbicide	2,4,5-T	93-76-5	630	--	--	--	--	--	--	ND	
	2,4,5-TP (Silvex)	93-72-1	510	--	11	630	--	11	55	ND	
	2,4-D	94-75-7	700	--	1.5	780	--	1.5	7.7	ND	
	2,4-DB	94-82-6	1900	--	--	--	--	--	--	ND	
	Dalapon	75-99-0	1900	--	0.85	2,300	--	0.85	8.5	ND	
	Dicamba	1918-00-9	1900	--	--	--	--	--	--	ND	
	Dichloroprop	120-36-5	--	--	--	--	--	--	--	ND	
	Dinoseb	88-85-7	63	--	0.25	78	--	0.34	3.4	ND	
	MCPA	94-74-6	32	--	--	--	--	--	--	ND	
	MCPP	93-65-2	63	--	--	--	--	--	--	ND	
VOC	1,1,1-Trichloroethane	71-55-6	8100	--	2	---	1,200	2	9.6	ND	
	1,1,2,2-Tetrachloroethane	79-34-5	0.6	--	--	--	--	--	--	ND	
	1,1,2-Trichloroethane	79-00-5	1.1	--	0.02	310	1,800	0.02	0.3	ND	
	1,1-Dichloroethane	75-34-3	3.6	--	36	7,800	1,300 / 130*	23	110	ND	
	1,1-Dichloroethene	75-35-4	230	--	0.06	3,900	290 / 3.0*	0.06	0.3	ND	
	1,2,3-Trichlorobenzene	87-61-6	63	--	--	--	--	--	--	ND	
	1,2,4-Trichlorobenzene	120-82-1	24	--	5	780	3,200 / 920*	5	53	ND	
	1,2-Dibromo-3-chloropropane	96-12-8	0.0053	--	0.002	0.46	11	0.002	0.02	ND	
	1,2-Dibromoethane	106-93-4	0.036	--	0.005	0.32	0.06	0.0004	0.004	ND	
	1,2-Dichlorobenzene	95-50-1	1800	--	17	7,000	560 / 310*	17	43	ND	
	1,2-Dichloroethane	107-06-2	0.46	--	0.02	7	0.4	0.02	0.1	ND	
	1,2-Dichloropropane	78-87-5	0.28	--	0.03	9	15 / 0.50*	0.03	0.15	ND	
	1,3-Dichlorobenzene	541-73-1	--	--	--	--	--	--	--	ND	
	1,4-Dichlorobenzene	106-46-7	2.6	--	2	---	11,000 / 340*	2	11	ND	
	1,4-Dioxane	123-91-1	5.3	--	--	--	--	--	--	--	R
	112Trichloro122trifluoroethane	76-13-1	6700	--	--	--	--	--	--	ND	
	2-Butanone	78-93-3	27000	--	--	--	--	--	--	ND	
	2-Hexanone	591-78-6	200	--	--	--	--	--	--	ND	
	4-Methyl-2-pentanone	108-10-1	33000	--	--	--	--	--	--	ND	
	Acetone	67-64-1	61000	--	25	70,000	100,000	25	25	ND	
	Benzene	71-43-2	1.2	--	0.03	12	0.8	0.03	0.17	ND	
	Bromochloromethane	74-97-5	150	--	--	--	--	--	--	ND	
	Bromodichloromethane	75-27-4	0.29	--	0.6	10	3,000	0.6	0.6	ND	
	Bromoform	75-25-2	19	--	0.8	81	53	0.8	0.8	ND	
	Bromomethane	74-83-9	6.8	--	0.2	110	10 / 3.9*	0.2	1.2	ND	
	Carbon disulfide	75-15-0	770	--	9	7,800	720 / 9.0*	32	160	ND	
	Carbon tetrachloride	56-23-5	0.65	--	0.07	5	0.3	0.07	0.33	ND	
	Chlorobenzene	108-90-7	280	--	1	1,600	130 / 1.3*	1	6.5	ND	
	Chloroethane	75-00-3	14000	--	--	--	--	--	--	ND	
	Chloroform	67-66-3	0.32	--	0.3	100	0.3	0.6	2.9	ND	
	Chloromethane	74-87-3	110	--	--	--	--	--	--	ND	
	cis-1,2-Dichloroethene	156-59-2	160	--	0.4	780	1,200	0.4	1.1	ND	
	cis-1,3-Dichloropropene	10061-01-5	--	--	0.005	6.4	1.1 / 0.39*	0.004	0.02	ND	
	Cyclohexane	110-82-7	6500	--	--	--	--	--	--	ND	
	Dibromochloromethane	124-48-1	8.3	--	0.4	1,600	1,300	0.4	0.4	ND	
	Dichlorodifluoromethane	75-71-8	87	--	--	--	--	--	--	ND	
	Ethylbenzene	100-41-4	5.8	--	13	7,800	400 / 58*	13	19	ND	
	Isopropylbenzene	98-82-8	1900	--	--	--	--	--	--	ND	
	m & p-Xylene	179601-23-1	$550^{m}/560^{p}$	--	$6.4^{m}/5.9^{p}$	16,000	$420^{m}/460^{p}$	$210^{m}/200^{p}$	$210^{m}/200^{p}$	ND	
	Methyl acetate	79-20-9	78000	--	--	--	--	--	--	0.0895	
	Methyl tert-butyl ether	1634-04-4	47	--	0.32	780	8,800 / 140*	0.32	0.32	ND	
	Methylcyclohexane	108-87-2	--	--	--	--	--	--	--	ND	
	Methylene chloride	75-09-2	57	--	0.02	85	13	0.02	0.2	ND	
	o-Xylene	95-47-6	650	--	6.5	16,000	410	190	190	ND	
	Styrene	100-42-5	6000	--	4	16,000	1,500 / 430*	4	18	ND	

Table 7
Backfill Source 2 - Sample Results
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Parameter	Analyte	CAS_NO	EPA Residential RSL (mg/kg) [1,2]	Concentrations of Inorganic and PAH Chemicals in Background Soils (mg/kg) [3,4]	Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil (mg/kg) [5,6]	Client Sample ID:				HOC-BACKFILL-02-072617	
						Date Collected:				7/26/2017	
						Time Collected:				9:15	
						IEPA Residential Route Specific Values for Soil [3,4]		Soil Component of Groundwater Ingestion Exposure Route Values [3,4]		Analytical Data (mg/kg)	Data Qualifier
						Ingestion [3,4]	Inhalation [3,4]	Class I [3,4]	Class II [3,4]		
VOC	Tetrachloroethene	127-18-4	24	--	0.06	12	11	0.06	0.3	ND	
	Toluene	108-88-3	4900	--	12	16,000	650 / 42*	12	29	ND	
	trans-1,2-Dichloroethene	156-60-5	1600	--	0.7	1,600	3,100	0.7	3.4	ND	
	trans-1,3-Dichloropropene	10061-02-6	--	--	0.005	6.4	1.1 / 0.39*	0.004	0.02	ND	
	Trichloroethene	79-01-6	0.94	--	0.06	58	5	0.06	0.3	ND	
	Trichlorofluoromethane	75-69-4	23000	--	--	--	--	--	--	ND	
	Vinyl chloride	75-01-4	0.059	--	0.01	0.46	0.28	0.01	0.07	ND	
SVOC	1,1'-Biphenyl	92-52-4	47	--	--	--	--	--	--	ND	
	1,2,4,5-Tetrachlorobenzene	95-94-3	23	--	--	--	--	--	--	ND	
	2,4,5-Trichlorophenol	95-95-4	6300	--	26	7,800	---	270	1,400	ND	
	2,4,6-Trichlorophenol	88-06-2	49	--	0.66	58	200	0.2	0.77	ND	
	2,4-Dichlorophenol	120-83-2	190	--	0.48	230	---	1	1	ND	
	2,4-Dimethylphenol	105-67-9	1300	--	9	1,600	---	9	9	ND	
	2,4-Dinitrophenol	51-28-5	130	--	3.3	160	---	0.2	0.2	ND	
	2,4-Dinitrotoluene	121-14-2	1.7	--	0.25	0.9	---	0.0008	0.0008	ND	
	2,6-Dinitrotoluene	606-20-2	0.36	--	0.26	0.9	---	0.0007	0.0007	ND	
	2-Chloronaphthalene	91-58-7	4800	--	--	--	--	--	--	ND	
	2-Chlorophenol	95-57-8	390	--	1.5	390	53,000	4	4	ND	
	2-Methylnaphthalene	91-57-6	240	--	--	--	--	--	--	0.057	J
	2-Methylphenol	95-48-7	3200	--	15	3,900	---	15	15	ND	
	2-Nitroaniline	88-74-4	630	--	--	--	--	--	--	ND	
	2-Nitrophenol	88-75-5	--	--	--	--	--	--	--	ND	
	3 & 4-Methylphenol	1319-77-3	6300	--	--	--	--	--	--	ND	
	3,3'-Dichlorobenzidine	91-94-1	1.2	--	1.3	1	---	0.007	0.033	ND	
	3-Nitroaniline	99-09-2	--	--	--	--	--	--	--	ND	
	4,6-Dinitro-2-methylphenol	534-52-1	5.1	--	--	--	--	--	--	ND	
	4-Bromophenyl-phenyl ether	101-55-3	--	--	--	--	--	--	--	ND	
	4-Chloro-3-methylphenol	59-50-7	6300	--	--	--	--	--	--	ND	
	4-Chloroaniline	106-47-8	2.7	--	0.7	310	---	0.7	0.7	ND	
	4-Chlorophenyl-phenyl ether	7005-72-3	--	--	--	--	--	--	--	ND	
	4-Nitroaniline	100-01-6	27	--	--	--	--	--	--	ND	
	4-Nitrophenol	100-02-7	--	--	--	--	--	--	--	ND	
	Acenaphthene	83-32-9	3600	0.09	570	4,700	---	570	2,900	0.0634	J
	Acenaphthylene	208-96-8	--	0.03	--	--	--	--	--	0.0521	J
	Acetophenone	98-86-2	7800	--	--	--	--	--	--	ND	
	Anthracene	120-12-7	18000	0.25	12000	23,000	---	12,000	59,000	0.356	
	Atrazine	1912-24-9	2.4	--	0.066	2700	--	0.066	0.33	ND	
	Benzaldehyde	100-52-7	170	--	--	--	--	--	--	0.364	
	Benzo(a)anthracene	56-55-3	1.1	1.1	1.1	0.9	---	2	8	1.28	
	Benzo(a)pyrene	50-32-8	0.11	1.3	1.3	0.09	---	8	82	1.3	
	Benzo(b)fluoranthene	205-99-2	1.1	1.5	1.5	0.9	---	5	25	1.94	
	Benzo(g,h,i)perylene	191-24-2	--	0.68	--	--	--	--	--	0.596	
	Benzo(k)fluoranthene	207-08-9	11	0.99	9	9	---	49	250	0.547	
	Bis(2-chloroethoxy)methane	111-91-1	190	--	--	--	--	--	--	ND	
	Bis(2-chloroethyl)ether	111-44-4	0.23	--	0.66	0.6	0.2	0.0004	0.0004	ND	
	Bis(2-chloroisopropyl)ether	108-60-1	3100	--	--	--	--	--	--	ND	
	Bis(2-ethylhexyl)phthalate	117-81-7	39	--	46	46	31,000	3,600	31,000	0.417	J
	Butylbenzylphthalate	85-68-7	290	--	930	16,000	930	930	930	ND	
	Caprolactam	105-60-2	31000	--	--	--	--	--	--	ND	
	Carbazole	86-74-8	--	--	0.6	32	---	0.6	2.8	0.0821	J
	Chrysene	218-01-9	110	1.2	88	88	---	160	800	1.39	
	Dibenzo(a,h)anthracene	53-70-3	0.11	0.2	0.2	0.09	---	2	7.6	0.181	
	Dibenzofuran	132-64-9	73	--	--	--	--	--	--	0.0594	J
	Diethylphthalate	84-66-2	51000	--	470	63,000	2,000	470	470	ND	
	Dimethylphthalate	131-11-3	--	--	--	--	--	--	--	ND	

Table 7
Backfill Source 2 - Sample Results
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Parameter	Analyte	CAS_NO	EPA Residential RSL (mg/kg) [1,2]	Concentrations of Inorganic and PAH Chemicals in Background Soils (mg/kg) [3,4]	Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil (mg/kg) [5,6]	Client Sample ID:				HOC-BACKFILL-02-072617	
						Date Collected:				7/26/2017	
						Time Collected:				9:15	
						IEPA Residential Route Specific Values for Soil [3,4]		Soil Component of Groundwater Ingestion Exposure Route Values [3,4]			
						Ingestion [3,4]	Inhalation [3,4]	Class I [3,4]	Class II [3,4]	Analytical Data (mg/kg)	Data Qualifier
SVOC	Di-n-butylphthalate	84-74-2	6300	--	2300	7,800	2,300	2,300	2,300	0.682	
	Di-n-octylphthalate	117-84-0	630	--	1600	1,600	10,000	10,000	10,000	ND	
	Fluoranthene	206-44-0	2400	2.7	3100	3,100	---	4,300	21,000	2.27	
	Fluorene	86-73-7	2400	0.1	560	3,100	---	560	2,800	0.0965	J
	Hexachlorobenzene	118-74-1	0.21	--	0.4	0.4	1	2	11	ND	
	Hexachlorobutadiene	87-68-3	1.2	--	--	--	--	--	--	ND	
	Hexachlorocyclopentadiene	77-47-4	1.8	--	1.1	550	10 / 1.1*	400	2,200	ND	
	Hexachloroethane	67-72-1	1.8	--	0.5	78	---	0.5	2.6	ND	
	Indeno(1,2,3-cd)pyrene	193-39-5	1.1	0.86	1.6	0.9	---	14	69	0.585	
	Isophorone	78-59-1	570	--	8	15,600	4,600	8	8	ND	
	Naphthalene	91-20-3	3.8	0.04	1.8	1,600	170 / 1.8*	12	18	0.111	J
	Nitrobenzene	98-95-3	5.1	--	0.26	39	92/9.4*	0.1	0.1	ND	
	N-Nitroso-di-n-propylamine	621-64-7	0.078	--	0.0018	0.09	---	0.00005	0.00005	ND	
	N-Nitrosodiphenylamine & Diphn	86-30-6/122-39-4	110	--	1	130	--	1	5.6	ND	
	Pentachlorophenol	87-86-5	1	--	0.02	3	---	0.03	0.14	ND	
	Phenanthrene	85-01-8	--	1.3	--	--	--	--	--	1.56	
	Phenol	108-95-2	19000	--	100	23,000	---	100	100	ND	
	Pyrene	129-00-0	1800	1.9	2300	2,300	---	4,200	21,000	2.21	
Additional Analysis	Cyanide	57-12-5	23	0.51	40	1,600	---	--	--	0.709	J

Notes:

* - Construction Worker Inhalation Objective from Appendix B, Table B [3,4]

8.7 - Analyte was detected but the concentration does not exceed the EPA RSLs and the TACO Tier 1 remediation objectives or the concentration is below TACO background soil concentrations

1.28 - Analyte was detected and result exceeds EPA RSLs and the TACO Tier 1 remediation objectives

-- = No data, no criteria, or not analyzed

CAS No. - Chemical Abstracts Service
EPA - United States Environmental Protection Agency
IEPA - Illinois Environmental Protection Agency
Inorganic - Inorganic analytes or metals
MAC - Maximum Allowable Concentrations
mg/kg - Milligrams per kilogram
ND - Not Detected
PCB - Polychlorinated biphenyl
RSL - Regional Screening Level
SVOC - Semivolatile organic compound
TACO - Tiered Approach to Corrective Action
TCLP - Toxicity Characteristic Leaching Procedure
THQ - Target hazard quotients
TR - Target Cancer Risk
VOC - Volatile organic compound

J = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+ = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J- = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
R = The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.

1 - Analytical results compared to EPA Regional Screening Levels (RSLs) Residential Soil - Generic Table (TR of 1E-06, and THQ of 1.0)
2 - The applicable standards can be located here: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-june-2017
3 - Analytical results compared to IEPA Title 35: Environmental Protection, Subtitle G: Waste Disposal, Chapter I: Pollution Control Board, Subchapter F: Risk Based Cleanup Objectives, Part 742: Tiered Approach to Corrective Action Objectives
4 - The applicable standards can be located here: http://www.ipcb.state.il.us/documents/dsweb/Get/Document-38408
5 - Analytical results compared to IEPA Summary of Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil Used as Fill Material At Regulated Fill Operations (35 Ill. Adm. Code 1100.Subpart F)
6 - The applicable standards can be located here: http://www.epa.state.il.us/land/ccdd/new-max-allowable-concentrations-table.pdf

Table 8
Backfill Source 3 - Sample Results
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Parameter	Analyte	CAS_NO	EPA Residential RSL (mg/kg) [1,2]	Concentrations of Inorganic and PAH Chemicals in Background Soils (mg/kg) [3,4]	Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil (mg/kg) [5,6]	Client Sample ID:				HOC-BACKFILL-03-072617	
						Date Collected:				7/26/2017	
						Time Collected:				9:50	
						IEPA Residential Route Specific Values for Soil [3,4]		Soil Component of Groundwater Ingestion Exposure Route Values [3,4]			
						Ingestion [3,4]	Inhalation [3,4]	Class I [3,4]	Class II [3,4]	Analytical Data (mg/kg)	Data Qualifier
Inorganic	Aluminum	7429-90-5	77000	9500	--	--	--	--	--	10800	J
	Antimony	7440-36-0	31	4	5	31	---	--	--	ND	
	Arsenic	7440-38-2	0.68	13	13	13.0/11.3	750	--	--	10.4	
	Barium	7440-39-3	15000	110	1500	5,500	690,000	--	--	107	
	Beryllium	7440-41-7	160	0.59	22	160	1,300	--	--	0.36	
	Cadmium	7440-43-9	71	0.6	5.2	78	1,800	--	--	0.098	J
	Calcium	7440-70-2	--	9300	--	---	---	--	--	4420	J+
	Chromium	7440-47-3	--	16.2	21	230	270	--	--	14.3	J+
	Cobalt	7440-48-4	23	8.9	20	4,700	---	--	--	8.1	J-
	Copper	7440-50-8	3100	19.6	2900	2,900	---	--	--	16.8	
	Iron	7439-89-6	55000	15900	15900	--	---	--	--	21300	J
	Lead	7439-92-1	400	36	107	400	---	--	--	14.2	
	Magnesium	7439-95-4	--	4820	325000	325,000	---	--	--	3300	J+
	Manganese	7439-96-5	1800	636	636	1,600	69,000 / 8,700*	--	--	427	J
	Mercury	7439-97-6	11	0.06	0.1	23	10 / 0.1*	--	--	0.024	
	Nickel	7440-02-0	1500	18	100	1,600	13,000	--	--	15.7	
	Potassium	7440-09-7	--	--	--	--	--	--	--	844	J
	Selenium	7782-49-2	390	0.48	1.3	390	---	--	--	ND	
	Silver	7440-22-4	390	0.55	4.4	390	---	--	--	ND	
	Sodium	7440-23-5	--	130	--	---	---	--	--	ND	
	Thallium	7440-28-0	0.78	0.32	2.6	6.3	---	--	--	0.1	J-
	Vanadium	7440-62-2	390	25.2	550	550	---	--	--	24.2	
	Zinc	7440-66-6	23000	95	5100	23,000	---	--	--	51.1	J
Pesticide	4,4'-DDD	72-54-8	2.3	--	3	3	---	16	80	ND	
	4,4'-DDE	72-55-9	2	--	2	2	---	54	270	0.00292	J
	4,4'-DDT	50-29-3	1.9	--	2	2	--- / 2,100*	32	160	0.00408	J
	Aldrin	309-00-2	0.039	--	0.94	0.04	3	0.5	2.5	ND	
	alpha-BHC	319-84-6	0.086	--	0.0074	0.1	0.8	0.0005	0.003	ND	
	alpha-Chlordane	5103-71-9	--	--	--	--	--	--	--	ND	
	beta-BHC	319-85-7	0.3	--	--	--	--	--	--	ND	
	Chlordane (Technical)	12789-03-6	1.7	--	1.8	1.8	72 / 22*	10	48	ND	
	delta-BHC	319-86-8	--	--	--	--	--	--	--	ND	
	Dieldrin	60-57-1	0.034	--	0.603	0.04	1	0.004	0.02	0.0152	
	Endosulfan I	959-98-8	--	--	18	470	---	18	90	ND	
	Endosulfan II	33213-65-9	--	--	18	470	---	18	90	ND	
	Endosulfan sulfate	1031-07-8	--	--	--	--	--	--	--	ND	
	Endrin	72-20-8	19	--	1	23	---	1	5	ND	
	Endrin aldehyde	7421-93-4	--	--	--	--	--	--	--	ND	
	Endrin ketone	53494-70-5	--	--	--	--	--	--	--	ND	
	gamma-Chlordane	5103-74-2	--	--	--	--	--	--	--	ND	
	Heptachlor	76-44-8	0.13	--	0.871	0.1	0.1	23	110	ND	
	Heptachlor epoxide	1024-57-3	0.07	--	1.005	0.07	5	0.7	3.3	ND	
	Lindane	58-89-9	0.57	--	0.009	0.5	---	0.009	0.047	ND	
	Methoxychlor	72-43-5	320	--	160	390	---	160	780	ND	
	Toxaphene	8001-35-2	0.49	--	0.6	0.6	89	31	150	ND	
PCB	Aroclor-1016	12674-11-2	4.1	--	1	1	---	---	---	ND	
	Aroclor-1221	11104-28-2	0.2	--	1	1	---	---	---	ND	
	Aroclor-1232	11141-16-5	0.17	--	1	1	---	---	---	ND	
	Aroclor-1242	53469-21-9	0.23	--	1	1	---	---	---	ND	
	Aroclor-1248	12672-29-6	0.23	--	1	1	---	---	---	ND	
	Aroclor-1254	11097-69-1	0.24	--	1	1	---	---	---	ND	
	Aroclor-1260	11096-82-5	0.24	--	1	1	---	---	---	ND	
	Aroclor-1262	37324-23-5	--	--	1	1	--	--	--	ND	
	Aroclor-1268	11100-14-4	--	--	1	1	--	--	--	ND	
	PCB, Total	1336-36-3	0.23	--	1	1	--	--	--	ND	

