Pre-Design Investigation Report
837 Bailey Avenue Offsite IRM
South Properties
Buffalo, New York

Site Number C915298A

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Table of Contents

Section **Page**

1 Introduction 1-1

2 Investigation Summary 2-1
2.1 Pre-field Investigation Activities 2-1
2.2 Direct-push Soil Borings and Test Pit Samples 2-1
2.3 Investigation-derived Waste Management 2-3
2.4 Sample Handling and Analysis 2-3
2.5 Quality Assurance/Quality Control 2-3
2.6 Data Review 2-4

3 Analytical Results Discussion 3-1
3.1 Initial Analytical Results Statistics 3-1
3.2 Contaminant Distribution 3-2
3.3 South Properties Analytical Results 3-3

4 Conclusions 4-1

5 References 5-1

Appendix

A Analytical Results Figures for South Properties A-1

B Soil Boring Logs B-1

C Laboratory Reports C-1

D Data Usability Summary Reports D-1

List of Tables

Table		Page
1	Sampling Concentration Statistics	T-3
2	Soil Sample Descriptions	T-4

List of Figures

Figure **Page**

1 837 Bailey Avenue Off-site..... F-3

2 Arsenic and Lead Concentrations in Soil, 0 - 3 Inch Depth Interval..... F-5

3 Arsenic and Lead Concentrations in Soil, 3 - 6 Inch Depth Interval..... F-7

4 Arsenic and Lead Concentrations in Soil, 6 - 9 Inch Depth Interval..... F-9

5 Arsenic and Lead Concentrations in Soil, 9 - 12 Inch Depth Interval..... F-11

6 Arsenic and Lead Concentrations in Soil, 12 - 18 Inch Depth Interval..... F-13

7 Arsenic and Lead Concentrations in Soil, 18 - 24 Inch Depth Interval..... F-15

List of Abbreviations and Acronyms

DER	Division of Environmental Remediation
DUSR	Data Usability Summary Report
E & E	Ecology and Environment Engineering and Geology, P.C.
EPA	(U.S.) Environmental Protection Agency
LaBella	LaBella Associates
mg/kg	milligrams per kilogram
MS	matrix spike
MSD	matrix spike duplicate
NYSDEC	New York State Department of Environmental Conservation
PDI	pre-design investigation report
ppm	parts per million
QA	quality assurance
QC	quality control
QAPP	Quality Assurance Project Plan
ROW	right of way
SCO	soil cleanup objective
TestAmerica	Eurofins TestAmerica Laboratories, Inc.

1 Introduction

Pursuant to Work Assignment Number D009807-08, Ecology and Environment Engineering and Geology, P.C. (E & E) prepared this pre-design investigation report (PDI) on behalf of the New York State Department of Environmental Conservation (NYSDEC), Division of Environmental Remediation (DER). This report contains a summary and evaluation of findings for sampling performed at the residential/commercial properties in a portion of the off-site area south of the 837 Bailey Avenue site in the city of Buffalo, New York, Site Number C915298A (see Figure 1).

The 837 Bailey Avenue site (site) is approximately 8.7 acres and is located in an urban area in the city of Buffalo near the intersection of Dingens Street and Bailey Avenue. A mix of commercial and residential properties surrounds the site. The Buffalo River is located approximately 0.75 miles south of the property, and the I-190 (Niagara Thruway) is located approximately 0.5 miles south and east of the property. The primary site is comprised of filled land with no existing building structures and is mostly enclosed with fencing. The property was used as an auto salvage/wrecking facility from at least 1940 to 2014, an automotive repair facility from at least 1946 to 1986, a tire recapping facility until at least 1950, and a filling station from at least 1946 to 1950 (EnSol, Inc. 2019).