Table 8
Backfill Source 3 - Sample Results
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Parameter	Analyte	CAS_NO	EPA Residential RSL (mg/kg) [1,2]	Concentrations of Inorganic and PAH Chemicals in Background Soils (mg/kg) [3,4]	Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil (mg/kg) [5,6]	Client Sample ID:				HOC-BACKFILL-03-072617	
						Date Collected:				7/26/2017	
						Time Collected:				9:50	
						IEPA Residential Route Specific Values for Soil [3,4]		Soil Component of Groundwater Ingestion Exposure Route Values [3,4]		Analytical Data (mg/kg)	Data Qualifier
						Ingestion [3,4]	Inhalation [3,4]	Class I [3,4]	Class II [3,4]		
Herbicide	2,4,5-T	93-76-5	630	--	--	--	--	--	--	ND	
	2,4,5-TP (Silvex)	93-72-1	510	--	11	630	--	11	55	ND	
	2,4-D	94-75-7	700	--	1.5	780	--	1.5	7.7	ND	
	2,4-DB	94-82-6	1900	--	--	--	--	--	--	ND	
	Dalapon	75-99-0	1900	--	0.85	2,300	--	0.85	8.5	ND	
	Dicamba	1918-00-9	1900	--	--	--	--	--	--	ND	
	Dichloroprop	120-36-5	--	--	--	--	--	--	--	ND	
	Dinoseb	88-85-7	63	--	0.25	78	--	0.34	3.4	ND	
	MCPA	94-74-6	32	--	--	--	--	--	--	ND	
	MCPP	93-65-2	63	--	--	--	--	--	--	ND	
VOC	1,1,1-Trichloroethane	71-55-6	8100	--	2	---	1,200	2	9.6	ND	
	1,1,2,2-Tetrachloroethane	79-34-5	0.6	--	--	--	--	--	--	ND	
	1,1,2-Trichloroethane	79-00-5	1.1	--	0.02	310	1,800	0.02	0.3	ND	
	1,1-Dichloroethane	75-34-3	3.6	--	36	7,800	1,300 / 130*	23	110	ND	
	1,1-Dichloroethene	75-35-4	230	--	0.06	3,900	290 / 3.0*	0.06	0.3	ND	
	1,2,3-Trichlorobenzene	87-61-6	63	--	--	--	--	--	--	ND	
	1,2,4-Trichlorobenzene	120-82-1	24	--	5	780	3,200 / 920*	5	53	ND	
	1,2-Dibromo-3-chloropropane	96-12-8	0.0053	--	0.002	0.46	11	0.002	0.02	ND	
	1,2-Dibromoethane	106-93-4	0.036	--	0.005	0.32	0.06	0.0004	0.004	ND	
	1,2-Dichlorobenzene	95-50-1	1800	--	17	7,000	560 / 310*	17	43	ND	
	1,2-Dichloroethane	107-06-2	0.46	--	0.02	7	0.4	0.02	0.1	ND	
	1,2-Dichloropropane	78-87-5	0.28	--	0.03	9	15 / 0.50*	0.03	0.15	ND	
	1,3-Dichlorobenzene	541-73-1	--	--	--	--	--	--	--	ND	
	1,4-Dichlorobenzene	106-46-7	2.6	--	2	---	11,000 / 340*	2	11	ND	
	1,4-Dioxane	123-91-1	5.3	--	--	--	--	--	--	--	R
	112Trichloro122trifluoroethane	76-13-1	6700	--	--	--	--	--	--	ND	
	2-Butanone	78-93-3	27000	--	--	--	--	--	--	ND	
	2-Hexanone	591-78-6	200	--	--	--	--	--	--	ND	
	4-Methyl-2-pentanone	108-10-1	33000	--	--	--	--	--	--	ND	
	Acetone	67-64-1	61000	--	25	70,000	100,000	25	25	ND	
	Benzene	71-43-2	1.2	--	0.03	12	0.8	0.03	0.17	ND	
	Bromochloromethane	74-97-5	150	--	--	--	--	--	--	ND	
	Bromodichloromethane	75-27-4	0.29	--	0.6	10	3,000	0.6	0.6	ND	
	Bromoform	75-25-2	19	--	0.8	81	53	0.8	0.8	ND	
	Bromomethane	74-83-9	6.8	--	0.2	110	10 / 3.9*	0.2	1.2	ND	
	Carbon disulfide	75-15-0	770	--	9	7,800	720 / 9.0*	32	160	ND	
	Carbon tetrachloride	56-23-5	0.65	--	0.07	5	0.3	0.07	0.33	ND	
	Chlorobenzene	108-90-7	280	--	1	1,600	130 / 1.3*	1	6.5	ND	
	Chloroethane	75-00-3	14000	--	--	--	--	--	--	ND	
	Chloroform	67-66-3	0.32	--	0.3	100	0.3	0.6	2.9	ND	
	Chloromethane	74-87-3	110	--	--	--	--	--	--	ND	
	cis-1,2-Dichloroethene	156-59-2	160	--	0.4	780	1,200	0.4	1.1	ND	
	cis-1,3-Dichloropropene	10061-01-5	--	--	0.005	6.4	1.1 / 0.39*	0.004	0.02	ND	
	Cyclohexane	110-82-7	6500	--	--	--	--	--	--	ND	
	Dibromochloromethane	124-48-1	8.3	--	0.4	1,600	1,300	0.4	0.4	ND	
	Dichlorodifluoromethane	75-71-8	87	--	--	--	--	--	--	ND	
	Ethylbenzene	100-41-4	5.8	--	13	7,800	400 / 58*	13	19	ND	
	Isopropylbenzene	98-82-8	1900	--	--	--	--	--	--	ND	
	m & p-Xylene	179601-23-1	$550^{m}/560^{p}$	--	$6.4^{m}/5.9^{p}$	16,000	$420^{m}/460^{p}$	$210^{m}/200^{p}$	$210^{m}/200^{p}$	ND	
	Methyl acetate	79-20-9	78000	--	--	--	--	--	--	0.0149	J
	Methyl tert-butyl ether	1634-04-4	47	--	0.32	780	8,800 / 140*	0.32	0.32	ND	
	Methylcyclohexane	108-87-2	--	--	--	--	--	--	--	ND	
	Methylene chloride	75-09-2	57	--	0.02	85	13	0.02	0.2	ND	
	o-Xylene	95-47-6	650	--	6.5	16,000	410	190	190	ND	
	Styrene	100-42-5	6000	--	4	16,000	1,500 / 430*	4	18	ND	
	Tetrachloroethene	127-18-4	24	--	0.06	12	11	0.06	0.3	ND	
	Toluene	108-88-3	4900	--	12	16,000	650 / 42*	12	29	ND	
	trans-1,2-Dichloroethene	156-60-5	1600	--	0.7	1,600	3,100	0.7	3.4	ND	
	trans-1,3-Dichloropropene	10061-02-6	--	--	0.005	6.4	1.1 / 0.39*	0.004	0.02	ND	

Table 8
Backfill Source 3 - Sample Results
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Parameter	Analyte	CAS_NO	EPA Residential RSL (mg/kg) [1,2]	Concentrations of Inorganic and PAH Chemicals in Background Soils (mg/kg) [3,4]	Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil (mg/kg) [5,6]	Client Sample ID:				HOC-BACKFILL-03-072617	
						Date Collected:				7/26/2017	
						Time Collected:				9:50	
						IEPA Residential Route Specific Values for Soil [3,4]		Soil Component of Groundwater Ingestion Exposure Route Values [3,4]		Analytical Data (mg/kg)	Data Qualifier
						Ingestion [3,4]	Inhalation [3,4]	Class I [3,4]	Class II [3,4]		
VOC	Trichloroethene	79-01-6	0.94	--	0.06	58	5	0.06	0.3	ND	
	Trichlorofluoromethane	75-69-4	23000	--	--	--	--	--	--	ND	
	Vinyl chloride	75-01-4	0.059	--	0.01	0.46	0.28	0.01	0.07	ND	
SVOC	1,1'-Biphenyl	92-52-4	47	--	--	--	--	--	--	ND	
	1,2,4,5-Tetrachlorobenzene	95-94-3	23	--	--	--	--	--	--	ND	
	2,4,5-Trichlorophenol	95-95-4	6300	--	26	7,800	---	270	1,400	ND	
	2,4,6-Trichlorophenol	88-06-2	49	--	0.66	58	200	0.2	0.77	ND	
	2,4-Dichlorophenol	120-83-2	190	--	0.48	230	---	1	1	ND	
	2,4-Dimethylphenol	105-67-9	1300	--	9	1,600	---	9	9	ND	
	2,4-Dinitrophenol	51-28-5	130	--	3.3	160	---	0.2	0.2	ND	
	2,4-Dinitrotoluene	121-14-2	1.7	--	0.25	0.9	---	0.0008	0.0008	ND	
	2,6-Dinitrotoluene	606-20-2	0.36	--	0.26	0.9	---	0.0007	0.0007	ND	
	2-Chloronaphthalene	91-58-7	4800	--	--	--	--	--	--	ND	
	2-Chlorophenol	95-57-8	390	--	1.5	390	53,000	4	4	ND	
	2-Methylnaphthalene	91-57-6	240	--	--	--	--	--	--	ND	
	2-Methylphenol	95-48-7	3200	--	15	3,900	---	15	15	ND	
	2-Nitroaniline	88-74-4	630	--	--	--	--	--	--	ND	
	2-Nitrophenol	88-75-5	--	--	--	--	--	--	--	ND	
	3 & 4-Methylphenol	1319-77-3	6300	--	--	--	--	--	--	ND	
	3,3'-Dichlorobenzidine	91-94-1	1.2	--	1.3	1	---	0.007	0.033	ND	
	3-Nitroaniline	99-09-2	--	--	--	--	--	--	--	ND	
	4,6-Dinitro-2-methylphenol	534-52-1	5.1	--	--	--	--	--	--	ND	
	4-Bromophenyl-phenyl ether	101-55-3	--	--	--	--	--	--	--	ND	
	4-Chloro-3-methylphenol	59-50-7	6300	--	--	--	--	--	--	ND	
	4-Chloroaniline	106-47-8	2.7	--	0.7	310	---	0.7	0.7	ND	
	4-Chlorophenyl-phenyl ether	7005-72-3	--	--	--	--	--	--	--	ND	
	4-Nitroaniline	100-01-6	27	--	--	--	--	--	--	ND	
	4-Nitrophenol	100-02-7	--	--	--	--	--	--	--	ND	
	Acenaphthene	83-32-9	3600	0.09	570	4,700	---	570	2,900	ND	
	Acenaphthylene	208-96-8	--	0.03	--	--	--	--	--	ND	
	Acetophenone	98-86-2	7800	--	--	--	--	--	--	ND	
	Anthracene	120-12-7	18000	0.25	12000	23,000	---	12,000	59,000	ND	
	Atrazine	1912-24-9	2.4	--	0.066	2700	--	0.066	0.33	ND	
	Benzaldehyde	100-52-7	170	--	--	--	--	--	--	ND	
	Benzo(a)anthracene	56-55-3	1.1	1.1	1.1	0.9	---	2	8	ND	
	Benzo(a)pyrene	50-32-8	0.11	1.3	1.3	0.09	---	8	82	ND	
	Benzo(b)fluoranthene	205-99-2	1.1	1.5	1.5	0.9	---	5	25	0.0297	J
	Benzo(g,h,i)perylene	191-24-2	--	0.68	--	--	--	--	--	ND	
	Benzo(k)fluoranthene	207-08-9	11	0.99	9	9	---	49	250	ND	
	Bis(2-chloroethoxy)methane	111-91-1	190	--	--	--	--	--	--	ND	
	Bis(2-chloroethyl)ether	111-44-4	0.23	--	0.66	0.6	0.2	0.0004	0.0004	ND	
	Bis(2-chloroisopropyl)ether	108-60-1	3100	--	--	--	--	--	--	ND	
	Bis(2-ethylhexyl)phthalate	117-81-7	39	--	46	46	31,000	3,600	31,000	ND	
	Butylbenzylphthalate	85-68-7	290	--	930	16,000	930	930	930	ND	
	Caprolactam	105-60-2	31000	--	--	--	--	--	--	ND	
	Carbazole	86-74-8	--	--	0.6	32	---	0.6	2.8	ND	
	Chrysene	218-01-9	110	1.2	88	88	---	160	800	ND	
	Dibenzo(a,h)anthracene	53-70-3	0.11	0.2	0.2	0.09	---	2	7.6	ND	
	Dibenzofuran	132-64-9	73	--	--	--	--	--	--	ND	
	Diethylphthalate	84-66-2	51000	--	470	63,000	2,000	470	470	ND	
	Dimethylphthalate	131-11-3	--	--	--	--	--	--	--	ND	

Table 8
Backfill Source 3 - Sample Results
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Parameter	Analyte	CAS_NO	EPA Residential RSL (mg/kg) [1,2]	Concentrations of Inorganic and PAH Chemicals in Background Soils (mg/kg) [3,4]	Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil (mg/kg) [5,6]	Client Sample ID:				HOC-BACKFILL-03-072617	
						Date Collected:				7/26/2017	
						Time Collected:				9:50	
						IEPA Residential Route Specific Values for Soil [3,4]		Soil Component of Groundwater Ingestion Exposure Route Values [3,4]			
						Ingestion [3,4]	Inhalation [3,4]	Class I [3,4]	Class II [3,4]	Analytical Data (mg/kg)	Data Qualifier
SVOC	Di-n-butylphthalate	84-74-2	6300	--	2300	7,800	2,300	2,300	2,300	0.901	
	Di-n-octylphthalate	117-84-0	630	--	1600	1,600	10,000	10,000	10,000	ND	
	Fluoranthene	206-44-0	2400	2.7	3100	3,100	---	4,300	21,000	ND	
	Fluorene	86-73-7	2400	0.1	560	3,100	---	560	2,800	ND	
	Hexachlorobenzene	118-74-1	0.21	--	0.4	0.4	1	2	11	ND	
	Hexachlorobutadiene	87-68-3	1.2	--	--	--	--	--	--	ND	
	Hexachlorocyclopentadiene	77-47-4	1.8	--	1.1	550	10 / 1.1*	400	2,200	ND	
	Hexachloroethane	67-72-1	1.8	--	0.5	78	---	0.5	2.6	ND	
	Indeno(1,2,3-cd)pyrene	193-39-5	1.1	0.86	1.6	0.9	---	14	69	ND	
	Isophorone	78-59-1	570	--	8	15,600	4,600	8	8	ND	
	Naphthalene	91-20-3	3.8	0.04	1.8	1,600	170 / 1.8*	12	18	ND	
	Nitrobenzene	98-95-3	5.1	--	0.26	39	92/9.4*	0.1	0.1	ND	
	N-Nitroso-di-n-propylamine	621-64-7	0.078	--	0.0018	0.09	---	0.00005	0.00005	ND	
	N-Nitrosodiphenylamine & Diphn	86-30-6/122-39-4	110	--	1	130	--	1	5.6	ND	
	Pentachlorophenol	87-86-5	1	--	0.02	3	---	0.03	0.14	ND	
	Phenanthrene	85-01-8	--	1.3	--	--	--	--	--	ND	
	Phenol	108-95-2	19000	--	100	23,000	---	100	100	ND	
	Pyrene	129-00-0	1800	1.9	2300	2,300	---	4,200	21,000	ND	
Additional Analysis	Cyanide	57-12-5	23	0.51	40	1,600	---	--	--	0.187	J

Notes:

* - Construction Worker Inhalation Objective from Appendix B, Table B [3,4]

10800 - Analyte was detected but the concentration does not exceed the EPA RSLs and the TACO Tier 1 remediation objectives or the concentration is below TACO background soil concentrations

-- = No data, no criteria, or not analyzed
CAS No. - Chemical Abstracts Service
EPA - United States Environmental Protection Agency
IEPA - Illinois Environmental Protection Agency
Inorganic - Inorganic analytes or metals
MAC - Maximum Allowable Concentrations
mg/kg - Milligrams per kilogram
ND - Not Detected
PCB - Polychlorinated biphenyl
RSL - Regional Screening Level
SVOC - Semivolatile organic compound
TACO - Tiered Approach to Corrective Action
TCLP - Toxicity Characteristic Leaching Procedure
THQ - Target hazard quotients
TR - Target Cancer Risk
VOC - Volatile organic compound

J = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+ = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J- = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
R = The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.

1 - Analytical results compared to EPA Regional Screening Levels (RSLs) Residential Soil - Generic Table (TR of 1E-06, and THQ of 1.0)
2 - The applicable standards can be located here: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-june-2017
3 - Analytical results compared to IEPA Title 35: Environmental Protection, Subtitle G: Waste Disposal, Chapter I: Pollution Control Board, Subchapter F: Risk Based Cleanup Objectives, Part 742: Tiered Approach to Corrective Action Objectives
4 - The applicable standards can be located here: http://www.ipcb.state.il.us/documents/dsweb/Get/Document-38408
5 - Analytical results compared to IEPA Summary of Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil Used as Fill Material At Regulated Fill Operations (35 Ill. Adm. Code 1100.Subpart F)
6 - The applicable standards can be located here: http://www.epa.state.il.us/land/ccdd/new-max-allowable-concentrations-table.pdf

Table 9
Recycled Backfill Gravel Sample - Source 1 and Recycled Bcakfill Gravel Confirmation Sample Results
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

						Client Sample ID:				HOC-BACKFILL-04-080317		HOC-CGRS-001	
						Date Collected:				8/3/2017		8/15/2017	
						Time Collected:				15:00		16:00	
						IEPA Residential Route Specific Values for Soil [3,4]		Soil Component of Groundwater Ingestion Exposure Route Values [3,4]					
Parameter	Analyte	CAS_NO	EPA Residential RSL (mg/kg) [1,2]	Concentrations of Inorganic and PAH Chemicals in Background Soils (mg/kg) [3,4]	Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil (mg/kg) [5,6]	Ingestion [3,4]	Inhalation [3,4]	Class I [3,4]	Class II [3,4]	Analytical Data (mg/kg)	Data Qualifier	Analytical Results (mg/kg)	Data Qualifier
Inorganic	Aluminum	7429-90-5	77000	9500	--	--	--	--	--	2960	J	--	
	Antimony	7440-36-0	31	4	5	31	---	--	--	--	R	--	
	Arsenic	7440-38-2	0.68	13	13	13.0/11.3	750	--	--	11.9	J-	--	
	Barium	7440-39-3	15000	110	1500	5,500	690,000	--	--	25.5	J	--	
	Beryllium	7440-41-7	160	0.59	22	160	1,300	--	--	0.16	J	--	
	Cadmium	7440-43-9	71	0.6	5.2	78	1,800	--	--	ND		--	
	Calcium	7440-70-2	--	9300	--	---	---	--	--	58900	J	--	
	Chromium	7440-47-3	--	16.2	21	230	270	--	--	7.6		--	
	Cobalt	7440-48-4	23	8.9	20	4,700	---	--	--	4.6	J	--	
	Copper	7440-50-8	3100	19.6	2900	2,900	---	--	--	17.8	J+	--	
	Iron	7439-89-6	55000	15900	15900	--	---	--	--	10800	J	--	
	Lead	7439-92-1	400	36	107	400	---	--	--	66.4	J-	--	
	Magnesium	7439-95-4	--	4820	325,000	325,000	---	--	--	28800	J	--	
	Manganese	7439-96-5		636	636	1,600	69,000 / 8,700*	--	--	381	J	--	
	Mercury	7439-97-6	11	0.06	0.1	23	10 / 0.1*	--	--	0.01	J-	--	
	Nickel	7440-02-0	1500	18	100	1,600	13,000	--	--	21.5	J-	--	
	Potassium	7440-09-7	--	--	--	--	--	--	--	466	J-	--	
	Selenium	7782-49-2	390	0.48	1.3	390	---	--	--	6.1	J-	--	
	Silver	7440-22-4	390	0.55	4.4	390	---	--	--	3.1	J+	--	
	Sodium	7440-23-5	--	130	--	---	---	--	--	99.4	J-	--	
	Thallium	7440-28-0	0.78	0.32	2.6	6.3	---	--	--	ND		--	
	Vanadium	7440-62-2	390	25.2	550	550	---	--	--	10.4	J	--	
	Zinc	7440-66-6	23000	95	5100	23,000	---	--	--	84.9	J-	--	
Pesticide	4,4'-DDD	72-54-8	2.3	--	3	3	---	16	80	ND		--	
	4,4'-DDE	72-55-9	2	--	2	2	---	54	270	0.00882	J	--	
	4,4'-DDT	50-29-3	1.9	--	2	2	--- / 2,100*	32	160	0.011	J	--	
	Aldrin	309-00-2	0.039	--	0.94	0.04	3	0.5	2.5	ND		--	
	alpha-BHC	319-84-6	0.086	--	0.0074	0.1	0.8	0.0005	0.003	ND		--	
	alpha-Chlordane	5103-71-9	--	--	--	--	--	--	--	ND		--	
	beta-BHC	319-85-7	0.3	--	--	--	--	--	--	ND		--	
	Chlordane (Technical)	12789-03-6	1.7	--	1.8	1.8	72 / 22*	10	48	ND		--	
	delta-BHC	319-86-8	--	--	--	--	--	--	--	--	R	--	
	Dieldrin	60-57-1	0.034	--	0.603	0.04	1	0.004	0.02	ND		--	
	Endosulfan I	959-98-8	--	--	18	470	---	18	90	ND		--	
	Endosulfan II	33213-65-9	--	--	18	470	---	18	90	ND		--	
	Endosulfan sulfate	1031-07-8	--	--	--	--	--	--	--	ND		--	
	Endrin	72-20-8	19	--	1	23	---	1	5	0.00551	J	--	
	Endrin aldehyde	7421-93-4	--	--	--	--	--	--	--	ND		--	
	Endrin ketone	53494-70-5	--	--	--	--	--	--	--	ND		--	
	gamma-Chlordane	5103-74-2	--	--	--	--	--	--	--	ND		--	
	Heptachlor	76-44-8	0.13	--	0.871	0.1	0.1	23	110	ND		--	
	Heptachlor epoxide	1024-57-3	0.07	--	1.005	0.07	5	0.7	3.3	ND		--	
	Lindane	58-89-9	0.57	--	0.009	0.5	---	0.009	0.047	ND		--	
	Methoxychlor	72-43-5	320	--	160	390	---	160	780	ND		--	
	Toxaphene	8001-35-2	0.49	--	0.6	0.6	89	31	150	ND		--	
PCB	Aroclor-1016	12674-11-2	4.1	--	1	1	---	---	---	ND		--	
	Aroclor-1221	11104-28-2	0.2	--	1	1	---	---	---	ND		--	
	Aroclor-1232	11141-16-5	0.17	--	1	1	---	---	---	ND		--	
	Aroclor-1242	53469-21-9	0.23	--	1	1	---	---	---	ND		--	
	Aroclor-1248	12672-29-6	0.23	--	1	1	---	---	---	ND		--	
	Aroclor-1254	11097-69-1	0.24	--	1	1	---	---	---	ND		--	
	Aroclor-1260	11096-82-5	0.24	--	1	1	---	---	---	0.0342		--	
	Aroclor-1262	37324-23-5	--	--	1	1	--	--	--	ND		--	
	Aroclor-1268	11100-14-4	--	--	1	1	--	--	--	ND		--	
	PCB, Total	1336-36-3	0.23	--	1	1	--	--	--	0.034		--	

Table 9
Recycled Backfill Gravel Sample - Source 1 and Recycled Bcakfill Gravel Confirmation Sample Results
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Parameter	Analyte	CAS_NO	EPA Residential RSL (mg/kg) [1,2]	Concentrations of Inorganic and PAH Chemicals in Background Soils (mg/kg) [3,4]	Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil (mg/kg) [5,6]	Client Sample ID:				HOC-BACKFILL-04-080317		HOC-CGRS-001	
						Date Collected:				8/3/2017		8/15/2017	
						Time Collected:				15:00		16:00	
						IEPA Residential Route Specific Values for Soil [3,4]		Soil Component of Groundwater Ingestion Exposure Route Values [3,4]					
						Ingestion [3,4]	Inhalation [3,4]	Class I [3,4]	Class II [3,4]	Analytical Data (mg/kg)	Data Qualifier	Analytical Results (mg/kg)	Data Qualifier
Herbicide	2,4,5-T	93-76-5	630	--	--	--	--	--	--	ND		--	
	2,4,5-TP (Silvex)	93-72-1	510	--	11	630	--	11	55	ND		--	
	2,4-D	94-75-7	700	--	1.5	780	--	1.5	7.7	ND		--	
	2,4-DB	94-82-6	1900	--	--	--	--	--	--	ND		--	
	Dalapon	75-99-0	1900	--	0.85	2,300	--	0.85	8.5	ND		--	
	Dicamba	1918-00-9	1900	--	--	--	--	--	--	ND		--	
	Dichloroprop	120-36-5	--	--	--	--	--	--	--	ND		--	
	Dinoseb	88-85-7	63	--	0.25	78	--	0.34	3.4	ND		--	
	MCPA	94-74-6	32	--	--	--	--	--	--	ND		--	
	MCPP	93-65-2	63	--	--	--	--	--	--	ND		--	
VOC	1,1,1-Trichloroethane	71-55-6	8100	--	2	---	1,200	2	9.6	ND		--	
	1,1,2,2-Tetrachloroethane	79-34-5	0.6	--	--	--	--	--	--	ND		--	
	1,1,2-Trichloroethane	79-00-5	1.1	--	0.02	310	1,800	0.02	0.3	ND		--	
	1,1-Dichloroethane	75-34-3	3.6	--	36	7,800	1,300 / 130*	23	110	ND		--	
	1,1-Dichloroethene	75-35-4	230	--	0.06	3,900	290 / 3.0*	0.06	0.3	ND		--	
	1,2,3-Trichlorobenzene	87-61-6	63	--	--	--	--	--	--	ND		--	
	1,2,4-Trichlorobenzene	120-82-1	24	--	5	780	3,200 / 920*	5	53	ND		--	
	1,2-Dibromo-3-chloropropane	96-12-8	0.0053	--	0.002	0.46	11	0.002	0.02	ND		--	
	1,2-Dibromoethane	106-93-4	0.036	--	0.005	0.32	0.06	0.0004	0.004	ND		--	
	1,2-Dichlorobenzene	95-50-1	1800	--	17	7,000	560 / 310*	17	43	ND		--	
	1,2-Dichloroethane	107-06-2	0.46	--	0.02	7	0.4	0.02	0.1	ND		--	
	1,2-Dichloropropane	78-87-5	0.28	--	0.03	9	15 / 0.50*	0.03	0.15	ND		--	
	1,3-Dichlorobenzene	541-73-1	--	--	--	--	--	--	--	ND		--	
	1,4-Dichlorobenzene	106-46-7	2.6	--	2	---	11,000 / 340*	2	11	ND		--	
	1,4-Dioxane	123-91-1	5.3	--	--	--	--	--	--	ND		--	
	112Trichloro122trifluoroethane	76-13-1	6700	--	--	--	--	--	--	ND		--	
	2-Butanone	78-93-3	27000	--	--	--	--	--	--	ND		--	
	2-Hexanone	591-78-6	200	--	--	--	--	--	--	ND		--	
	4-Methyl-2-pentanone	108-10-1	33000	--	--	--	--	--	--	ND		--	
	Acetone	67-64-1	61000	--	25	70,000	100,000	25	25	0.0954		--	
	Benzene	71-43-2	1.2	--	0.03	12	0.8	0.03	0.17	ND		--	
	Bromochloromethane	74-97-5	150	--	--	--	--	--	--	ND		--	
	Bromodichloromethane	75-27-4	0.29	--	0.6	10	3,000	0.6	0.6	ND		--	
	Bromoform	75-25-2	19	--	0.8	81	53	0.8	0.8	ND		--	
	Bromomethane	74-83-9	6.8	--	0.2	110	10 / 3.9*	0.2	1.2	ND		--	
	Carbon disulfide	75-15-0	770	--	9	7,800	720 / 9.0*	32	160	ND		--	
	Carbon tetrachloride	56-23-5	0.65	--	0.07	5	0.3	0.07	0.33	ND		--	
	Chlorobenzene	108-90-7	280	--	1	1,600	130 / 1.3*	1	6.5	ND		--	
	Chloroethane	75-00-3	14000	--	--	--	--	--	--	ND		--	
	Chloroform	67-66-3	0.32	--	0.3	100	0.3	0.6	2.9	ND		--	
	Chloromethane	74-87-3	110	--	--	--	--	--	--	ND		--	
	cis-1,2-Dichloroethene	156-59-2	160	--	0.4	780	1,200	0.4	1.1	ND		--	
	cis-1,3-Dichloropropene	10061-01-5	--	--	0.005	6.4	1.1 / 0.39*	0.004	0.02	ND		--	
	Cyclohexane	110-82-7	6500	--	--	--	--	--	--	ND		--	
	Dibromochloromethane	124-48-1	8.3	--	0.4	1,600	1,300	0.4	0.4	ND		--	
	Dichlorodifluoromethane	75-71-8	87	--	--	--	--	--	--	ND		--	
	Ethylbenzene	100-41-4	5.8	--	13	7,800	400 / 58*	13	19	ND		--	
	Isopropylbenzene	98-82-8	1900	--	--	--	--	--	--	ND		--	
	m & p-Xylene	179601-23-1	550[m]/560[p]	--	6.4[m]/5.9[p]	16,000	420[m]/460[p]	210[m]/200[p]	210[m]/200[p]	ND		--	
	Methyl acetate	79-20-9	78000	--	--	--	--	--	--	0.192	J-	--	
	Methyl tert-butyl ether	1634-04-4	47	--	0.32	780	8,800 / 140*	0.32	0.32	ND		--	
	Methylcyclohexane	108-87-2	--	--	--	--	--	--	--	0.0271	J	--	
	Methylene chloride	75-09-2	57	--	0.02	85	13	0.02	0.2	ND		--	
	o-Xylene	95-47-6	650	--	6.5	16,000	410	190	190	ND		--	
	Styrene	100-42-5	6000	--	4	16,000	1,500 / 430*	4	18	0.035	J	--	

Table 9
Recycled Backfill Gravel Sample - Source 1 and Recycled Bcakfill Gravel Confirmation Sample Results
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Parameter	Analyte	CAS_NO	EPA Residential RSL (mg/kg) [1,2]	Concentrations of Inorganic and PAH Chemicals in Background Soils (mg/kg) [3,4]	Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil (mg/kg) [5,6]	Client Sample ID:				HOC-BACKFILL-04-080317		HOC-CGRS-001	
						Date Collected:				8/3/2017		8/15/2017	
						Time Collected:				15:00		16:00	
						IEPA Residential Route Specific Values for Soil [3,4]		Soil Component of Groundwater Ingestion Exposure Route Values [3,4]					
						Ingestion [3,4]	Inhalation [3,4]	Class I [3,4]	Class II [3,4]	Analytical Data (mg/kg)	Data Qualifier	Analytical Results (mg/kg)	Data Qualifier
VOC	Tetrachloroethene	127-18-4	24	--	0.06	12	11	0.06	0.3	ND		--	
	Toluene	108-88-3	4900	--	12	16,000	650 / 42*	12	29	ND		--	
	trans-1,2-Dichloroethene	156-60-5	1600	--	0.7	1,600	3,100	0.7	3.4	ND		--	
	trans-1,3-Dichloropropene	10061-02-6	--	--	0.005	6.4	1.1 / 0.39*	0.004	0.02	ND		--	
	Trichloroethene	79-01-6	0.94	--	0.06	58	5	0.06	0.3	ND		--	
	Trichlorofluoromethane	75-69-4	23000	--	--	--	--	--	--	ND		--	
	Vinyl chloride	75-01-4	0.059	--	0.01	0.46	0.28	0.01	0.07	ND		--	
SVOC	1,1'-Biphenyl	92-52-4	47	--	--	--	--	--	--	ND		--	
	1,2,4,5-Tetrachlorobenzene	95-94-3	23	--	--	--	--	--	--	ND		--	
	2,4,5-Trichlorophenol	95-95-4	6300	--	26	7,800	---	270	1,400	ND		--	
	2,4,6-Trichlorophenol	88-06-2	49	--	0.66	58	200	0.2	0.77	ND		--	
	2,4-Dichlorophenol	120-83-2	190	--	0.48	230	---	1	1	ND		--	
	2,4-Dimethylphenol	105-67-9	1300	--	9	1,600	---	9	9	ND		--	
	2,4-Dinitrophenol	51-28-5	130	--	3.3	160	---	0.2	0.2	ND		--	
	2,4-Dinitrotoluene	121-14-2	1.7	--	0.25	0.9	---	0.0008	0.0008	ND		--	
	2,6-Dinitrotoluene	606-20-2	0.36	--	0.26	0.9	---	0.0007	0.0007	ND		--	
	2-Chloronaphthalene	91-58-7	4800	--	--	--	--	--	--	ND		--	
	2-Chlorophenol	95-57-8	390	--	1.5	390	53,000	4	4	ND		--	
	2-Methylnaphthalene	91-57-6	240	--	--	--	--	--	--	0.297		--	
	2-Methylphenol	95-48-7	3200	--	15	3,900	---	15	15	ND		--	
	2-Nitroaniline	88-74-4	630	--	--	--	--	--	--	ND		--	
	2-Nitrophenol	88-75-5	--	--	--	--	--	--	--	ND		--	
	3 & 4-Methylphenol	1319-77-3	6300	--	--	--	--	--	--	ND		--	
	3,3'-Dichlorobenzidine	91-94-1	1.2	--	1.3	1	---	0.007	0.033	--	R	--	
	3-Nitroaniline	99-09-2	--	--	--	--	--	--	--	ND		--	
	4,6-Dinitro-2-methylphenol	534-52-1	5.1	--	--	--	--	--	--	ND		--	
	4-Bromophenyl-phenyl ether	101-55-3	--	--	--	--	--	--	--	ND		--	
	4-Chloro-3-methylphenol	59-50-7	6300	--	--	--	--	--	--	ND		--	
	4-Chloroaniline	106-47-8	2.7	--	0.7	310	---	0.7	0.7	ND		--	
	4-Chlorophenyl-phenyl ether	7005-72-3	--	--	--	--	--	--	--	ND		--	
	4-Nitroaniline	100-01-6	27	--	--	--	--	--	--	ND		--	
	4-Nitrophenol	100-02-7	--	--	--	--	--	--	--	ND		--	
	Acenaphthene	83-32-9	3600	0.09	570	4,700	---	570	2,900	0.521		--	
	Acenaphthylene	208-96-8	--	0.03	--	--	--	--	--	0.0327	J	--	
	Acetophenone	98-86-2	7800	--	--	--	--	--	--	ND		--	
	Anthracene	120-12-7	18000	0.25	12000	23,000	---	12,000	59,000	0.952		--	
	Atrazine	1912-24-9	2.4	--	0.066	2700	--	0.066	0.33	ND		--	
	Benzaldehyde	100-52-7	170	--	--	--	--	--	--	0.0937	J	--	
	Benzo(a)anthracene	56-55-3	1.1	1.1	1.1	0.9	---	2	8	1.41		0.624	
	Benzo(a)pyrene	50-32-8	0.11	1.3	1.3	0.09	---	8	82	1.2		--	
	Benzo(b)fluoranthene	205-99-2	1.1	1.5	1.5	0.9	---	5	25	1.71		0.984	
	Benzo(g,h,i)perylene	191-24-2	--	0.68	--	--	--	--	--	0.482	J-	--	
	Benzo(k)fluoranthene	207-08-9	11	0.99	9	9	---	49	250	0.676	J+	--	
	Bis(2-chloroethoxy)methane	111-91-1	190	--	--	--	--	--	--	ND		--	
	Bis(2-chloroethyl)ether	111-44-4	0.23	--	0.66	0.6	0.2	0.0004	0.0004	ND		--	
	Bis(2-chloroisopropyl)ether	108-60-1	3100	--	--	--	--	--	--	ND		--	
	Bis(2-ethylhexyl)phthalate	117-81-7	39	--	46	46	31,000	3,600	31,000	0.229	J	--	
	Butylbenzylphthalate	85-68-7	290	--	930	16,000	930	930	930	12.5		--	
	Caprolactam	105-60-2	31000	--	--	--	--	--	--	1.88	J-	--	
	Carbazole	86-74-8	--	--	0.6	32	---	0.6	2.8	0.503		--	
	Chrysene	218-01-9	110	1.2	88	88	---	160	800	1.49		--	
	Dibenzo(a,h)anthracene	53-70-3	0.11	0.2	0.2	0.09	---	2	7.6	0.133		--	
	Dibenzofuran	132-64-9	73	--	--	--	--	--	--	0.433		--	
	Diethylphthalate	84-66-2	51000	--	470	63,000	2,000	470	470	ND		--	
	Dimethylphthalate	131-11-3	--	--	--	--	--	--	--	ND		--	

Table 9
Recycled Backfill Gravel Sample - Source 1 and Recycled Bcakfill Gravel Confirmation Sample Results
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Parameter	Analyte	CAS_NO	EPA Residential RSL (mg/kg) [1,2]	Concentrations of Inorganic and PAH Chemicals in Background Soils (mg/kg) [3,4]	Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil (mg/kg) [5,6]	Client Sample ID:				HOC-BACKFILL-04-080317		HOC-CGRS-001	
						Date Collected:				8/3/2017		8/15/2017	
						Time Collected:				15:00		16:00	
						IEPA Residential Route Specific Values for Soil [3,4]		Soil Component of Groundwater Ingestion Exposure Route Values [3,4]					
						Ingestion [3,4]	Inhalation [3,4]	Class I [3,4]	Class II [3,4]	Analytical Data (mg/kg)	Data Qualifier	Analytical Results (mg/kg)	Data Qualifier
SVOC	Di-n-butylphthalate	84-74-2	6300	--	2300	7,800	2,300	2,300	2,300	0.4	J	--	
	Di-n-octylphthalate	117-84-0	630	--	1600	1,600	10,000	10,000	10,000	ND		--	
	Fluoranthene	206-44-0	2400	2.7	3100	3,100	---	4,300	21,000	3.14		--	
	Fluorene	86-73-7	2400	0.1	560	3,100	---	560	2,800	0.725		--	
	Hexachlorobenzene	118-74-1	0.21	--	0.4	0.4	1	2	11	ND		--	
	Hexachlorobutadiene	87-68-3	1.2	--	--	--	--	--	--	ND		--	
	Hexachlorocyclopentadiene	77-47-4	1.8	--	1.1	550	10 / 1.1*	400	2,200	--	R	--	
	Hexachloroethane	67-72-1	1.8	--	0.5	78	---	0.5	2.6	ND		--	
	Indeno(1,2,3-cd)pyrene	193-39-5	1.1	0.86	1.6	0.9	---	14	69	0.471		--	
	Isophorone	78-59-1	570	--	8	15,600	4,600	8	8	ND		--	
	Naphthalene	91-20-3	3.8	0.04	1.8	1,600	170 / 1.8*	12	18	0.219		--	
	Nitrobenzene	98-95-3	5.1	--	0.26	39	92/9.4*	0.1	0.1	ND		--	
	N-Nitroso-di-n-propylamine	621-64-7	0.078	--	0.0018	0.09	---	0.00005	0.00005	ND		--	
	N-Nitrosodiphenylamine & Diphn	86-30-6/122-39-4	110	--	1	130	--	1	5.6	ND		--	
	Pentachlorophenol	87-86-5	1	--	0.02	3	---	0.03	0.14	ND		--	
	Phenanthrene	85-01-8	--	1.3	--	--	--	--	--	3.1	J-	--	
	Phenol	108-95-2	19000	--	100	23,000	---	100	100	ND		--	
	Pyrene	129-00-0	1800	1.9	2300	2,300	---	4,200	21,000	2.6		--	
Additional Analysis	Cyanide	57-12-5	23	0.51	40	1,600	---	--	--	3.12	J-	--	

Notes:
- Sample HOC-BACKFILL-04-080317 collected as a composite of gravel to be used as backfill. Sample HOC-CGRS-001 collected as a composite of backfill gravel already in place at Property #19.
* - Construction Worker Inhalation Objective from Appendix B, Table B [3,4]

11.9	- Analyte was detected but the concentration does not exceed the EPA RSLs and the TACO Tier 1 remediation objectives or the concentration is below TACO background soil concentrations
6.1	- Analyte was detected but result is only above TACO background soil concentrations and Illinois MAC standard based on non-applicable soil to groundwater ingestion route
1.41	- Analyte was detected and result exceeds EPA RSLs and the TACO Tier 1 remediation objectives

-- = No data, no criteria, or not analyzed
CAS No. - Chemical Abstracts Service
EPA - United States Environmental Protection Agency
IEPA - Illinois Environmental Protection Agency
Inorganic - Inorganic analytes or metals
MAC - Maximum Allowable Concentrations
mg/kg - Milligrams per kilogram
ND - Not Detected
PCB - Polychlorinated biphenyl
RSL - Regional Screening Level
SVOC - Semivolatile organic compound
TACO - Tiered Approach to Corrective Action
TCLP - Toxicity Characteristic Leaching Procedure
THQ - Target hazard quotients
TR - Target Cancer Risk
VOC - Volatile organic compound

J = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+ = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J- = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
R = The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.