Prior to remediation of the site, the primary contaminants of concern were metals (arsenic, barium, cadmium, copper, lead, and mercury) and polycyclic aromatic hydrocarbons. Remedial actions have successfully achieved soil cleanup objectives (SCOs) for commercial use and a cover system is in place. A certificate of completion was issued on December 20, 2019, for this remedial action, and residual contamination at the site is managed under a site management plan.

The properties discussed in this report include those in a portion of the off-site area, south of and contiguous with the primary site. There are eight parcels on Peru Place (16, 18, 20, 24, 26, 28, 32, and 36 Peru Place) and two parcels on Bailey Avenue (817 and 825 Bailey Avenue).

2 Investigation Summary

This report presents and evaluates the level and extent of arsenic and lead contamination in soils of the properties south of the site. Activities included preparation of property survey maps; installation of a total of 51 soil borings across 10 parcels; collection of surface and subsurface soil samples from the borings; surveying the sampling locations, and laboratory analysis of soil samples. The primary field sampling event was conducted from June 24 to 26, 2020. Additional data gap sampling was subsequently conducted on multiple dates. A summary of the field procedures is provided in the following subsections. Sample locations are shown on individual parcel figures in Appendix A.

2.1 Pre-field Investigation Activities

In April 2020, letters indicating NYSDEC's intention to perform sampling at the properties were mailed to the owners of the southern properties along with access agreements for their signatures. Access was eventually granted to all ten parcels. Property owners of 16 Peru Place and 825 Bailey Avenue agreed to sampling later during 2021 remedial construction activities on the block.

Prior to initiating on-site activities, E & E contacted each property owner who had granted access to their property by phone to inform them of the proposed sampling date and discuss any property access restrictions (such as opening gates when dogs are present). E & E's drilling subcontractor contacted Dig Safely New York to request mark-out of underground utilities prior to beginning intrusive activities.

E & E prepared a sampling and analysis plan describing the procedures to be employed during the investigation (E & E 2020a). Proposed sampling locations were selected on a roughly 30-foot by 30-foot grid in accordance with NYSDEC's DER-10 guidance, Section 5.4(b) (NYSDEC 2010). Sampling locations were selected in the field based on the presence of structures and other surface obstructions, utilities, etc. The actual sampling locations were surveyed by a licensed land surveyor, Ravi Engineering and Land Surveying, of Rochester, New York.

2.2 Direct-push Soil Borings and Test Pit Samples

A total of fifty-one soil borings and four sidewall test pit sampling locations are shown on the figures in Appendix A and soil boring logs are provided in Appendix B. Soil boring locations were identified using the street address and consecu-

tive location number (e.g., 36PERU-01). Test pit sidewall locations were identified with a similar nomenclature with "TP" added to the name (e.g., 825BAILEY-TP-06).

Following completion of soil sampling, the direct-push borings in grass areas were backfilled with topsoil and borings in asphalt were backfilled with topsoil and sealed at the top with 3 inches of cold-patch asphalt.

Most soil boring locations were sampled to a depth of 2 feet below grade, and up to six soil samples were collected from each of these borings from the following depth intervals: 0 to 3 inches, 3 to 6 inches, 6 to 9 inches, 9 to 12 inches, 12 to 18 inches, and 18 to 24 inches.

Most soil borings were installed by LaBella Associates of Rochester, New York, using a Geoprobe Model 6620DT direct-push machine and 2¼-inch-diameter Macro-Core® probing rods with 1½-inch-diameter dedicated sleeves. In some instances, a hand-driven, 3-inch-diameter, stainless steel soil auger was used by E & E where access was limited for the Geoprobe or where data gap samples were collected without the Geoprobe. LaBella was subcontracted by E & E during this investigation and worked under the supervision of the E & E field team leader.