1 - Analytical results compared to EPA Regional Screening Levels (RSLs) Residential Soil - Generic Table (TR of 1E-06, and THQ of 1.0)
2 - The applicable standards can be located here: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-june-2017
3 - Analytical results compared to IEPA Title 35: Environmental Protection, Subtitle G: Waste Disposal, Chapter I: Pollution Control Board, Subchapter F: Risk Based Cleanup Objectives, Part 742: Tiered Approach to Corrective Action Objectives
4 - The applicable standards can be located here: http://www.ipcb.state.il.us/documents/dsweb/Get/Document-38408
5 - Analytical results compared to IEPA Summary of Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil Used as Fill Material At Regulated Fill Operations (35 Ill. Adm. Code 1100.Subpart F)
6 - The applicable standards can be located here: http://www.epa.state.il.us/land/ccdd/new-max-allowable-concentrations-table.pdf

Table 10
Quarry Backfill Gravel Sample - Source 2
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

						Client Sample ID:				HOC-BACKFILL-05-083017	
						Date Collected:				8/30/2017	
						Time Collected:				17:05	
						IEPA Residential Route Specific Values for Soil [3,4]		Soil Component of Groundwater Ingestion Exposure Route Values [3,4]			
Parameter	Analyte	CAS_NO	EPA Residential RSL (mg/kg) [1,2]	Concentrations of Inorganic and PAH Chemicals in Background Soils (mg/kg) [3,4]	Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil (mg/kg) [5,6]	Ingestion [3,4]	Inhalation [3,4]	Class I [3,4]	Class II [3,4]	Analytical Results (mg/kg)	Data Qualifier
Inorganic	Aluminum	7429-90-5	77000	9500	--	--	--	--	--	720	
	Antimony	7440-36-0	31	4	5	31	---	--	--	ND	
	Arsenic	7440-38-2	0.68	13	13	13.0/11.3	750	--	--	ND	
	Barium	7440-39-3	15000	110	1500	5,500	690,000	--	--	2.5	
	Beryllium	7440-41-7	160	0.59	22	160	1,300	--	--	ND	
	Cadmium	7440-43-9	71	0.6	5.2	78	1,800	--	--	ND	
	Calcium	7440-70-2	--	9300	--	---	---	--	--	220,000	
	Chromium	7440-47-3	--	16.2	21	230	270	--	--	ND	
	Cobalt	7440-48-4	23	8.9	20	4,700	---	--	--	ND	
	Copper	7440-50-8	3100	19.6	2900	2,900	---	--	--	1.4	
	Iron	7439-89-6	55000	15900	15900	--	---	--	--	2,000	
	Lead	7439-92-1	400	36	107	400	---	--	--	ND	
	Magnesium	7439-95-4	--	4820	325000	325,000	---	--	--	130,000	
	Manganese	7439-96-5		636	636	1,600	69,000 / 8,700*	--	--	130	
	Mercury	7439-97-6	11	0.06	0.1	23	10 / 0.1*	--	--	ND	
	Nickel	7440-02-0	1500	18	100	1,600	13,000	--	--	ND	
	Potassium	7440-09-7	--	--	--	--	--	--	--	530	
	Selenium	7782-49-2	390	0.48	1.3	390	---	--	--	ND	
	Silver	7440-22-4	390	0.55	4.4	390	---	--	--	ND	
	Sodium	7440-23-5	--	130	--	---	---	--	--	180	
	Thallium	7440-28-0	0.78	0.32	2.6	6.3	---	--	--	ND	
	Vanadium	7440-62-2	390	25.2	550	550	---	--	--	4.1	
	Zinc	7440-66-6	23000	95	5100	23,000	---	--	--	ND	
Pesticide	4,4'-DDD	72-54-8	2.3	--	3	3	---	16	80	ND	
	4,4'-DDE	72-55-9	2	--	2	2	---	54	270	ND	
	4,4'-DDT	50-29-3	1.9	--	2	2	--- / 2,100*	32	160	ND	
	Aldrin	309-00-2	0.039	--	0.94	0.04	3	0.5	2.5	ND	
	alpha-BHC	319-84-6	0.086	--	0.0074	0.1	0.8	0.0005	0.003	ND	
	alpha-Chlordane	5103-71-9	--	--	--	--	--	--	--	ND	
	beta-BHC	319-85-7	0.3	--	--	--	--	--	--	ND	
	Chlordane (Technical)	57-74-9	1.7	--	1.8	1.8	72 / 22*	10	48	ND	
	delta-BHC	319-86-8	--	--	--	--	--	--	--	ND	
	Dieldrin	60-57-1	0.034	--	0.603	0.04	1	0.004	0.02	ND	
	Endosulfan I	959-98-8	--	--	18	470	---	18	90	ND	
	Endosulfan II	33213-65-9	--	--	18	470	---	18	90	ND	
	Endosulfan sulfate	1031-07-8	--	--	--	--	--	--	--	ND	
	Endrin	72-20-8	19	--	1	23	---	1	5	ND	
	Endrin aldehyde	7421-93-4	--	--	--	--	--	--	--	ND	
	Endrin ketone	53494-70-5	--	--	--	--	--	--	--	ND	
	gamma-Chlordane	5103-74-2	--	--	--	--	--	--	--	ND	
	Heptachlor	76-44-8	0.13	--	0.871	0.1	0.1	23	110	ND	
	Heptachlor epoxide	1024-57-3	0.07	--	1.005	0.07	5	0.7	3.3	ND	
	Lindane	58-89-9	0.57	--	0.009	0.5	---	0.009	0.047	ND	
	Methoxychlor	72-43-5	320	--	160	390	---	160	780	ND	
	Toxaphene	8001-35-2	0.49	--	0.6	0.6	89	31	150	ND	
PCB	Aroclor-1016	12674-11-2	4.1	--	1	1	---	---	---	ND	
	Aroclor-1221	11104-28-2	0.2	--	1	1	---	---	---	ND	
	Aroclor-1232	11141-16-5	0.17	--	1	1	---	---	---	ND	
	Aroclor-1242	53469-21-9	0.23	--	1	1	---	---	---	ND	
	Aroclor-1248	12672-29-6	0.23	--	1	1	---	---	---	ND	
	Aroclor-1254	11097-69-1	0.24	--	1	1	---	---	---	ND	
	Aroclor-1260	11096-82-5	0.24	--	1	1	---	---	---	ND	
	Aroclor-1262	37324-23-5	--	--	1	1	--	--	--	ND	
	Aroclor-1268	11100-14-4	--	--	1	1	--	--	--	ND	
	PCB, Total	1336-36-3	0.23	--	1	1	--	--	--	ND	

Table 10
Quarry Backfill Gravel Sample - Source 2
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Parameter	Analyte	CAS_NO	EPA Residential RSL (mg/kg) [1,2]	Concentrations of Inorganic and PAH Chemicals in Background Soils (mg/kg) [3,4]	Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil (mg/kg) [5,6]	Client Sample ID:			HOC-BACKFILL-05-083017		
						Date Collected:			8/30/2017		
						Time Collected:			17:05		
						IEPA Residential Route Specific Values for Soil [3,4]		Soil Component of Groundwater Ingestion Exposure Route Values [3,4]		Analytical Results (mg/kg)	Data Qualifier
						Ingestion [3,4]	Inhalation [3,4]	Class I [3,4]	Class II [3,4]		
Herbicide	2,4,5-T	93-76-5	630	--	--	--	--	--	--	ND	
	2,4,5-TP (Silvex)	93-72-1	510	--	11	630	--	11	55	ND	
	2,4-D	94-75-7	700	--	1.5	780	--	1.5	7.7	ND	
	2,4-DB	94-82-6	1900	--	--	--	--	--	--	ND	
	Dalapon	75-99-0	1900	--	0.85	2,300	--	0.85	8.5	ND	
	Dicamba	1918-00-9	1900	--	--	--	--	--	--	ND	
	Dichloroprop	120-36-5	--	--	--	--	--	--	--	ND	
	Dinoseb	88-85-7	63	--	0.25	78	--	0.34	3.4	ND	
	MCPA	94-74-6	32	--	--	--	--	--	--	ND	
	MCPP	7085-19-0	63	--	--	--	--	--	--	ND	
VOC	1,1,1-Trichloroethane	71-55-6	8100	--	2	---	1,200	2	9.6	ND	
	1,1,2,2-Tetrachloroethane	79-34-5	0.6	--	--	--	--	--	--	ND	
	1,1,2-Trichloroethane	79-00-5	1.1	--	0.02	310	1,800	0.02	0.3	ND	
	1,1-Dichloroethane	75-34-3	3.6	--	36	7,800	1,300 / 130*	23	110	ND	
	1,1-Dichloroethene	75-35-4	230	--	0.06	3,900	290 / 3.0*	0.06	0.3	ND	
	1,2,3-Trichlorobenzene	87-61-6	63	--	--	--	--	--	--	ND	
	1,2,4-Trichlorobenzene	120-82-1	24	--	5	780	3,200 / 920*	5	53	ND	
	1,2-Dibromo-3-chloropropane	96-12-8	0.0053	--	0.002	0.46	11	0.002	0.02	ND	
	1,2-Dibromoethane	106-93-4	0.036	--	0.005	0.32	0.06	0.0004	0.004	ND	
	1,2-Dichlorobenzene	95-50-1	1800	--	17	7,000	560 / 310*	17	43	ND	
	1,2-Dichloroethane	107-06-2	0.46	--	0.02	7	0.4	0.02	0.1	ND	
	1,2-Dichloropropane	78-87-5	0.28	--	0.03	9	15 / 0.50*	0.03	0.15	ND	
	1,3-Dichlorobenzene	541-73-1	--	--	--	--	--	--	--	ND	
	1,4-Dichlorobenzene	106-46-7	2.6	--	2	---	11,000 / 340*	2	11	ND	
	1,4-Dioxane	123-91-1	5.3	--	--	--	--	--	--	ND	
	112Trichloro122trifluoroethane	76-13-1	6700	--	--	--	--	--	--	ND	
	2-Butanone	78-93-3	27000	--	--	--	--	--	--	ND	
	2-Hexanone	591-78-6	200	--	--	--	--	--	--	ND	
	4-Methyl-2-pentanone	108-10-1	33000	--	--	--	--	--	--	ND	
	Acetone	67-64-1	61000	--	25	70,000	100,000	25	25	ND	
	Benzene	71-43-2	1.2	--	0.03	12	0.8	0.03	0.17	ND	
	Bromochloromethane	74-97-5	150	--	--	--	--	--	--	ND	
	Bromodichloromethane	75-27-4	0.29	--	0.6	10	3,000	0.6	0.6	ND	
	Bromoform	75-25-2	19	--	0.8	81	53	0.8	0.8	ND	
	Bromomethane	74-83-9	6.8	--	0.2	110	10 / 3.9*	0.2	1.2	ND	
	Carbon disulfide	75-15-0	770	--	9	7,800	720 / 9.0*	32	160	ND	
	Carbon tetrachloride	56-23-5	0.65	--	0.07	5	0.3	0.07	0.33	ND	
	Chlorobenzene	108-90-7	280	--	1	1,600	130 / 1.3*	1	6.5	ND	
	Chloroethane	75-00-3	14000	--	--	--	--	--	--	ND	
	Chloroform	67-66-3	0.32	--	0.3	100	0.3	0.6	2.9	ND	
	Chloromethane	74-87-3	110	--	--	--	--	--	--	ND	
	cis-1,2-Dichloroethene	156-59-2	160	--	0.4	780	1,200	0.4	1.1	ND	
	cis-1,3-Dichloropropene	10061-01-5	--	--	0.005	6.4	1.1 / 0.39*	0.004	0.02	ND	
	Cyclohexane	110-82-7	6500	--	--	--	--	--	--	ND	
	Dibromochloromethane	124-48-1	8.3	--	0.4	1,600	1,300	0.4	0.4	ND	
	Dichlorodifluoromethane	75-71-8	87	--	--	--	--	--	--	ND	
	Ethylbenzene	100-41-4	5.8	--	13	7,800	400 / 58*	13	19	ND	
	Isopropylbenzene	98-82-8	1900	--	--	--	--	--	--	ND	
	m & p-Xylene	179601-23-1	$550^{m}/560^{p}$	--	$6.4^{m}/5.9^{p}$	16,000	$420^{m}/460^{p}$	$210^{m}/200^{p}$	$210^{m}/200^{p}$	ND	
	Methyl acetate	79-20-9	78000	--	--	--	--	--	--	ND	
	Methyl tert-butyl ether	1634-04-4	47	--	0.32	780	8,800 / 140*	0.32	0.32	ND	
	Methylcyclohexane	108-87-2	--	--	--	--	--	--	--	ND	
	Methylene chloride	75-09-2	57	--	0.02	85	13	0.02	0.2	0.016	
	o-Xylene	95-47-6	650	--	6.5	16,000	410	190	190	ND	
	Styrene	100-42-5	6000	--	4	16,000	1,500 / 430*	4	18	ND	

Table 10
Quarry Backfill Gravel Sample - Source 2
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Parameter	Analyte	CAS_NO	EPA Residential RSL (mg/kg) [1,2]	Concentrations of Inorganic and PAH Chemicals in Background Soils (mg/kg) [3,4]	Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil (mg/kg) [5,6]	Client Sample ID:			HOC-BACKFILL-05-083017	
						Date Collected:			8/30/2017	
						Time Collected:			17:05	
						IEPA Residential Route Specific Values for Soil [3,4]		Soil Component of Groundwater Ingestion Exposure Route Values [3,4]		
						Ingestion [3,4]	Inhalation [3,4]	Class I [3,4]	Class II [3,4]	Analytical Results (mg/kg)	Data Qualifier
VOC	Tetrachloroethene	127-18-4	24	--	0.06	12	11	0.06	0.3	ND	
	Toluene	108-88-3	4900	--	12	16,000	650 / 42*	12	29	ND	
	trans-1,2-Dichloroethene	156-60-5	1600	--	0.7	1,600	3,100	0.7	3.4	ND	
	trans-1,3-Dichloropropene	10061-02-6	--	--	0.005	6.4	1.1 / 0.39*	0.004	0.02	ND	
	Trichloroethene	79-01-6	0.94	--	0.06	58	5	0.06	0.3	ND	
	Trichlorofluoromethane	75-69-4	23000	--	--	--	--	--	--	ND	
	Vinyl chloride	75-01-4	0.059	--	0.01	0.46	0.28	0.01	0.07	ND	
SVOC	1,1'-Biphenyl	92-52-4	47	--	--	--	--	--	--	ND	
	1,2,4,5-Tetrachlorobenzene	95-94-3	23	--	--	--	--	--	--	ND	
	2,4,5-Trichlorophenol	95-95-4	6300	--	26	7,800	---	270	1,400	ND	
	2,4,6-Trichlorophenol	88-06-2	49	--	0.66	58	200	0.2	0.77	ND	
	2,4-Dichlorophenol	120-83-2	190	--	0.48	230	---	1	1	ND	
	2,4-Dimethylphenol	105-67-9	1300	--	9	1,600	---	9	9	ND	
	2,4-Dinitrophenol	51-28-5	130	--	3.3	160	---	0.2	0.2	ND	
	2,4-Dinitrotoluene	121-14-2	1.7	--	0.25	0.9	---	0.0008	0.0008	ND	
	2,6-Dinitrotoluene	606-20-2	0.36	--	0.26	0.9	---	0.0007	0.0007	ND	
	2-Chloronaphthalene	91-58-7	4800	--	--	--	--	--	--	ND	
	2-Chlorophenol	95-57-8	390	--	1.5	390	53,000	4	4	ND	
	2-Methylnaphthalene	91-57-6	240	--	--	--	--	--	--	ND	
	2-Methylphenol	95-48-7	3200	--	15	3,900	---	15	15	ND	
	2-Nitroaniline	88-74-4	630	--	--	--	--	--	--	ND	
	2-Nitrophenol	88-75-5	--	--	--	--	--	--	--	ND	
	3 & 4-Methylphenol	1319-77-3	6300	--	--	--	--	--	--	ND	
	3,3'-Dichlorobenzidine	91-94-1	1.2	--	1.3	1	---	0.007	0.033	ND	
	3-Nitroaniline	99-09-2	--	--	--	--	--	--	--	ND	
	4,6-Dinitro-2-methylphenol	534-52-1	5.1	--	--	--	--	--	--	ND	
	4-Bromophenyl-phenyl ether	101-55-3	--	--	--	--	--	--	--	ND	
	4-Chloro-3-methylphenol	59-50-7	6300	--	--	--	--	--	--	ND	
	4-Chloroaniline	106-47-8	2.7	--	0.7	310	---	0.7	0.7	ND	
	4-Chlorophenyl-phenyl ether	7005-72-3	--	--	--	--	--	--	--	ND	
	4-Nitroaniline	100-01-6	27	--	--	--	--	--	--	ND	
	4-Nitrophenol	100-02-7	--	--	--	--	--	--	--	ND	
	Acenaphthene	83-32-9	3600	0.09	570	4,700	---	570	2,900	ND	
	Acenaphthylene	208-96-8	--	0.03	--	--	--	--	--	ND	
	Acetophenone	98-86-2	7800	--	--	--	--	--	--	ND	
	Anthracene	120-12-7	18000	0.25	12000	23,000	---	12,000	59,000	ND	
	Atrazine	1912-24-9	2.4	--	0.066	2700	--	0.066	0.33	ND	
	Benzaldehyde	100-52-7	170	--	--	--	--	--	--	ND	
	Benzo(a)anthracene	56-55-3	1.1	1.1	1.1	0.9	---	2	8	ND	
	Benzo(a)pyrene	50-32-8	0.11	1.3	1.3	0.09	---	8	82	ND	
	Benzo(b)fluoranthene	205-99-2	1.1	1.5	1.5	0.9	---	5	25	ND	
	Benzo(g,h,i)perylene	191-24-2	--	0.68	--	--	--	--	--	ND	
	Benzo(k)fluoranthene	207-08-9	11	0.99	9	9	---	49	250	ND	
	Bis(2-chloroethoxy)methane	111-91-1	190	--	--	--	--	--	--	ND	
	Bis(2-chloroethyl)ether	111-44-4	0.23	--	0.66	0.6	0.2	0.0004	0.0004	ND	
	Bis(2-chloroisopropyl)ether	108-60-1	3100	--	--	--	--	--	--	ND	
	Bis(2-ethylhexyl)phthalate	117-81-7	39	--	46	46	31,000	3,600	31,000	ND	
	Butylbenzylphthalate	85-68-7	290	--	930	16,000	930	930	930	ND	
	Caprolactam	105-60-2	31000	--	--	--	--	--	--	ND	
	Carbazole	86-74-8	--	--	0.6	32	---	0.6	2.8	ND	
	Chrysene	218-01-9	110	1.2	88	88	---	160	800	ND	
	Dibenzo(a,h)anthracene	53-70-3	0.11	0.2	0.2	0.09	---	2	7.6	ND	
	Dibenzofuran	132-64-9	73	--	--	--	--	--	--	ND	
	Diethylphthalate	84-66-2	51000	--	470	63,000	2,000	470	470	ND	
	Dimethylphthalate	131-11-3	--	--	--	--	--	--	--	ND	

Table 10
Quarry Backfill Gravel Sample - Source 2
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