For soil borings installed using dedicated Macro-Core sleeves, the only portion of the direct-push tooling that contacted the soil samples besides the sleeves was the cutting shoe of the Macro-Core casing. The shoe and the casing itself were decontaminated before each use. Decontamination of all equipment, including stainless-steel bowls and spoons used for mixing soil samples (in 3- and 6-inch thick depth intervals) and hand augers was performed by scrubbing with a laboratory-grade detergent (e.g., Alconox) solution, rinsing the equipment with potable water, rinsing with a 5 - 10% nitric acid solution, and performing a final rinse with deionized water.

Soils encountered during soil boring installation were generally comprised of topsoil with organics underlain by sub-soils that mostly consisted of light brown to brown sandy silt and loam with varying proportions of clay, sand, silt, gravel, and wood. Suspected or possible fill material, indicated by the presence of white and black ash, was observed at some locations between the topsoil and sub-soil. Soil boring logs are provided in Appendix B.

Soil samples were collected from the sampling device using stainless-steel spoons. The soil from specific depth intervals was placed in a dedicated paper bowl and homogenized with the spoon prior to transfer to the laboratory container. During the sampling event, the top six samples (to 24 inches) were sampled and analyzed. The remaining portion of the cores were archived by E & E for possible later sampling and analysis, if needed.

Locations that required additional sampling and analysis from archived cores to establish the vertical extent of contamination were collected at depth intervals of 24 to 30 inches and 30 to 36 inches at the following locations: 825BAILEY-01, -02, -03 and -04, and 26PERU-04, -06, and -07.

Four test pits were excavated and soil samples were collected from sidewalls at 825 Bailey Avenue to characterize the extent of contamination underneath the concrete driveway on the property. Sidewall samples under the concrete were collected in 3-inch depth intervals in the top 12 inches and in 6-inch depth intervals from 12 to 36 inches below grade.

All sample analyses were conducted by a NYSDEC-contracted laboratory, Eurofins TestAmerica Laboratories, Inc., of Amherst, New York (TestAmerica), and analyzed at either their Amherst, New York, or Edison, New Jersey laboratory for total arsenic and lead.

2.3 Investigation-derived Waste Management

The following types of investigation-derived waste were generated during this investigation: unused soil from Macro-Cores, Macro-Core plastic sleeves, decontamination water, and spent personal protective equipment, primarily gloves.

The minimal amounts of excess soil cuttings and decontamination liquids generated during the sampling event were securely stored in E & E's warehouse until remedial construction activities began. Then they were combined with similar remediation wastes (excavated soil and contact water) for disposal by NYSDEC's remediation contractor. Spent sampling supplies were disposed of as non-contaminated solid waste.

2.4 Sample Handling and Analysis

Soil samples were collected in containers provided by TestAmerica. All samples were labeled with unique location codes and sample codes and stored on ice pending delivery via hand drop-off or shipping to the laboratory.

Analyses were performed by TestAmerica. All samples were tested for total arsenic and lead using U.S. Environmental Protection Agency (EPA) SW-846 Method 6010C (inductively coupled plasma). Reports were consistent with NYSDEC Analytical Services Protocol Category B deliverable requirements and data were provided in NYSDEC EQuIS electronic data deliverables for review by E & E. Laboratory reports are provided in Appendix C.

2.5 Quality Assurance/Quality Control

Quality assurance (QA)/quality control (QC) samples, including field duplicates, rinsate blanks, and matrix spike (MS)/matrix spike duplicate (MSD) sample sets were collected in accordance with the specifications of E & E's Master Quality Assurance Project Plan (QAPP) for NYSDEC Projects (E & E 2020b). Field duplicates and MS/MSD samples were collected at the rate of approximately one per

20 field samples. Rinsate blanks were collected at a rate of one per day to test the decontamination procedures used on reusable sampling equipment.