						Client Sample ID:				HOC-BACKFILL-05-083017	
						Date Collected:				8/30/2017	
						Time Collected:				17:05	
						IEPA Residential Route Specific Values for Soil [3,4]		Soil Component of Groundwater Ingestion Exposure Route Values [3,4]			
Parameter	Analyte	CAS_NO	EPA Residential RSL (mg/kg) [1,2]	Concentrations of Inorganic and PAH Chemicals in Background Soils (mg/kg) [3,4]	Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil (mg/kg) [5,6]	Ingestion [3,4]	Inhalation [3,4]	Class I [3,4]	Class II [3,4]	Analytical Results (mg/kg)	Data Qualifier
SVOC	Di-n-butylphthalate	84-74-2	6300	--	2300	7,800	2,300	2,300	2,300	ND	
	Di-n-octylphthalate	117-84-0	630	--	1600	1,600	10,000	10,000	10,000	ND	
	Fluoranthene	206-44-0	2400	2.7	3100	3,100	---	4,300	21,000	0.0093	
	Fluorene	86-73-7	2400	0.1	560	3,100	---	560	2,800	0.0073	
	Hexachlorobenzene	118-74-1	0.21	--	0.4	0.4	1	2	11	ND	
	Hexachlorobutadiene	87-68-3	1.2	--	--	--	--	--	--	ND	
	Hexachlorocyclopentadiene	77-47-4	1.8	--	1.1	550	10 / 1.1*	400	2,200	ND	
	Hexachloroethane	67-72-1	1.8	--	0.5	78	---	0.5	2.6	ND	
	Indeno(1,2,3-cd)pyrene	193-39-5	1.1	0.86	1.6	0.9	---	14	69	ND	
	Isophorone	78-59-1	570	--	8	15,600	4,600	8	8	ND	
	Naphthalene	91-20-3	3.8	0.04	1.8	1,600	170 / 1.8*	12	18	ND	
	Nitrobenzene	98-95-3	5.1	--	0.26	39	92/9.4*	0.1	0.1	ND	
	N-Nitroso-di-n-propylamine	621-64-7	0.078	--	0.0018	0.09	---	0.00005	0.00005	ND	
	N-Nitrosodiphenylamine & Diphn	86-30-6	110	--	1	130	--	1	5.6	ND	
	Pentachlorophenol	87-86-5	1	--	0.02	3	---	0.03	0.14	ND	
	Phenanthrene	85-01-8	--	1.3	--	--	--	--	--	0.023	
	Phenol	108-95-2	19000	--	100	23,000	---	100	100	ND	
	Pyrene	129-00-0	1800	1.9	2300	2,300	---	4,200	21,000	0.025	
Additional Analysis	Cyanide	57-12-5	23	0.51	40	1,600	---	--	--	ND	

Notes:

* - Construction Worker Inhalation Objective from Appendix B, Table B [3,4]

220000 - Analyte was detected but the concentration does not exceed the EPA RSLs and the TACO Tier 1 remediation objectives or the concentration is below TACO background soil concentrations

-- - No criteria or not analyzed
CAS No. - Chemical Abstracts Service
EPA - United States Environmental Protection Agency
IEPA - Illinois Environmental Protection Agency
Inorganic - Inorganic analytes or metals
MAC - Maximum Allowable Concentrations
mg/kg - Milligrams per kilogram
ND - Not Detected
PCB - Polychlorinated biphenyl
RSL - Regional Screening Level
SVOC - Semivolatile organic compound
TACO - Tiered Approach to Corrective Action
TCLP - Toxicity Characteristic Leaching Procedure
THQ - Target hazard quotients
TR - Target Cancer Risk
VOC - Volatile organic compound

1 - Analytical results compared to EPA Regional Screening Levels (RSLs) Residential Soil - Generic Table (TR of 1E-06, and THQ of 1.0)
2 - The applicable standards can be located here: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-june-2017
3 - Analytical results compared to IEPA Title 35: Environmental Protection, Subtitle G: Waste Disposal, Chapter I: Pollution Control Board, Subchapter F: Risk Based Cleanup Objectives, Part 742: Tiered Approach to Corrective Action Objectives
4 - The applicable standards can be located here: http://www.ipcb.state.il.us/documents/dsweb/Get/Document-38408
5 - Analytical results compared to IEPA Summary of Maximum Allowable Concentrations of Chemical Constituents In Uncontaminated Soil Used as Fill Material At Regulated Fill Operations (35 Ill. Adm. Code 1100.Subpart F)
6 - The applicable standards can be located here: http://www.epa.state.il.us/land/ccdd/new-max-allowable-concentrations-table.pdf

Table 11
Summary of XRF Lead Screening Results and Locations
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Sample ID	Date	Time	Reading	Mode	Cal Check Status	Pass/Fail	Depth (Inches bgs)	Lead Result (ppm)	Error (+/-)	Screening Location
	7/19/2017	10:13:08	#1	Cal Check	Passed					
SI_BLANK	7/19/2017	10:17:02	#2	Soil		PASS		4.3	1	
NIST_SD	7/19/2017	10:20:29	#3	Soil		PASS		18.4	1.6	
gravel-pile-SA	7/19/2017	10:26:58	#4	Soil		PASS		<LOD	3.7	Gravel Pile for Staging Area
gravel-pile-SA	7/19/2017	10:29:19	#5	Soil		PASS		58	2	Gravel Pile for Staging Area
gravel-pile-SA	7/19/2017	10:32:03	#6	Soil		PASS		5.6	1.3	Gravel Pile for Staging Area
gravel-pile-SA	7/19/2017	10:35:00	#7	Soil		PASS		<LOD	5	Gravel Pile for Staging Area
gravel-pile-SA	7/19/2017	10:36:29	#8	Soil		PASS		<LOD	3.6	Gravel Pile for Staging Area
gravel-pile-SA	7/19/2017	10:38:55	#9	Soil		PASS		<LOD	3.8	Gravel Pile for Staging Area
Si-Blank-end	7/19/2017	14:38:39	#10	Soil		PASS		<LOD	3	
NIST_SD_END	7/19/2017	14:40:46	#11	Soil		PASS		13.3	1.5	
	8/2/2017	12:49:13	#2	Cal Check	Passed					
SI_BL_ST	8/2/2017	12:52:15	#3	Soil		PASS		3.7	1	
NIST_SD_ST	8/2/2017	12:53:29	#4	Soil		PASS		19	3	
NIST_SD_ST	8/2/2017	12:55:21	#5	Soil		PASS		17.6	1.5	
PROP21-INSC-A	8/2/2017	13:09:35	#6	Soil		PASS	15	142	3	4ft S of Brick, 6ft W of E Walkway
PROP21-INSC-B	8/2/2017	13:15:30	#7	Soil		PASS	15	129	2	10ft S of Brick, 9ft E of W Prop Line
PROP21-INSC-C	8/2/2017	13:19:03	#8	Soil		PASS	15	336	4	15ft S of Brick, 5.5ft W of E Walkway
SI_SD_EN	8/2/2017	17:25:59	#9	Soil		PASS		3.6	1	
NIST_SD_EN	8/2/2017	17:30:34	#10	Soil		PASS		17.3	1.5	
	8/3/2017	9:56:44	#1	Cal Check	Passed					
NIST_SD_ST	8/3/2017	10:27:33	#2	Soil		PASS		15.6	1.5	
SI_SD_ST	8/3/2017	10:31:38	#3	Soil		PASS		<LOD	3	
ECS_001a	8/3/2017	10:56:47	#4	Soil		PASS	15-21	52	2	5pt comp sample collected from front yard grass area of property 21
ECS_001b	8/3/2017	10:58:55	#5	Soil		PASS	15-21	40.4	2	5pt comp sample collected from front yard grass area of property 21
ECS_001c	8/3/2017	11:01:29	#6	Soil		PASS	15-21	39	2	5pt comp sample collected from front yard grass area of property 21
ECS_001d	8/3/2017	11:03:04	#7	Soil		PASS	15-21	116	3	5pt comp sample collected from front yard grass area of property 21
ECS_001e	8/3/2017	11:04:37	#8	Soil		PASS	15-21	112	3	5pt comp sample collected from front yard grass area of property 21
test1	8/3/2017	11:06:56	#9	Soil		PASS	15-21	68	2	
test2	8/3/2017	11:10:41	#10	Soil		PASS	15-21	84	3	
NIST_SD_EN	8/3/2017	12:34:05	#11	Soil		PASS		11.2	2	
SI_SD_EN	8/3/2017	12:35:33	#12	Soil		PASS		<LOD	3.8	
	8/7/2017	12:27:20	#1	Cal Check	Passed					
NIST_SD_ST	8/7/2017	12:29:34	#2	Soil		PASS		18.6	1.9	
SI_SD_ST	8/7/2017	12:31:19	#3	Soil		PASS		<LOD	3.7	
PROP19_INSC_001	8/7/2017	12:48:44	#5	Soil		PASS	12	445	6	8ft E of W Prop Line, 1.5ft N of Home
PROP19_INSC_002	8/7/2017	12:50:36	#6	Soil		PASS	12	318	5	8.5ft E of W Prop Line, 1.5ft N of Home
NIST_SD_EN	8/7/2017	17:46:27	#7	Soil		PASS		<LOD	3.9	
NIST_SD_EN1	8/7/2017	17:49:37	#8	Soil		PASS		9.1	1.8	
SI_SD_EN	8/7/2017	17:56:35	#9	Soil		PASS		<LOD	3.8	
	8/8/2017	9:53:50	#1	Cal Check	Passed					
SI_SD_ST_0808	8/8/2017	9:55:54	#3	Soil		PASS		<LOD	3.7	
NIST_SD_ST_0808	8/8/2017	9:58:02	#4	Soil		PASS		16.7	1.8	
PROP19_INSC_003	8/8/2017	10:06:44	#5	Soil		PASS	12	157	3	9ft E of W Prop Line, 16.5ft N of Home
PROP19_INSC_004	8/8/2017	10:09:34	#7	Soil		PASS	6	427	6	10.5ft W of E Prop Line, 13.5ft N of Home
PROP19_INSC_005	8/8/2017	10:12:02	#8	Soil		PASS	12	130	3	3.5ft W of E Prop Line, 2.5ft N of Brick Walkway
PROP19_INSC_006	8/8/2017	10:17:16	#9	Soil		PASS	6	42	2	10.5ft S of N Prop Line, 9.5ft W of E Prop Line
PROP19_INSC_007	8/8/2017	10:42:38	#10	Soil		PASS	12	772	13	10ft S of N Prop Line, 2ft W of E Prop Line
PROP19_INSC_008	8/8/2017	12:55:04	#11	Soil		PASS	15	796	16	2ft S of N Prop Line, 2ft E of W Prop Line

Table 11
Summary of XRF Lead Screening Results and Locations
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Sample ID	Date	Time	Reading	Mode	Cal Check Status	Pass/Fail	Depth (Inches bgs)	Lead Result (ppm)	Error (+/-)	Screening Location
PROP10_SCR_001a	8/8/2017	14:46:19	#12	Soil		PASS	0-6	314	4	3pt comp of soil from rose bed
PROP10_SCR_001b	8/8/2017	14:48:14	#13	Soil		PASS	0-6	383	5	3pt comp of soil from rose bed
PROP10_SCR_001c	8/8/2017	14:49:47	#14	Soil		PASS	0-6	331	4	3pt comp of soil from rose bed
PROP10_SCR_001d	8/8/2017	14:51:20	#15	Soil		PASS	0-6	317	4	3pt comp of soil from rose bed
PROP10_SCR_001e	8/8/2017	14:53:00	#16	Soil		PASS	0-6	332	4	3pt comp of soil from rose bed
PROP19_ECS_002a	8/8/2017	16:24:27	#17	Soil		PASS	12-18	140	3	5 point composite collected from backyard
PROP19_ECS_002b	8/8/2017	16:26:10	#18	Soil		PASS	12-18	145	3	5 point composite collected from backyard
PROP19_ECS_002c	8/8/2017	16:27:53	#19	Soil		PASS	12-18	157	3	5 point composite collected from backyard
PROP19_ECS_002d	8/8/2017	16:29:31	#20	Soil		PASS	12-18	127	3	5 point composite collected from backyard
PROP19_ECS_002e	8/8/2017	16:31:07	#21	Soil		PASS	12-18	167	3	5 point composite collected from backyard
SI_SD_EN_0808	8/8/2017	18:22:26	#26	Soil		PASS		4	1.3	
NIST_SD_EN_0808	8/8/2017	18:28:46	#27	Soil		PASS		10.4	1.9	
	8/9/2017	7:47:05	#1	Cal Check	Passed					
NIST_SD_EN_0808	8/9/2017	13:20:48	#2	Soil		PASS		10.8	1.8	
NIST_SD_EN_0808	8/9/2017	13:22:06	#3	Soil		PASS		<LOD	3.7	
PROP10_INSC	8/9/2017	13:35:54	#4	Soil		PASS		760	8	In situ screening in the front yard excavation
PROP10_INSC	8/9/2017	13:37:15	#5	Soil		PASS		5809	40	In situ screening in the front yard excavation
PROP10_INSC_001	8/9/2017	13:41:12	#6	Soil		PASS		898	9	In situ screening in the front yard excavation
	8/9/2017	14:24:11	#7	Cal Check	Passed					
	8/11/2017	14:02:10	#1	Cal Check	Passed					
SI_ST_0811	8/11/2017	14:04:08	#2	Soil		PASS		4	1.3	
NIST_ST_0811	8/11/2017	14:05:45	#3	Soil		PASS		18	1.9	
TEST1-0811a	8/11/2017	14:07:43	#4	Soil		PASS	12	648	7	
	8/14/2017	8:30:31	#1	Cal Check	Passed					
NIST_ST_0814	8/14/2017	8:33:11	#2	Soil		PASS		18	1.8	
SI_ST_0814	8/14/2017	8:35:05	#3	Soil		PASS		<LOD	3.8	
PROP09_INSC_001	8/14/2017	8:40:24	#4	Soil		PASS	12	50	2	6ft N of S Parcel Line, 3.5ft E of W Prop Line
PROP09_INSC_002	8/14/2017	8:42:40	#5	Soil		PASS	12	1353	13	3ft S of N Prop Line, 4.5ft E of W Prop Line
PROP09_INSC_003	8/14/2017	8:45:46	#6	Soil		PASS	12	70	2	11ft S of N Prop Line, 2ft E of W Prop Line
PROP09_INSC_004	8/14/2017	8:48:35	#7	Soil		PASS	12	890	9	11ft S of N Prop Line, 3.5ft E of W Prop Line
PROP09_INSC_005	8/14/2017	8:52:29	#8	Soil		PASS	12	299	5	6.5ft N of S Parcel Line, 10ft E of W Prop Line
PROP09_INSC_006	8/14/2017	10:34:16	#9	Soil		PASS	6	1190	11	15.5ft E of W Prop Line, 4.5ft N of S Parcel Line
PROP09_INSC_007	8/14/2017	11:35:46	#10	Soil		PASS	6	807	9	19ft E of W Prop Line, 10.5ft N of S Parcel Line
Si_EN_0814	8/14/2017	17:36:16	#11	Soil		PASS		<LOD	3.7	
NIST_EN_0814	8/14/2017	17:38:37	#12	Soil		PASS		<LOD	5.9	
NIST_EN_0814	8/14/2017	17:39:07	#13	Soil		PASS		<LOD	7	
NIST_EN_0814	8/14/2017	17:40:24	#14	Soil		PASS		7.1	1.9	
	8/15/2017	10:17:42	#1	Cal Check	Passed					
SI_ST_0815	8/15/2017	10:19:23	#2	Soil		PASS		<LOD	3.6	
NIST_ST_0815	8/15/2017	10:20:56	#3	Soil		PASS		8.7	1.8	
PROP8-INSC_001-0815	8/15/2017	10:23:01	#4	Soil		PASS	0	820	8	8ft W of E Prop Line, 15ft N of Home
PROP8-INSC_002-0815	8/15/2017	10:26:03	#5	Soil		PASS	0	746	7	19ft W of E Prop Line, 12ft N of Home
PROP8-INSC_003-0815	8/15/2017	10:29:00	#6	Soil		PASS	0	500	6	15ft W of E Prop Line, 4ft S of Garage
PROP8-INSC_004-0815	8/15/2017	10:34:54	#7	Soil		PASS	0	937	9	5.5ft E of W Prop Line, 5.5ft N of S Prop Line
PROP8-INSC_005-0815	8/15/2017	10:36:48	#8	Soil		PASS	0	269	4	7ft E of W Prop Line, 3ft S of Home
PROP8-INSC_006-0815	8/15/2017	10:39:13	#9	Soil		PASS	0	1074	10	12.5ft W of E Prop Line, 9.5ft N of S Prop Line
SI_EN_0815	8/15/2017	17:58:13	#11	Soil		PASS		<LOD	3.7	
NIST_EN_0815	8/15/2017	17:59:55	#12	Soil		PASS		12.1	1.8	
	8/16/2017	12:13:15	#1	Cal Check	Passed					
SI_ST_0816	8/16/2017	12:15:29	#2	Soil		PASS		<LOD	3.7	
NIST_ST_0816	8/16/2017	12:17:15	#3	Soil		PASS		6.7	1.9	
PROP02_INSC_001	8/16/2017	12:21:44	#4	Soil		PASS	12	628	7	0.5ft E of W Prop Line, 1ft S of Garage

Table 11
Summary of XRF Lead Screening Results and Locations
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Sample ID	Date	Time	Reading	Mode	Cal Check Status	Pass/Fail	Depth (Inches bgs)	Lead Result (ppm)	Error (+/-)	Screening Location
SI_EN_0816	8/16/2017	17:14:04	#5	Soil		PASS		<LOD	3.7	
NIST_EN_0816	8/16/2017	17:15:37	#6	Soil		PASS		12	1.7	
	8/17/2017	9:39:48	#1	Cal Check	Passed					
NIST_ST_0817	8/17/2017	9:42:16	#2	Soil		PASS		14	1.7	
SI_ST_0817	8/17/2017	9:42:44	#3	Soil		PASS				
SI_ST_0817	8/17/2017	9:44:05	#4	Soil		PASS		<LOD	3.6	
PROP02-INSC_002	8/17/2017	9:49:56	#5	Soil		PASS	12	680	7	6.5ft E of W Prop Line, 2.5ft S of Garage
PROP02-INSC_003	8/17/2017	9:52:29	#6	Soil		PASS	12	637	7	5.5ft E of W Prop Line, 3ft N of Home
	8/18/2017	7:40:46	#1	Cal Check	Passed					
SI_ST_0818	8/18/2017	7:44:26	#2	Soil		PASS		<LOD	3.7	
NIST_ST_0818	8/18/2017	7:46:09	#3	Soil		PASS		17.7	1.7	
PROP09_INSC_007	8/18/2017	14:05:01	#26	Soil		PASS	12	854	8	12.5ft N of Home, 15ft W of E Prop Line
PROP09_INSC_008	8/18/2017	14:06:46	#27	Soil		PASS	12	664	7	12ft N of Home, 11ft W of E Prop Line
PROP09_INSC_009	8/18/2017	14:08:52	#28	Soil		PASS	12	1269	11	17ft N of Home, 11.5ft W of E Prop Line
SI_EN_0817	8/18/2017	17:18:29	#29	Soil		PASS		<LOD	3.7	
NIST_EN_0817	8/18/2017	17:20:57	#30	Soil		PASS		<LOD	6	
NIST_EN_0817	8/18/2017	17:24:28	#31	Soil		PASS		6.3	1.9	
	8/21/2017	10:39:19	#1	Cal Check	Passed					
NIST_ST_0821	8/21/2017	10:41:15	#2	Soil		PASS		14.7	1.7	
SI_ST_0821	8/21/2017	10:42:52	#3	Soil		PASS		<LOD	3.6	
PROP08-insc-010	8/21/2017	10:48:44	#4	Soil		PASS	20	328	5	13ft W of E Prop Line, 4ft S of Home
PROP08-insc-011	8/21/2017	10:50:18	#5	Soil		PASS	20	320	5	15.5ft W of E Prop Line, 4.5ft S of Home
PROP08-insc-012	8/21/2017	10:55:12	#6	Soil		PASS	21	331	5	Same location as insc-011
PROP02_INSC_004rl	8/21/2017	16:22:30	#7	Soil		PASS	18	116	3	3ft S of Home, 3ft E of W Prop Line
PROP02_INSC_005rl	8/21/2017	16:24:13	#8	Soil		PASS	18	54	2	5ft N of S Prop Line, 3.5ft E of W Prop Line
NIST_EN_0821	8/21/2017	16:40:51	#9	Soil		PASS		7	1.8	
SI_EN_0821	8/21/2017	16:42:27	#10	Soil		PASS		<LOD	3.7	
	8/22/2017	15:21:18	#1	Cal Check	Passed					
SI_ST_0822	8/22/2017	15:23:12	#2	Soil		PASS		<LOD	3.8	
NIST_ST_0822	8/22/2017	15:24:43	#3	Soil		PASS		14	1.8	
PROP03_INSC_001	8/22/2017	15:34:51	#4	Soil		PASS	12	875	8	8.5ft E of W Prop Line, 10.5ft N of Home
PROP03_INSC_002	8/22/2017	15:38:28	#6	Soil		PASS	12	771	8	19.5ft S of N Prop Line, 2.5ft W of E Prop Line
PROP03_INSC_003	8/22/2017	15:41:16	#8	Soil		PASS	12	575	7	6ft S of N Prop Line, 2.5ft W of E Prop Line
PROP03_INSC_pot	8/22/2017	15:47:11	#9	Soil		PASS		17.9	1.5	Potted soil, appears to be potting soil mix
NIST_EN_0822	8/22/2017	18:27:53	#10	Soil		PASS		5.9	1.9	
SI_EN_0822	8/22/2017	18:30:04	#11	Soil		PASS		<LOD	3.7	
	8/23/2017	8:37:58	#1	Cal Check	Passed					
SI_ST_0823	8/23/2017	8:40:09	#2	Soil		PASS		<LOD	3.7	
NIST_ST_0823	8/23/2017	8:42:07	#3	Soil		PASS		15.4	1.8	
PROP03_INSC_004	8/23/2017	8:48:41	#4	Soil		PASS	16	73	3	2.5ft W of E Prop Line, 9.5ft N of Home
PROP03_INSC_005	8/23/2017	8:52:13	#5	Soil		PASS	16	160	3	6ft N of Home, 7ft E of W Prop Line
PROP03_INSC_006	8/23/2017	8:54:27	#6	Soil		PASS	16	646	7	2.5ft E of W Prop Line, 13.5ft N of Home
PROP03_INSC_007	8/23/2017	8:59:54	#7	Soil		PASS	14	121	3	2ft E of W Prop Line, 14.5ft N of Home
PROP03_INSC_008	8/23/2017	10:51:21	#8	Soil		PASS	14	67	2	9ft S of N Prop Line, 1.5ft E of W Prop Line
test	8/23/2017	10:52:17	#9	Soil		PASS	14	702	10	
PROP03_INSC_009	8/23/2017	10:54:53	#10	Soil		PASS	14	301	5	2.5ft S of N Prop Line, 1.5ft E of W Prop Line
PROP03_INSC_010	8/23/2017	10:57:38	#11	Soil		PASS	16	72	3	2.5ft S of N Prop Line, 3ft W of E Prop Line
NIST_EN_0823	8/23/2017	17:47:26	#12	Soil		PASS		<LOD	5.6	
SI_EN_0823	8/23/2017	17:48:56	#13	Soil		PASS		<LOD	3.8	

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Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Sample ID	Date	Time	Reading	Mode	Cal Check Status	Pass/Fail	Depth (Inches bgs)	Lead Result (ppm)	Error (+/-)	Screening Location
	8/24/2017	8:05:41	#1	Cal Check	Passed					
SI_ST_0824	8/24/2017	8:08:10	#2	Soil		PASS		<LOD	3.7	
NIST_ST_0824	8/24/2017	8:11:01	#3	Soil		PASS		4.4	1.4	
PROP03_INSC_011	8/24/2017	8:19:42	#4	Soil		PASS	16	242	4	5.5ft W of E Prop Line, 19ft N of Home
PROP03_INSC_012	8/24/2017	8:22:45	#5	Soil		PASS	16	37	2	8ft E of W Prop Line, 13.5ft N of Home
PROP03_ECS_003a	8/24/2017	16:08:03	#6	Soil		PASS	16-22	25.1	1.8	5 point composite collected from backyard
PROP03_ECS_003b	8/24/2017	16:09:33	#7	Soil		PASS	16-22	40.2	2	5 point composite collected from backyard
PROP03_ECS_003c	8/24/2017	16:11:22	#8	Soil		PASS	16-22	50	2	5 point composite collected from backyard
PROP03_ECS_003d	8/24/2017	16:13:15	#9	Soil		PASS	16-22	48	2	5 point composite collected from backyard
PROP03_ECS_003e	8/24/2017	16:14:50	#10	Soil		PASS	16-22	32.6	2	5 point composite collected from backyard
SI_EN_0824	8/24/2017	17:28:18	#11	Soil		PASS		<LOD	3.7	
NIST_EN_0824	8/24/2017	17:29:57	#12	Soil		PASS		<LOD	5.1	
NIST_EN_0824	8/24/2017	17:31:07	#13	Soil		PASS		16.4	1.9	
	8/28/2017	9:12:36	#1	Cal Check	Passed					
NIST_ST_0828	8/28/2017	9:18:36	#2	Soil		PASS		14.9	1.7	
SI_ST_0828	8/28/2017	9:20:22	#3	Soil		PASS		4.4	1.3	
PROP01_INSC_001	8/28/2017	9:28:31	#4	Soil		PASS	12	469	6	2.5ft N of Home, 1.5ft W of E Prop Line
PROP01_INSC_002	8/28/2017	9:31:11	#5	Soil		PASS	16	802	8	3ft N of Home, 3.5ft W of E Prop Line
SI_EN_0828	8/28/2017	16:54:31	#6	Soil		PASS		<LOD	3.8	
NIST_EN_0828	8/28/2017	16:56:43	#7	Soil		PASS		19.7	1.8	
	8/30/2017	8:54:22	#1	Cal Check	Passed					
NIST_ST_0830	8/30/2017	8:56:47	#2	Soil		PASS		13.4	1.8	
SI_ST_0830	8/30/2017	8:59:44	#3	Soil		PASS		<LOD	3.8	
PROP01_INSC_003	8/30/2017	9:09:03	#4	Soil		PASS	12	1479	14	5ft S of Home, 8.5ft E of W Prop Line
PROP01_INSC_004	8/30/2017	9:10:43	#5	Soil		PASS	12	1045	10	5ft S of Home, 12.5ft E of W Prop Line
SI_EN_0830	8/30/2017	18:07:48	#6	Soil		PASS		<LOD	3.8	
NIST_EN_0830	8/30/2017	18:15:18	#7	Soil		PASS		15.1	1.8	
	8/31/2017	10:26:09	#1	Cal Check	Passed					
NIST_ST_0831	8/31/2017	10:30:42	#2	Soil		PASS		12.3	1.9	
SI_ST_0831	8/31/2017	10:32:25	#3	Soil		PASS		<LOD	3.7	
PROP17_EXSC_001a	8/31/2017	10:56:06	#4	Soil		PASS	0-6	842	8	3pt comp of soil from front yard soil area
PROP17_EXSC_001b	8/31/2017	10:58:44	#5	Soil		PASS	0-6	942	9	3pt comp of soil from front yard soil area
PROP17_EXSC_001c	8/31/2017	11:04:53	#6	Soil		PASS	0-6	928	9	3pt comp of soil from front yard soil area
PROP17_EXSC_001d	8/31/2017	11:06:26	#7	Soil		PASS	0-6	937	9	3pt comp of soil from front yard soil area
PROP17_EXSC_001e	8/31/2017	11:07:55	#8	Soil		PASS	0-6	795	8	3pt comp of soil from front yard soil area
NIST_EN_0831	8/31/2017	15:53:25	#9	Soil		PASS		14.7	1.8	
SI_EN_0831	8/31/2017	15:55:32	#10	Soil		PASS		<LOD	3.8	
	9/6/2017	8:33:46	#1	Cal Check	Passed					
SI_ST_0906	9/6/2017	8:36:45	#2	Soil		PASS		<LOD	3.8	
NIST_ST_0906	9/6/2017	8:38:55	#3	Soil		PASS		<LOD	3.9	
PROP04_CFSS_001a	9/6/2017	9:45:47	#4	Soil		PASS	0-6	356	5	5pt comp of silty soil with gravelly fill from backyard gravel driveway area
PROP04_CFSS_001b	9/6/2017	9:47:30	#5	Soil		PASS	0-6	293	5	5pt comp of silty soil with gravelly fill from backyard gravel driveway area
PROP04_CFSS_001c	9/6/2017	9:49:13	#6	Soil		PASS	0-6	98	3	5pt comp of silty soil with gravelly fill from backyard gravel driveway area
PROP04_CFSS_001d	9/6/2017	9:52:06	#7	Soil		PASS	0-6	129	3	5pt comp of silty soil with gravelly fill from backyard gravel driveway area
PROP04_CFSS_001e	9/6/2017	9:53:37	#8	Soil		PASS	0-6	120	3	5pt comp of silty soil with gravelly fill from backyard gravel driveway area
PROP04_INSC_001	9/6/2017	10:12:39	#9	Soil		PASS	9	1340	12	2ft S of N Prop Line, 3ft W of E Prop Line
PROP04_INSC_002	9/6/2017	10:15:08	#10	Soil		PASS	10	151	3	3.5ft S of N Prop Line, 14ft W of E Prop Line
PROP04_INSC_003	9/6/2017	10:19:33	#11	Soil		PASS	3	154	4	2.5ft S of N Prop Line, 7ft E of W Prop Line
PROP04_INSC_004	9/6/2017	10:21:17	#13	Soil		PASS	3	15563	116	4.5ft S of N Prop Line, 2.5ft E of W Prop Line
PROP04_CFSS_001Ra	9/6/2017	10:32:23	#14	Soil		PASS	0-6	524	6	Rescreen of 5pt comp of silty soil with gravelly fill from backyard gravel driveway area
si-test	9/6/2017	10:34:00	#15	Soil		PASS		<LOD	3.7	
PROP04_CFSS_001Rb	9/6/2017	10:36:25	#16	Soil		PASS	0-6	389	5	Rescreen of 5pt comp of silty soil with gravelly fill from backyard gravel driveway area
PROP04_CFSS_001Rc	9/6/2017	10:37:47	#17	Soil		PASS	0-6	4574	32	Rescreen of 5pt comp of silty soil with gravelly fill from backyard gravel driveway area
PROP04_CFSS_001Rd	9/6/2017	10:39:24	#18	Soil		PASS	0-6	855	9	Rescreen of 5pt comp of silty soil with gravelly fill from backyard gravel driveway area
PROP04_CFSS_001Re	9/6/2017	10:40:48	#19	Soil		PASS	0-6	538	6	Rescreen of 5pt comp of silty soil with gravelly fill from backyard gravel driveway area

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Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Sample ID	Date	Time	Reading	Mode	Cal Check Status	Pass/Fail	Depth (Inches bgs)	Lead Result (ppm)	Error (+/-)	Screening Location
PROP16_INSC_001	9/6/2017	11:41:17	#20	Soil		PASS	15	520	6	11.5ft S of N Prop Line, 6ft E of W Prop Line
PROP16_INSC_002	9/6/2017	11:45:41	#21	Soil		PASS	12	1543	13	5.5ft S of N Prop Line, 7ft E of W Prop Line
PROP04_INSC_005	9/6/2017	13:43:09	#22	Soil		PASS	12	63	2	3ft W of Home, 14.5ft S of N Prop Line
PROP04_INSC_006	9/6/2017	13:44:42	#23	Soil		PASS	12	378	6	3ft W of Home, 13ft S of N Prop Line
PROP04_INSC_007	9/6/2017	13:46:37	#24	Soil		PASS	12	460	6	10ft S of N Prop Line, 14ft E of W Prop Line
PROP04_INSC_008	9/6/2017	13:49:44	#25	Soil		PASS	14	32	2	10ft S of N Prop Line, 14.5ft E of W Prop Line
PROP04_INSC_009	9/6/2017	13:52:46	#26	Soil		PASS	7	1650	38	6ft S of N Prop Line, 12.5ft W of E Prop Line
SI_EN_0906	9/6/2017	17:46:14	#27	Soil		PASS		<LOD	3.8	
NIST_EN_0906	9/6/2017	17:49:16	#28	Soil		PASS		11.3	1.8	
	9/7/2017	7:39:14	#1	Cal Check	Passed					
NIST_ST_0907	9/7/2017	7:41:04	#2	Soil		PASS		17.7	1.9	
SI_ST_0907	9/7/2017	7:43:12	#3	Soil		PASS		<LOD	3.7	
PROP04_INSC_010	9/7/2017	8:33:55	#5	Soil		PASS	8	49	2	24ft S of N Prop Line, 1ft W of Home
PROP04_INSC_011	9/7/2017	8:36:21	#6	Soil		PASS	12	927	11	5ft S of N Prop Line, 21ft W of E Prop Line
PROP04_INSC_012R	9/7/2017	8:40:07	#8	Soil		PASS	12	103	3	19.5ft S of N Prop Line, 6.5ft E of W Prop Line
PROP04_INSC_013	9/7/2017	8:43:04	#9	Soil		PASS	12	1962	16	34ft S of N Prop Line, 5ft W of Home
PROP04_INSC_014	9/7/2017	8:49:10	#10	Soil		PASS	12	48	2	33.5ft S of N Prop Line, 4ft E of W Prop Line
PROP04_INSC_015	9/7/2017	11:35:05	#11	Soil		PASS	8	4388	28	3.5ft E of W Prop Line, 40ft N of S Prop Line
PROP04_INSC_016	9/7/2017	11:37:22	#12	Soil		PASS	6	2291	18	4ft E of W Prop Line, 47ft N of S Prop Line
PROP04_INSC_017	9/7/2017	11:39:48	#13	Soil		PASS	12	5832	37	10ft E of W Prop Line, 52ft N of S Prop Line
PROP04_INSC_018	9/7/2017	11:43:37	#14	Soil		PASS	12	3228	24	4.5ft W of Home, 51ft N of S Prop Line
PROP04_INSC_019	9/7/2017	14:28:17	#15	Soil		PASS	12	457	5	4ft N of S Prop Line, 21ft W of E Prop Line
SI_EN_0907	9/7/2017	17:29:16	#16	Soil		PASS		<LOD	3.6	
NIST_EN_0907	9/7/2017	17:38:23	#17	Soil		PASS		<LOD	6	
	9/8/2017	10:08:09	#1	Cal Check	Passed					
NIST_ST_0908	9/8/2017	10:10:29	#2	Soil		PASS		13	1.8	
SI_ST_0908	9/8/2017	10:12:44	#3	Soil		PASS		<LOD	3.7	
PROP20_INSC_001	9/8/2017	10:22:04	#4	Soil		PASS	0	206	4	2.5ft E of W Prop Line, 3.5ft N of Concrete Wall in backyard
PROP20_INSC_002	9/8/2017	10:24:30	#5	Soil		PASS	0	183	3	5.5ft E of W Prop Line, 2.5ft N of Concrete Patio
PROP20_INSC_003	9/8/2017	10:30:19	#6	Soil		PASS	0	364	5	5ft W of E Prop Line, 2.5ft S of Concrete Wall in backyard
PROP20_INSC_004	9/8/2017	10:33:52	#7	Soil		PASS	0	228	4	10ft E of W Prop Line, 2ft N of Concrete Patio
PROP12_INSC_001	9/8/2017	11:37:03	#8	Soil		PASS	0	1682	14	13.5ft S of Home, 1ft W of E Prop Line
PROP04_INSC_020	9/8/2017	13:41:56	#9	Soil		PASS	6	83	3	7ft S of Home, 7ft W of Home
PROP04_INSC_021	9/8/2017	13:44:04	#10	Soil		PASS	6	2401	18	4.5ft E of W Prop Line, 34.5ft N of S Prop Line
PROP04_INSC_022	9/8/2017	13:46:59	#11	Soil		PASS	6	86	3	4ft E of W Prop Line, 31.5ft N of S Prop Line
PROP14_CSSC_001a	9/8/2017	14:57:29	#12	Soil		PASS	0-6	444	6	2pt comp collected from W grass backyard area
PROP14_CSSC_001b	9/8/2017	14:59:08	#13	Soil		PASS	0-6	420	5	2pt comp collected from W grass backyard area
PROP14_CSSC_001c	9/8/2017	15:04:55	#14	Soil		PASS	0-6	409	5	2pt comp collected from W grass backyard area
PROP14_CSSC_001d	9/8/2017	15:06:33	#15	Soil		PASS	0-6	369	5	2pt comp collected from W grass backyard area
PROP14_CSSC_001e	9/8/2017	15:08:02	#16	Soil		PASS	0-6	463	6	2pt comp collected from W grass backyard area
PROP14_INSC_001	9/8/2017	15:37:51	#17	Soil		PASS	0	165	3	3ft W of E Home, 9.5ft S of W Home
PROP14_INSC_002	9/8/2017	16:41:02	#18	Soil		PASS	0	756	8	3ft W of E Home, 4ft S of W Home
PROP14_INSC_003	9/8/2017	16:44:36	#19	Soil		PASS	6	691	7	3ft W of E Home, 11ft S of W Home
SI_EN_0908	9/8/2017	17:26:27	#20	Soil		PASS		4.5	1.3	
NIST_EN_0908	9/8/2017	17:28:08	#21	Soil		PASS		12	2	
	9/11/2017	8:08:54	#1	Cal Check	Passed					
SI_ST_0911	9/11/2017	8:12:17	#2	Soil		PASS		<LOD	3.8	
NIST_ST_0911	9/11/2017	8:14:29	#3	Soil		PASS		5.9	1.9	
Test_001_0911	9/11/2017	8:22:10	#4	Soil		PASS		1420	12	
test	9/11/2017	15:06:35	#19	Soil		PASS		4538	68	
PROP04_INSC_023	9/11/2017	15:12:36	#20	Soil		PASS	12	4714	32	4ft W of Home, 8.5ft S of the S End of Home
PROP04_INSC_024	9/11/2017	15:15:12	#21	Soil		PASS	24	222	4	2.5ft W of Home, 14.5ft S of the S End of Homee
PROP04_INSC_025	9/11/2017	15:18:16	#22	Soil		PASS	24	839	9	24.5ft N of S Prop Line, 19ft E of W Prop Line
PROP04_INSC_026	9/11/2017	15:21:14	#23	Soil		PASS	24	469	6	28.5ft N of S Prop Line, 14.5ft E of W Prop Line
PROP04_INSC_027	9/11/2017	15:23:06	#24	Soil		PASS	24	62	2	18ft N of S Prop Line, 11ft E of W Prop Line
PROP04_INSC_028	9/11/2017	15:25:07	#25	Soil		PASS	24	96	3	10.5ft N of S Prop Line, 6.5ft E of W Prop Line

Table 11
Summary of XRF Lead Screening Results and Locations
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Sample ID	Date	Time	Reading	Mode	Cal Check Status	Pass/Fail	Depth (Inches bgs)	Lead Result (ppm)	Error (+/-)	Screening Location
test1	9/11/2017	16:37:13	#26	Soil		PASS		112	5	
test1	9/11/2017	16:37:39	#27	Soil		PASS		1061	19	
test2	9/11/2017	16:38:14	#28	Soil		PASS		1175	25	
	9/12/2017	8:01:07	#1	Cal Check	Passed					
SI_ST_0912	9/12/2017	8:08:29	#2	Soil		PASS		<LOD	3.7	
NIST_ST_0912	9/12/2017	8:10:39	#3	Soil		PASS		15.6	1.8	
PROP04_ECS_004a	9/12/2017	8:24:56	#4	Soil		PASS	14-20	97	3	5 point composite collected from the front yard grass area
PROP04_ECS_004b	9/12/2017	8:28:46	#5	Soil		PASS	14-20	54	3	5 point composite collected from the front yard grass area
PROP04_ECS_004c	9/12/2017	8:30:15	#6	Soil		PASS	14-20	154	3	5 point composite collected from the front yard grass area
PROP04_ECS_004d	9/12/2017	8:32:07	#7	Soil		PASS	14-20	44	2	5 point composite collected from the front yard grass area
PROP04_ECS_004e	9/12/2017	8:33:39	#8	Soil		PASS	14-20	63	2	5 point composite collected from the front yard grass area
PROP17_INSC_001	9/12/2017	10:45:28	#9	Soil		PASS	12	412	6	11ft E of W Prop Line, 0.5ft S of N Prop Line
PROP17_INSC_002	9/12/2017	15:17:23	#10	Soil		PASS	12	491	6	13.5ft E of W Prop Line, 1ft S of N Prop Line
PROP17_INSC_003	9/12/2017	15:21:37	#11	Soil		PASS	14	224	4	18.5ft E of W Prop Line, 1ft S of N Prop Line
SI_EN_0912	9/12/2017	17:39:35	#12	Soil		PASS		4.7	1.3	
NIST_EN_0912	9/12/2017	17:41:29	#13	Soil		PASS		8.3	1.8	
	9/13/2017	9:52:30	#1	Cal Check	Passed					
NIST_ST_0913	9/13/2017	9:55:11	#2	Soil		PASS		10	2	
SI_ST_0913	9/13/2017	9:57:49	#3	Soil		PASS		<LOD	3.7	
PROP15_INSC_001	9/13/2017	10:05:43	#4	Soil		PASS	10	603	7	20.5ft N of Home, 8ft W of E Prop Line
PROP15_INSC_002	9/13/2017	13:40:18	#5	Soil		PASS	16	576	6	21ft N of Home, 9.5ft E of W Prop Line
PROP12_INSC_002	9/13/2017	14:19:57	#6	Soil		PASS	6	1053	11	4.5ft S of Home, 3ft W of E Prop Line
PROP12_INSC_003	9/13/2017	14:22:45	#7	Soil		PASS	14	202	3	13ft S of Home, 8ft E of W Prop Line
PROP12_INSC_004	9/13/2017	14:25:32	#8	Soil		PASS	14	540	8	14.5ft S of Home, 8ft W of E Prop Line
PROP12_INSC_005	9/13/2017	14:46:15	#9	Soil		PASS	19	946	10	2.5ft W of E Prop Line, 6ft S of Home
test_001_0913	9/13/2017	15:40:04	#10	Soil		PASS		869	9	
SI_EN_0913	9/13/2017	17:55:14	#11	Soil		PASS		<LOD	3.7	
NIST_EN_0913	9/13/2017	17:57:03	#12	Soil		PASS		9	2	
	9/14/2017	11:11:30	#1	Cal Check	Passed					
SI_ST_0914	9/14/2017	11:13:43	#2	Soil		PASS		<LOD	3.6	
NIST_ST_0914	9/14/2017	11:15:14	#3	Soil		PASS		9	1.9	
test_001_0914	9/14/2017	11:19:09	#4	Soil		PASS		4198	34	
test_002_0914	9/14/2017	11:22:43	#5	Soil		PASS		2286	17	
SI_EN_0914	9/14/2017	17:21:07	#11	Soil		PASS		<LOD	3.7	
NIST_EN_0914	9/14/2017	17:29:32	#12	Soil		PASS		13.3	1.9	
	9/15/2017	10:58:05	#1	Cal Check	Passed					
NIST_ST_0915	9/15/2017	11:00:27	#3	Soil		PASS		9.6	2	
SI_ST_0915	9/15/2017	11:02:51	#4	Soil		PASS		<LOD	3.7	
PROP17_INSC_004	9/15/2017	11:08:54	#5	Soil		PASS	0	570	7	3ft E of W Prop Line, 19.5ft S of Home
PROP17_INSC_005	9/15/2017	11:12:32	#6	Soil		PASS	0	391	5	4.5ft E of W Prop Line, 30ft S of Home
PROP17_INSC_006	9/15/2017	11:14:57	#7	Soil		PASS	0	260	4	8.5ft E of W Prop Line, 31.5ft S of Home
PROP17_INSC_007	9/15/2017	11:17:14	#8	Soil		PASS	0	547	6	14.5ft E of W Prop Line, 31ft S of Home
PROP17_INSC_008	9/15/2017	11:22:19	#9	Soil		PASS	0	338	5	5.5ft E of W Prop Line, 4.5ft N of Garage
PROP17_INSC_009	9/15/2017	11:24:00	#10	Soil		PASS	0	730	8	5.5ft E of W Prop Line, 1.5ft N of Garage
PROP17_INSC_010	9/15/2017	11:28:03	#11	Soil		PASS	0	299	4	11ft E of W Prop Line, 1.5ft N of Garage
PROP17_INSC_011	9/15/2017	11:34:57	#12	Soil		PASS	0	292	4	5.5ft W of E Prop Line, 4ft N of Garage
PROP17_INSC_012	9/15/2017	11:38:20	#13	Soil		PASS	0	466	6	1.5ft W of E Prop Line, 27.5ft S of Home
nist-en-0915	9/15/2017	16:11:33	#14	Soil		PASS	0	8	1.8	
si-en-0915	9/15/2017	16:15:05	#15	Soil		PASS	0	<LOD	3.7	