Duplicate samples provide insight into the homogeneity of the sample matrix and establish a degree of confidence in the precision of the field sampling and analytical method. Soil duplicates were collected by homogenizing the sample matrix then filling additional laboratory jars. A review of the duplicate sample results is provided in the Data Usability Summary Reports (DUSRs) provided in Appendix D. Overall, the samples exhibited good precision between duplicate/replicate sample preparations, and there were no significant impacts on data usability associated with the field duplicate/replicate sample results. In one sample (28PERU-03-Z18-24), the duplicate exhibited poor precision for lead and results were qualified "J" as estimated; however, both the original and duplicate values were well below the residential SCO, so there was no impact on data usability.

In addition to analytical error introduced by machinery and sample handling, error can also occasionally result from analytical process interference by a sample matrix. This can result in the reporting of analytes at concentrations higher or lower than the true concentrations. Laboratory duplicates or MSDs are aliquots of the same sample that are split prior to analysis and are treated the same throughout the analytical process. The relative percent differences between the MS and MSD samples or between the normal and the laboratory duplicate indicate the precision of the analytical method. There were several instances where lead was recovered outside of acceptance criteria but post-digestion spikes were acceptable, indicating that matrix interference was present and laboratory precision was not an issue. In these cases, the results in the parent samples were qualified "J" as estimated.

Rinsate blanks were collected daily during the sampling event by pouring deionized water over decontaminated sample equipment. Rinsate blanks were analyzed for total arsenic and lead and none was detected in any of the blanks.

2.6 Data Review

All laboratory deliverables were reviewed in accordance with the QAPP (E & E 2020b). The data were qualified following general guidelines in the EPA Region 2 standard operating procedure (EPA 2016). DUSRs were prepared as specified in NYSDEC's Guidance for Data Deliverables and the Development of Data Usability Summary Reports (NYSDEC 2010, Appendix 2B). The data review included an evaluation of the following:

- Holding times;
- Initial and continuing calibration;
- Reporting limits/dilutions;
- Calibration blanks and method blanks;
- MS/MSD/post digestion spike samples;
- Laboratory control samples;

- Field duplicates; and
- Interference checks.

Any deviations from acceptable QC specifications are discussed in the DUSRs. Qualifiers were added to the data, if appropriate, to indicate potential concerns with data usability. There were no significant impacts on data usability.

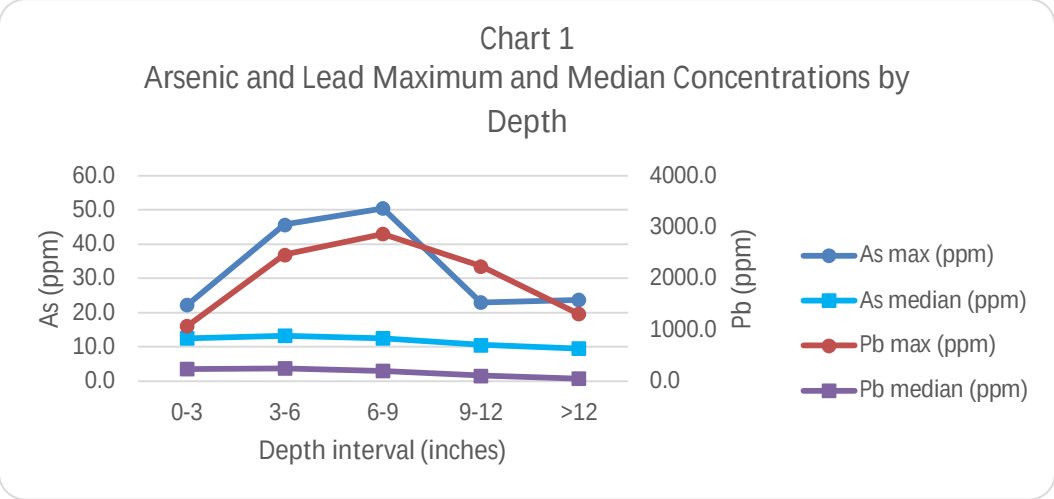
3 Analytical Results Discussion

3.1 Initial Analytical Results Statistics

This section presents the analytical results statistics for the initial soil sampling activities conducted in 2020 to develop an understanding of the extent of potential soil contamination at the subject properties south of the site and evaluate the possible transport vectors. This analysis was performed based on the initial PDI samples from eight parcels and does not include samples collected in 2021 (including all data gap samples and PDI samples from properties 16 Peru Place and 825 Bailey Avenue).