Table 11
Summary of XRF Lead Screening Results and Locations
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Sample ID	Date	Time	Reading	Mode	Cal Check Status	Pass/Fail	Depth (Inches bgs)	Lead Result (ppm)	Error (+/-)	Screening Location
	9/18/2017	8:28:31	#1	Cal Check	Passed					
si-st-0918	9/18/2017	8:30:50	#2	Soil		PASS	0	<LOD	3.6	
nist-st-0918	9/18/2017	8:33:29	#3	Soil		PASS	0	17.3	1.9	
PROP17_INSC_013	9/18/2017	8:40:21	#4	Soil		PASS	12	631	7	23ft S of Home, 6ft W of E Prop Line
PROP17_INSC_014	9/18/2017	8:46:18	#5	Soil		PASS	18	567	6	23ft S of Home, 6ft W of E Prop Line
PROP17_INSC_015	9/18/2017	8:50:32	#6	Soil		PASS	18	428	5	21.5ft S of Home, 12.5ft E of W Prop Line
PROP17_INSC_016	9/18/2017	9:09:19	#7	Soil		PASS	0	539	6	18.5ft S of Home, 1ft W of E Prop Line
PROP14_INSC_004	9/18/2017	14:17:27	#8	Soil		PASS	9	269	4	10.5fr N of Garage, 15ft W of E Prop Line
PROP14_INSC_005	9/18/2017	14:20:46	#9	Soil		PASS	9	331	5	5ft N of Garage, 20ft W of E Prop Line
PROP14_INSC_006	9/18/2017	14:24:14	#10	Soil		PASS	12	473	10	Same location as insc-005
PROP14_INSC_007	9/18/2017	16:32:47	#11	Soil		PASS	16	629	7	17ft W of E Prop Line, 6.5ft N of Garage
PROP14_INSC_008	9/18/2017	16:46:37	#12	Soil		PASS	16	695	8	16ft W of E Prop Line, 8ft N of Garage
PROP14_INSC_009	9/18/2017	16:48:58	#13	Soil		PASS	17	100	3	Same location as insc-008
si-en-0918	9/18/2017	17:03:22	#14	Soil		PASS		<LOD	3.7	
nist-en-0918	9/18/2017	17:05:02	#15	Soil		PASS		15.3	1.7	
	9/19/2017	10:32:58	#1	Cal Check	Passed					
si-st-0919	9/19/2017	10:34:48	#2	Soil		PASS		<LOD	3.7	
nist-st-0919	9/19/2017	10:37:20	#3	Soil		PASS		<LOD	5.8	
PROP14_INSC_010	9/19/2017	10:45:37	#4	Soil		PASS	9	774	8	18.5ft N of Garage, 4.5ft E of W Prop Line
PROP14_INSC_011	9/19/2017	10:47:07	#5	Soil		PASS	9	609	7	8ft N of Garage, 4.5ft E of W Prop Line
PROP14_INSC_012	9/19/2017	10:50:07	#6	Soil		PASS	15	1807	15	Same location as insc-011
PROP17_INSC_017	9/19/2017	11:17:04	#7	Soil		PASS	20	84	3	11ft E of W Prop Line, 24.5ft S of Home
PROP17_INSC_018	9/19/2017	11:20:09	#8	Soil		PASS	12	684	8	3ft E of W Prop Line, 17.5ft S of Home
PROP17_INSC_019	9/19/2017	11:23:05	#9	Soil		PASS	13	125	3	Same location as insc-018
test-001-0919	9/19/2017	11:27:04	#10	Soil		PASS		236	4	
test-002-0919	9/19/2017	11:29:10	#11	Soil		PASS		432	5	
test-003-0919	9/19/2017	14:38:48	#12	Soil		PASS		1078	11	
test-004-0919	9/19/2017	14:42:46	#13	Soil		PASS		530	7	
PROP14_INSC_013	9/19/2017	14:47:11	#14	Soil		PASS	12	396	6	4.5ft E of W Prop Line, 7ft N of Garage
PROP14_INSC_014	9/19/2017	14:50:17	#15	Soil		PASS	15	381	6	2.5ft E of W Prop Line, 16ft N of Garage
test-005-0919	9/19/2017	14:52:49	#16	Soil		PASS		95	3	
test-006-0919	9/19/2017	14:54:28	#17	Soil		PASS		97	3	
test-007-0919	9/19/2017	16:12:22	#18	Soil		PASS		244	7	
PROP17_ECS_005a	9/19/2017	16:15:12	#19	Soil		PASS	14-20	253	4	5 point composite collected from backyard grass area
PROP17_ECS_005b	9/19/2017	16:16:48	#20	Soil		PASS	14-20	224	4	5 point composite collected from backyard grass area
PROP17_ECS_005c	9/19/2017	16:19:42	#21	Soil		PASS	14-20	225	4	5 point composite collected from backyard grass area
PROP17_ECS_005d	9/19/2017	16:21:21	#22	Soil		PASS	14-20	302	5	5 point composite collected from backyard grass area
PROP17_ECS_005e	9/19/2017	16:22:48	#23	Soil		PASS	14-20	338	5	5 point composite collected from backyard grass area
test_008_0919	9/19/2017	16:35:20	#24	Soil		PASS		175	8	
test_008_0919b	9/19/2017	16:35:58	#25	Soil		PASS		381	16	
test_008_0919c	9/19/2017	16:36:33	#26	Soil		PASS		165	13	
PROP17_INSC_020	9/19/2017	16:42:01	#27	Soil		PASS	12	151	4	1.5ft N of Home, 7.5ft W of E Prop Line
PROP17_INSC_021	9/19/2017	16:43:47	#28	Soil		PASS	12	14.6	1.7	1.5ft N of Home, 10.5ft W of E Prop Line
PROP17_INSC_022	9/19/2017	16:45:57	#29	Soil		PASS	12	32	2	2ft N of Home, 14ft W of E Prop Line
NIST_EN_0919	9/19/2017	17:54:27	#30	Soil		PASS		<LOD	48	
NIST_EN_0919	9/19/2017	17:55:57	#31	Soil		PASS		14.1	1.8	
SI_EN_0919	9/19/2017	17:57:25	#32	Soil		PASS		<LOD	3.7	
	9/20/2017	10:02:19	#1	Cal Check	Passed					
SI_ST_0920	9/20/2017	10:04:20	#2	Soil		PASS		<LOD	3.8	
NIST_ST_0920	9/20/2017	10:14:37	#3	Soil		PASS		12	2	
PROP14_INSC_015	9/20/2017	10:34:11	#4	Soil		PASS	10	23.7	1.9	7ft E of W Prop Line, 18.5 S of Home
PROP14_INSC_016	9/20/2017	10:36:17	#5	Soil		PASS	10	43	2	7.5ft E of W Prop Line, 30ft S of Home
PROP14_INSC_017	9/20/2017	10:37:48	#6	Soil		PASS	10	44	2	13ft E of W Prop Line, 14ft S of Home
PROP14_INSC_018	9/20/2017	10:39:31	#7	Soil		PASS	10	136	3	16.5ft E of W Prop Line, 21ft S of Home

Table 11
Summary of XRF Lead Screening Results and Locations
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Sample ID	Date	Time	Reading	Mode	Cal Check Status	Pass/Fail	Depth (Inches bgs)	Lead Result (ppm)	Error (+/-)	Screening Location
SA_POST_002A	9/20/2017	12:35:45	#8	Soil		PASS	0	125	3	Sample HOC-SAS-POST-002 composite point location XRF screening at staging area
SA_POST_002B	9/20/2017	12:38:15	#9	Soil		PASS	0	82	3	Sample HOC-SAS-POST-002 composite point location XRF screening at staging area
SA_POST_002C	9/20/2017	12:41:26	#10	Soil		PASS	0	84	3	Sample HOC-SAS-POST-002 composite point location XRF screening at staging area
SA_POST_002D	9/20/2017	12:46:30	#11	Soil		PASS	0	116	3	Sample HOC-SAS-POST-002 composite point location XRF screening at staging area
SA_POST_002E	9/20/2017	12:49:41	#12	Soil		PASS	0	500	7	Sample HOC-SAS-POST-002 composite point location XRF screening at staging area
SA_POST_002E_01	9/20/2017	12:55:50	#13	Soil		PASS	0	240	4	XRF screening around SA_POST_002E to delineate lead concentrations
SA_POST_002E_02	9/20/2017	12:58:25	#14	Soil		PASS	0	174	3	XRF screening around SA_POST_002E to delineate lead concentrations
SA_POST_002E_03	9/20/2017	13:01:17	#15	Soil		PASS	0	155	3	XRF screening around SA_POST_002E to delineate lead concentrations
SA_POST_002E_04	9/20/2017	13:04:48	#16	Soil		PASS	0	187	4	XRF screening around SA_POST_002E to delineate lead concentrations
SA_POST_002E_05	9/20/2017	13:06:27	#17	Soil		PASS	0	241	4	XRF screening around SA_POST_002E to delineate lead concentrations
SA_POST_002E_06	9/20/2017	13:08:47	#18	Soil		PASS	0	249	5	XRF screening around SA_POST_002E to delineate lead concentrations
test-001-0920	9/20/2017	13:12:33	#19	Soil		PASS		420	6	
PROP14_ECS_006a	9/20/2017	14:57:56	#20	Soil		PASS	14-20	161	3	2 point composite collected from east grass backyard area
PROP14_ECS_006b	9/20/2017	14:59:31	#21	Soil		PASS	14-20	134	3	2 point composite collected from east grass backyard area
PROP14_ECS_006c	9/20/2017	15:01:32	#22	Soil		PASS	14-20	170	3	2 point composite collected from east grass backyard area
PROP14_ECS_006d	9/20/2017	15:03:45	#23	Soil		PASS	14-20	199	4	2 point composite collected from east grass backyard area
PROP14_ECS_006e	9/20/2017	15:05:11	#24	Soil		PASS	14-20	228	4	2 point composite collected from east grass backyard area
si-test-01	9/20/2017	15:07:07	#25	Soil		PASS		<LOD	3.7	
PROP14_ECS_007a	9/20/2017	15:08:57	#26	Soil		PASS	10-16	253	5	5 point composite collected from west grass backyard area
PROP14_ECS_007b	9/20/2017	15:10:42	#27	Soil		PASS	10-16	269	4	5 point composite collected from west grass backyard area
PROP14_ECS_007c	9/20/2017	15:12:08	#28	Soil		PASS	10-16	191	4	5 point composite collected from west grass backyard area
PROP14_ECS_007d	9/20/2017	15:15:15	#29	Soil		PASS	10-16	331	5	5 point composite collected from west grass backyard area
PROP14_ECS_007e	9/20/2017	15:16:56	#30	Soil		PASS	10-16	416	6	5 point composite collected from west grass backyard area
test_002_0920	9/20/2017	17:26:46	#31	Soil		PASS	2	699	8	
SI_EN_0920	9/20/2017	17:32:50	#32	Soil		PASS		<LOD	3.6	
NIST_EN_0920	9/20/2017	17:35:09	#33	Soil		PASS		8	2	
	9/21/2017	10:13:05	#1	Cal Check	Passed					
SI_ST_0921	9/21/2017	10:14:51	#2	Soil		PASS		<LOD	3.6	
NIST_ST_0921	9/21/2017	10:16:26	#3	Soil		PASS		13.8	1.9	
test-001-0921	9/21/2017	10:33:21	#4	Soil		PASS	12	398	9	
PROP14_INSC_019	9/21/2017	10:55:52	#5	Soil		PASS	9	257	5	7ft S of Home, 23ft E of W Prop Line
PROP14_INSC_020	9/21/2017	14:42:01	#6	Soil		PASS	9	147	3	14ft S of Home, 23ft E of W Prop Line
PROP14_INSC_021	9/21/2017	14:44:16	#8	Soil		PASS	9	228	4	12ft S of Home, 19ft E of W Prop Line
NIST_EN_0921	9/21/2017	16:41:50	#9	Soil		PASS		14.8	1.9	
SI_EN_0921	9/21/2017	17:01:21	#10	Soil		PASS		<LOD	3.6	
	9/22/2017	7:14:46	#1	Cal Check	Passed					
SI_ST_0922	9/22/2017	7:16:26	#2	Soil		PASS		<LOD	3.6	
NIST_ST_0922	9/22/2017	7:17:59	#3	Soil		PASS		16.1	1.8	
PROP14_ECS_008a	9/22/2017	7:21:14	#4	Soil		PASS	9-15	90	3	3 point composite collected from backyard garden area
PROP14_ECS_008b	9/22/2017	7:25:11	#5	Soil		PASS	9-15	97	3	3 point composite collected from backyard garden area
PROP14_ECS_008c	9/22/2017	7:28:57	#6	Soil		PASS	9-15	101	3	3 point composite collected from backyard garden area
PROP14_ECS_008d	9/22/2017	7:32:46	#7	Soil		PASS	9-15	114	3	3 point composite collected from backyard garden area
PROP14_ECS_008e	9/22/2017	7:35:42	#8	Soil		PASS	9-15	227	4	3 point composite collected from backyard garden area

Notes:

336 = Lead concentration greater than the conservative excavation area XRF screening goal of 290 ppm
445 = Lead concentration greater than the EPA residential RML of 400 ppm

bgs = below ground surface
Cal Check = Calibration Check
CFSS = confirmation soil screening
Comp = Composite
CSSC = confirmation soil screening
E = East
ECS = Excavation Confirmation Sample
EN = End
EPA = U.S. Environmental Protection Agency
EXCS = excavation soil confirmation
ft = Feet
HOC = Heart of Chicago
INSC = In situ screen
<LOD = less than the limit of detection
N = North
NIST = National Institute of Standards and Technology Standard Reference Material 2781
ppm = parts per million
Prop = Property
RML = removal management level
SA = staging area
S = South
SI = Silica (SiO_2) Standard
ST = Start
W = West

Table 12
Excavation Confirmation Samples - XRF Screening and Lab Results for Lead
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Property #	Weston Property ID #	Sample ID	Date Collected	Time Collected	Sample Interval (in bgs)	Lead Concentration (mg/kg)				EPA Residential Soil RML for Lead (mg/kg)[1,2]	Comment
						XRF Screening Result	XRF Error (+/-)	Lab Data	Data Qualifier		
3	PA-473	HOC-ECS-003	8/24/2017	1545	16-22	39.2	2.0	25.1	J+	400	5 point composite collected from backyard
4	PA-474	HOC-ECS-004	9/11/2017	1630	14-20	82.4	2.6	55		400	5 point composite collected from the front yard grass area
19	PA-507	HOC-ECS-002	8/8/2017	1630	12-18	147	3	129		400	5 point composite collected from backyard
14	PA-486	HOC-ECS-006	9/20/2017	1405	14-20	178	3.4	89.6		400	2 point composite collected from east grass backyard area
14	PA-486	HOC-ECS-007	9/20/2017	1425	10-16	292	4.8	361		400	5 point composite collected from west grass backyard area
14	PA-486	HOC-ECS-008	9/21/2017	1455	9-15	125	3.2	85.4		400	3 point composite collected from backyard garden area
17	PA-502	HOC-ECS-005	9/19/2017	1600	14-20	268	4.4	320		400	5 point composite collected from backyard grass area
21	NA	HOC-ECS-001	8/3/2017	1055	15-21	71.9	2.4	20.1	J-	400	5 point composite collected from front yard grass area

Notes:

bgs - below ground surface
ECS - Excavation Confirmation Sample
EPA - United States Environmental Protection Agency
HOC - Heart of Chicago
in - inches
mg/kg - Milligrams per kilogram
NA - Not Available
RML - Removal Management Level
RP - Results Pending
XRF - X-ray Fluorescence

J+ = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J- = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.

1 - Analytical results compared to EPA Removal Management Levels (RMLs) for Residential Soil (10^{-4} risk level for carcinogens or a Hazard Quotient (HQ) of 3 for non-carcinogens) (July 2017)
2 - The applicable standards can be located here: https://www.epa.gov/risk/regional-removal-management-levels-chemicals-rmls

APPENDIX E
SUMMARY TABLE 13 AND WASTE MANIFESTS

Table 13
Waste Manifest Summary
Heart of Chicago Removal Site
Chicago, Cook County, Illinois

Waste Stream	Medium	Quantity (Cubic Yards)	Manifest #	Treatment	Date	Disposal Facility
Low Level Lead contaminated Soil	Soil	60	HOC001	None	8/16/2017	Laraway RDF Landfill, Joliet, IL
Low Level Lead contaminated Soil	Soil	60	HOC002	None	8/17/2017	Laraway RDF Landfill, Joliet, IL
Low Level Lead contaminated Soil	Soil	60	HOC003	None	8/28/2017	Laraway RDF Landfill, Joliet, IL
Low Level Lead contaminated Soil	Soil	60	HOC004	None	8/29/2017	Laraway RDF Landfill, Joliet, IL
Low Level Lead contaminated Soil	Soil	60	HOC005	None	8/30/2017	Laraway RDF Landfill, Joliet, IL
Low Level Lead contaminated Soil	Soil	40	HOC006	None	8/31/2017	Laraway RDF Landfill, Joliet, IL
Low Level Lead contaminated Soil	Soil	60	HOC007	None	9/18/2017	Laraway RDF Landfill, Joliet, IL
Low Level Lead contaminated Soil	Soil	60	HOC008	None	9/18/2017	Laraway RDF Landfill, Joliet, IL
Low Level Lead contaminated Soil	Soil	40	HOC009	None	9/19/2017	Laraway RDF Landfill, Joliet, IL
Low Level Lead contaminated Soil	Soil	40	HOC010	None	8/18/2017	Laraway RDF Landfill, Joliet, IL
Low Level Lead contaminated Soil	Soil	60	HOC11	None	9/20/2017	Laraway RDF Landfill, Joliet, IL
Low Level Lead contaminated Soil	Soil	40	HOC12	None	9/21/2017	Laraway RDF Landfill, Joliet, IL
Low Level Lead contaminated Soil	Soil	60	HOC13	None	9/22/2017	Laraway RDF Landfill, Joliet, IL
Low Level Lead contaminated Soil	Soil	60	HOC14	None	9/22/2017	Laraway RDF Landfill, Joliet, IL
Low Level Lead contaminated Soil	Soil	20	HOC15	None	9/23/2017	Laraway RDF Landfill, Joliet, IL

Notes:
HOC = Heart of Chicago
RDF = Recycling and Disposal Facility

HOC001
8-16-17

Industrial Waste Tracking Receipt (Non-Special)
Profile Number: 618081IL
Expiration Date: 8/9/2018
2 Copies needed with each driver on their 1st load of each day

Section A **Generator Information**

Generator Name: USEPA/Heart of Chicago

Technical Contact and Phone: Craig Thomas 312-802-9637

Street Address: 2459 S Blue Island Ave., Chicago IL 60608

County: cook

On Site Contact: Mark Douglas

Waste Name: low level lead contaminated soil

Volume/Number of Drums: 20 yd³

Special Conditions:

NO Generator Signature Required

Section B **TRANSPORTER INFORMATION**

Transporter: TERA Trucking #54

Driver Signature:

Truck Number: #54 **Date:** 08-16-17

Section C **DISPOSAL SITE INFORMATION**

Site Name: Laraway

Authorized Signature **Date (MM/DD/YY)**

Load 1 20 yd³ Load 2 20 yd³ Load 3 20 yd³ Load 4 _____ Load 5 _____

HOC 002

WASTE MANAGEMENT

Industrial Waste Tracking Receipt (Non-Special)
Profile Number: 618081IL
Expiration Date: 8/9/2018
2 Copies needed with each driver on their 1st load of each day

Section A **Generator Information**

Generator Name: USEPA/Heart of Chicago

Technical Contact and Phone: Craig Thomas 312-802-9637

Street Address: 2459 S Blue Island Ave., Chicago IL 60608

County: cook

On Site Contact: Mark Douglas

Waste Name: low level lead contaminated soil

Volume/Number of Drums: 20yd

Special Conditions:

NO Generator Signature Required

Section B **TRANSPORTER INFORMATION**

Transporter: ENO INC.

Driver Signature: Oscar Herrera

Truck Number: 275 **Date:** 8-17-17

Section C **DISPOSAL SITE INFORMATION**

Site Name: Laraway

Authorized Signature **Date (MM/DD/YY)**

Load 1 20yd³ Load 2 20yd³ Load 3 20yd³ Load 4 _____ Load 5 _____

HOC 003
8-28-17

Industrial Waste Tracking Receipt (Non-Special)
Profile Number: 618081IL
Expiration Date: 8/9/2018
2 Copies needed with each driver on their 1st load of each day

Section A **Generator Information**

Generator Name: USEPA/Heart of Chicago

Technical Contact and Phone: Craig Thomas 312-802-9637

Street Address: 2459 S Blue Island Ave., Chicago IL 60608

County: cook

On Site Contact: Mark Douglas

Waste Name: low level lead contaminated soil

Volume/Number of Drums: 20 yd3

Special Conditions:

NO Generator Signature Required

Section B **TRANSPORTER INFORMATION**

Transporter: J&D Eno inc.

Driver Signature: Juan M A.

Truck Number: 426 **Date:** 8-28-17

Section C **DISPOSAL SITE INFORMATION**

Site Name: Laraway

C.T. Stamp

Authorized Signature **Date (MM/DD/YY)**

Load 1 20 yd3 Load 2 20 yd3 Load 3 20 yd3 Load 4 _____ Load 5 _____

HOC 004

Industrial Waste Tracking Receipt (Non-Special)
Profile Number: 618081IL
Expiration Date: 8/9/2018
2 Copies needed with each driver on their 1st load of each day

Section A **Generator Information**

Generator Name: USEPA/Heart of Chicago

Technical Contact and Phone: Craig Thomas 312-802-9637

Street Address: 2459 S Blue Island Ave., Chicago IL 60608

County: cook

On Site Contact: Mark Douglas

Waste Name: low level lead contaminated soil

Volume/Number of Drums: 20 yd³

Special Conditions:

NO Generator Signature Required

Section B **TRANSPORTER INFORMATION**

Transporter: ISAMAR TRUCKING

Driver Signature: Isaia Garcia

Truck Number: 922 **Date:** 8/29/17

Section C **DISPOSAL SITE INFORMATION**

Site Name: Laraway

Authorized Signature **Date (MM/DD/YY)**

Load 1 20yd³ Load 2 20yd³ Load 3 20yd³ Load 4 _____ Load 5 _____

HOC 005

Industrial Waste Tracking Receipt (Non-Special)
Profile Number: 618081IL
Expiration Date: 8/9/2018
2 Copies needed with each driver on their 1st load of each day

Section A **Generator Information**

Generator Name: USEPA/Heart of Chicago

Technical Contact and Phone: Craig Thomas 312-802-9637

Street Address: **2459 S Blue Island Ave., Chicago IL 60608**

County: cook

On Site Contact: Mark Douglas

Waste Name: low level lead contaminated soil

Volume/Number of Drums: 20 yd3

Special Conditions:

NO Generator Signature Required

Section B **TRANSPORTER INFORMATION**

Transporter: Leveta Trucking ~~121~~

Driver Signature: Cunell Brow

Truck Number: 121 **Date:** 08-30-17

Section C **DISPOSAL SITE INFORMATION**

Site Name: Laraway

Authorized Signature **Date (MM/DD/YY)**

Load 1 20yd3 Load 2 20yd3 Load 3 20yd3 Load 4 _____ Load 5 _____

Hsc 000

Industrial Waste Tracking Receipt (Non-Special)
Profile Number: 618081IL
Expiration Date: 8/9/2018
2 Copies needed with each driver on their 1st load of each day

Section A **Generator Information**

Generator Name: USEPA/Heart of Chicago

Technical Contact and Phone: Craig Thomas 312-802-9637

Street Address: **2459 S Blue Island Ave., Chicago IL 60608**

County: cook

On Site Contact: Mark Douglas

Waste Name: low level lead contaminated soil

Volume/Number of Drums: 20 yd3

Special Conditions:

NO Generator Signature Required

Section B **TRANSPORTER INFORMATION**

Transporter: TEPASON TRUCK INC.

Driver Signature: Arturo Flores

Truck Number: 57 **Date:** 8.31.17

Section C **DISPOSAL SITE INFORMATION**

Site Name: Laraway

Authorized Signature **Date (MM/DD/YY)**

Load 1 20 yd3 Load 2 20 yd3 Load 3 _____ Load 4 _____ Load 5 _____

HOC 007

Industrial Waste Tracking Receipt (Non-Special)
Profile Number: 618081IL
Expiration Date: 8/9/2018
2 Copies needed with each driver on their 1st load of each day

Section A **Generator Information**

Generator Name: USEPA/Heart of Chicago

Technical Contact and Phone: Craig Thomas 312-802-9637

Street Address: 2459 S Blue Island Ave., Chicago IL 60608

County: cook

On Site Contact: Mark Douglas

Waste Name: low level lead contaminated soil

Volume/Number of Drums: 20 yd

Special Conditions:

NO Generator Signature Required

Section B **TRANSPORTER INFORMATION**

Transporter: Tepa Trucking

Driver Signature: [signature]

Truck Number: 54 **Date:** 09-18-17

Section C **DISPOSAL SITE INFORMATION**

Site Name: Laraway

Authorized Signature **Date (MM/DD/YY)**

Load 1 20 yd3 Load 2 20 yd3 Load 3 20 yd3 Load 4 _____ Load 5 _____

HOC008

Industrial Waste Tracking Receipt (Non-Special)
Profile Number: 618081IL
Expiration Date: 8/9/2018
2 Copies needed with each driver on their 1st load of each day

Section A **Generator Information**

Generator Name: USEPA/Heart of Chicago

Technical Contact and Phone: Craig Thomas 312-802-9637

Street Address: 2459 S Blue Island Ave., Chicago IL 60608

County: cook

On Site Contact: Mark Douglas

Waste Name: low level lead contaminated soil

Volume/Number of Drums: 20yd

Special Conditions:

NO Generator Signature Required

Section B **TRANSPORTER INFORMATION**

Transporter: TEPASON TRUCK-INC

Driver Signature: [signature]

Truck Number: 57 **Date:** 9.18.17

Section C **DISPOSAL SITE INFORMATION**

Site Name: Laraway

Authorized Signature **Date (MM/DD/YY)**

Load 1 20yd3 Load 2 20yd3 Load 3 20yd3 Load 4 _____ Load 5 _____

HDC009

WASTE MANAGEMENT

Industrial Waste Tracking Receipt (Non-Special)
Profile Number: 618081IL
Expiration Date: 8/9/2018
2 Copies needed with each driver on their 1st load of each day

Section A **Generator Information**

Generator Name: USEPA/Heart of Chicago

Technical Contact and Phone: Craig Thomas 312-802-9637

Street Address: 2459 S Blue Island Ave., Chicago IL 60608

County: cook

On Site Contact: Mark Douglas

Waste Name: low level lead contaminated soil

Volume/Number of Drums: 20yd3

Special Conditions:

NO Generator Signature Required

Section B **TRANSPORTER INFORMATION**

Transporter: J W I G

Driver Signature:

Truck Number: #16 **Date:** 9-19-17

Section C **DISPOSAL SITE INFORMATION**

Site Name: Laraway

Authorized Signature **Date (MM/DD/YY)**

Load 1 20yd3 Load 2 20yd3 Load 3 _____ Load 4 _____ Load 5 _____

Hoc 010

WASTE MANAGEMENT

Industrial Waste Tracking Receipt (Non-Special)
Profile Number: 618081IL
Expiration Date: 8/9/2018
2 Copies needed with each driver on their 1st load of each day

Section A **Generator Information**

Generator Name: USEPA/Heart of Chicago

Technical Contact and Phone: Craig Thomas 312-802-9637

Street Address: 2459 S Blue Island Ave., Chicago IL 60608

County: cook

On Site Contact: Mark Douglas

Waste Name: low level lead contaminated soil

Volume/Number of Drums: 20 yd3

Special Conditions:

NO Generator Signature Required

Section B **TRANSPORTER INFORMATION**

Transporter: VESTAL BVD2

Driver Signature:

Truck Number: 202 **Date:** 9-19-17

Section C **DISPOSAL SITE INFORMATION**

Site Name: Laraway

Authorized Signature **Date (MM/DD/YY)**

Load 1 20 yd3 Load 2 20 yd3 Load 3 _____ Load 4 _____ Load 5 _____

HOC 011

WASTE MANAGEMENT

Industrial Waste Tracking Receipt (Non-Special)
Profile Number: 618081IL
Expiration Date: 8/9/2018
2 Copies needed with each driver on their 1st load of each day

Section A **Generator Information**

Generator Name: USEPA/Heart of Chicago

Technical Contact and Phone: Craig Thomas 312-802-9637

Street Address: 2459 S Blue Island Ave., Chicago IL 60608

County: cook

On Site Contact: Mark Douglas

Waste Name: low level lead contaminated soil

Volume/Number of Drums: 20 yd³

Special Conditions:

NO Generator Signature Required

Section B **TRANSPORTER INFORMATION**

Transporter: TEPASON TRUCK. INC.

Driver Signature: Thomas Lowe

Truck Number: 57 **Date:** 9-20-17

Section C **DISPOSAL SITE INFORMATION**

Site Name: Laraway

Authorized Signature **Date (MM/DD/YY)**

Load 1 20 yd³ Load 2 20. yd³ Load 3 20 yd³ Load 4 _____ Load 5 _____

HOC012

Industrial Waste Tracking Receipt (Non-Special)
Profile Number: 618081IL
Expiration Date: 8/9/2018
2 Copies needed with each driver on their 1st load of each day

Section A **Generator Information**

Generator Name: USEPA/Heart of Chicago

Technical Contact and Phone: Craig Thomas 312-802-9637

Street Address: 2459 S Blue Island Ave., Chicago IL 60608

County: cook

On Site Contact: Mark Douglas

Waste Name: low level lead contaminated soil

Volume/Number of Drums: 20 yd3

Special Conditions:

NO Generator Signature Required

Section B **TRANSPORTER INFORMATION**

Transporter: Leon's Trucking

Driver Signature: Edwin Roets

Truck Number: 162 **Date:** 09-21-17

Section C **DISPOSAL SITE INFORMATION**

Site Name: Laraway

Authorized Signature **Date (MM/DD/YY)**

Load 1 20 yd3 Load 2 20 yd3 Load 3 _____ Load 4 _____ Load 5 _____

HOC 013

Industrial Waste Tracking Receipt (Non-Special)
Profile Number: 618081IL
Expiration Date: 8/9/2018
2 Copies needed with each driver on their 1st load of each day

Section A — Generator Information

Generator Name: USEPA/Heart of Chicago

Technical Contact and Phone: Craig Thomas 312-802-9637

Street Address: 2459 S Blue Island Ave., Chicago IL 60608

County: cook

On Site Contact: Mark Douglas

Waste Name: low level lead contaminated soil

Volume/Number of Drums: 20.43

Special Conditions:

NO Generator Signature Required

Section B — TRANSPORTER INFORMATION

Transporter: Leah's Trucking

Driver Signature: Edwin Powell

Truck Number: 162 Date: 09-22-17

Section C — DISPOSAL SITE INFORMATION

Site Name: Laraway

Authorized Signature Date (MM/DD/YY)

Load 1 20.43 Load 2 20.43 Load 3 20.41 Load 4 _____ Load 5 _____

HOC014

WASTE MANAGEMENT

Industrial Waste Tracking Receipt (Non-Special)
Profile Number: 618081IL
Expiration Date: 8/9/2018
2 Copies needed with each driver on their 1st load of each day

Section A **Generator Information**

Generator Name: USEPA/Heart of Chicago

Technical Contact and Phone: Craig Thomas 312-802-9637

Street Address: 2459 S Blue Island Ave., Chicago IL 60608

County: cook

On Site Contact: Mark Douglas

Waste Name: low level lead contaminated soil

Volume/Number of Drums: 20 yd3

Special Conditions:

NO Generator Signature Required

Section B **TRANSPORTER INFORMATION**

Transporter: Tejda Transport Env 104

Driver Signature:

Truck Number: 104 Date: Sept 22, 2017

Section C **DISPOSAL SITE INFORMATION**

Site Name: Laraway

Authorized Signature Date (MM/DD/YY)

Load 1 20 yd3 Load 2 20 yd3 Load 3 20 y3 Load 4 _____ Load 5 _____

HOC 015

WASTE MANAGEMENT

Industrial Waste Tracking Receipt (Non-Special)
Profile Number: 618081IL
Expiration Date: 8/9/2018
2 Copies needed with each driver on their 1st load of each day

Section A — Generator Information

Generator Name: USEPA/Heart of Chicago

Technical Contact and Phone: Craig Thomas 312-802-9637

Street Address: 2459 S Blue Island Ave., Chicago IL 60608

County: cook

On Site Contact: Mark Douglas

Waste Name: low level lead contaminated soil

Volume/Number of Drums: 20 yd3

Special Conditions:

NO Generator Signature Required

Section B — TRANSPORTER INFORMATION

Transporter: Josh's Trucking

Driver Signature: Edwin Rivera

Truck Number: 162 Date: 09-23-17

Section C — DISPOSAL SITE INFORMATION

Site Name: Laraway

Authorized Signature Date (MM/DD/YY)

Load 1 20 yd3 Load 2 _____ Load 3 _____ Load 4 _____ Load 5 _____

APPENDIX F

ENVIRONMENTALLY PREFERRED PRACTICES

TDD #:	0001-1706-002
Site Name:	Heart of Chicago Removal Site
Site City, State:	Chicago, IL
Site Project Manager:	Paul Pallardy
EPA OSC:	Craig Thomas

Environmentally Preferred General Field Practices				
If a general category is not applicable, then check N/A for the category box, not for each subcategory.	N= Not Used	N/A= Not Applicable	Y = Yes Implemented	**Comments Section** Justify in the comments for each BMP field as to why the practice was not used, not applicable, or implemented.
Energy				
Use of Energy Efficient Equipment				
Computer Equipment (FEMP/Energy Star)			**Y**	Dell Energy Star qualified computer was utilized
Installation of Electric Service			**Y**	Generator set up by ERRS contractor used during the day. However, START utilized a solar panel system to charge equipment overnight.
Reduce Carbon Emissions from Transportation				
Use Internet Based Meetings/Conferences			**Y**	Calls were utilized for all project discussions
Maximize Carpooling			**Y**	Carpooling utilized when two START personnel were onsite
Use of Local Labor/Suppliers/Waste Disposal Facilities (50 mile radius)			**Y**	START utilized local labor when possible, suppliers and disposal also local
No idling, except for extreme weather conditions			**Y**	
Use of Alternative Fuels, if available within 10 miles		**N/A**		Rental car
Properly Inflated Tires			**Y**	Rental car guaranteed properly inflated tires
Email Small Files (less than 8MB)			**Y**	All files were emailed
Reusable Electronic Storage Media or the Cloud			**Y**	Utilized Tetra Tech START server storage
Water				
Use of Low Flow Sampling Pumps		**N/A**		Not applicable to the sampling being conducted (soil sampling)
Waste				
Use of Local Recycling Programs			**Y**	Recycled when possible
Use of Rechargeable Batteries			**Y**	Rechargeable batteries utilized for all electronics
Recycling – Other			**Y**	Recycled when possible
Plastic Reduction			**Y**	Use of plastic minimized

Environmentally Preferred General Field Practices				
If a general category is not applicable, then check N/A for the category box, not for each subcategory.	N= Not Used	N/A= Not Applicable	Y = Yes Implemented	**Comments Section** Justify in the comments for each BMP field as to why the practice was not used, not applicable, or implemented.
Reuse of Resources			**Y**	Resources reused when possible
Direct Push Boring	**N**			Hand trowels utilized for soil sampling
Materials				
Printing when Required				
Double-sided Printing			**Y**	
100% post-consumer recycled paper			**Y**	Recycled paper was utilized
Land & Ecosystems				
Minimize Disruption to Natural Vegetation			**Y**	Hand trowel sampling was utilized with minimal disruption to the natural vegetation. Sample locations were all restored to original state following sample collection.
Use of Non-invasive Investigation Techniques			**Y**	Hand trowel sampling was utilized with minimal disruption to the natural vegetation. Sample locations were all restored to original state following sample collection.
Environmentally Preferred				
Green Procurement				
Environmentally Preferred Vendors			**Y**	CT Labs was utilized for the majority of analytical services (see below)
Green Lodging/Hotels		**N/A**		Local site, no hotel stays for START
Use of Green Laboratories			**Y**	CT Labs was utilized for analytical services. CT Laboratories LLC recycles 90-95% of plastic, paper, boxes, and packaging; reduced sample volume for analyses in the metals, wet chemistry, and semi-volatile laboratories, which downscaled solvent volumes, bottle size and disposal of non-hazardous soils and solid materials; utilizes energy efficient lighting throughout laboratory

TDD #:	0001-1706-002
Site Name:	Heart of Chicago Removal Site
Site City, State:	Chicago, IL
Site Project Manager:	Paul Pallardy
EPA OSC:	Craig Thomas

Green Metrics		
Metric	**Amount**	**Unit of Measure**
Diesel Fuel Used		gallons
Distance Traveled[1]	357.50	Miles
Unleaded Fuel Used[2]	13.59	gallons
Alternative/E-85 Fuel Used		gallons
Electricity from Coal		kW
Electricity from Natural Gas		kW
Electricity from solar/wind	1.394	kW
Electricity from grid/mix		kW
Solid waste reused[3]	271.84	lbs
Solid waste recycled[3]	50	lbs
Water Used[3]	20,000	gallons

Greenhouse Gas Emissions (Site Specific)					
Source	**Amount Used**	**Unit of Measure**	**Methane (CH4) (Grams)[4]**	**Nitrous Oxide (N_2O) (Grams)[4]**	**Carbon Dioxide (CO2) (Kilograms)[5]**
Gasoline	13.59	X gallons	2.36	5.83	121.12
Diesel		X gallons			
E-85		X gallons			
Electricity Office		X Kilowatts			
Natural Gas		X Therms			
Solid Waste		X lbs			
Other		X Unit of Measure			

Note:

[1] Distance traveled based on number of trips between the Heart of Chicago Removal site in Chicago, IL and Tetra Tech's Chicago Office (6.5 miles) in a large sport utility vehicle. A total of 55 trips were made by one Tetra Tech START personnel totaling 357.5 miles.

[2] Fuel consumption based on distance traveled in a large sport utility vehicle. An average fuel efficiency of 26.3 miles per gallon was assumed based on 2014 light duty truck fuel efficiency from "Average Fuel Efficiency of U.S. Light Duty Vehicles," U.S. Department of Transportation, Bureau of Statistics Table 4-23 (Accessed online at http://www.rita.dot.gov/bts/sites/rita.dot.gov.bts/files/publications/national_transportation_statistics/html/table_04_23.html on December 9, 2016).

[3] Amount of solid waste reused, solid waste recycled, and water used taken from the Final POLREP generated for the Heart of Chicago

[4] Methane and nitrous oxide emissions based on emission factors of 0.0066 and 0.0163 grams per mile for EPA Tier 2 light duty gasoline trucks from "Voluntary Reporting of Greenhouse Gases Program, Fuel Emission Coefficients, Table 5" (Accessed online at http://205.254.135.7/oiaf/1605/coefficients.html on December 9, 2016)

[5] Carbon dioxide emissions based on emission factors of 8.91 kilograms carbon dioxide per gallon of gasoline and 10.15 kilograms carbon dioxide per gallon of diesel fuel from "Voluntary Reporting of Greenhouse Gases Program, Fuel Emission Coefficients, Table 2" (Accessed online at http://205.254.135.7/oiaf/1605/coefficients.html on November 14, 2016).