Arsenic was detected in all samples collected at the eight subject south properties in the range of 3.3 to 50.6 milligrams per kilogram (mg/kg), or parts per million (ppm). Approximately 18% of the samples contained arsenic concentrations above the SCO of 16 ppm. Lead was detected in all samples collected at the eight subject south properties in the range of 14.1 to 2,870 ppm. Approximately 20% of the samples contained lead concentrations above the SCO of 400 ppm. Analytical results statistics are provided in Table 1. Total arsenic and lead concentrations reported in all samples collected during this investigation are provided on the property figures in Appendix A.

Chart 1, below, depicts the maximum and median arsenic and lead concentrations by depth. Maximum concentrations increase with depth to the 6- to 9-inch depth interval and then declined with depth. Median values were highest at the surface and declined with depth. This may indicate deposition of contaminants at the surface but with maximum concentrations in the shallow subsurface resulting from reworking of soil or the presence of historic fill.



3.2 Contaminant Distribution

Contaminant distribution maps for arsenic and lead in soil at the initial eight properties are presented in Figures 2 through 7. These maps show that the highest concentrations of arsenic and lead were generally detected in the 3- to 6-inch and 6- to 9-inch depth intervals (orange, red, and purple symbols on Figures 2 through 7). In general, there is no consistent observable pattern in the distribution of the SCO exceedances. In the shallower depth intervals (to 9 inches), the exceedances occur in back yards (north side of properties), some side yards, and along Peru Place. Deeper samples below 9 inches do appear to exhibit more SCO exceedances in the back yards, with very few to no exceedances in other areas.

The presence of fill material identified during soil core sampling is also depicted on Figures 2 through 7. Although it was previously noted a higher correlation exists between SCO exceedances and the presence of fill than not, Figures 2 through 7 show that the correlation is not consistent and some of the highest concentrations of arsenic and lead do not correlate with fill.

Environmental Fate and Transport

Three main vectors possibly transported contaminants off the 837 Bailey Avenue site: air deposition of contaminated dust or ash/soot from fires, surface/storm water runoff, and reuse of fill material.

The prevailing wind direction for Buffalo, New York, is predominately from west southwest to west throughout the year (Windfinder.com 2021). Therefore, the greatest potential for air deposition is to the east and northeast of the site. However, there is day-to-day variability and localized alteration of wind direction from buildings, including the former site buildings, that impact localized airborne contaminant distribution. Anecdotal information provided by the owner of 36 Peru Place indicates that periodic fires at the former scrap yard occurred along the southern property border and soot distributed on the ground at several Peru Place properties. This statement has not been substantiated.

The existing condition topographical map and the site assessment from the Remedial Investigation/Alternative Analysis Report (EnSol, Inc. 2019) showed that the site is generally level with a slight downward gradient towards the southwest. Therefore, there was a potential for surface runoff towards the southern properties during heavy rains.

During previous investigations at the primary site in 2015, three distinct layers of fill material were observed throughout the site to varying depths: construction and demolition material, cinder material, and ash material (EnSol, Inc. 2019). Analytical testing was conducted on each material type at multiple locations throughout the site. Arsenic and lead levels were detected at relatively high concentrations in the cinder and construction and demolition materials, whereas the ash material did not show significantly elevated levels of arsenic or lead (EnSol, Inc. 2019). Of the 35 soil borings collected by E & E at the eight subject south properties, 12 had potential fill material or staining in the first 24 inches of the cores including black and white ash, white flakes, glass and bricks, woodchips, and rust coloration. It is not known if this material originated at the 837 Bailey Avenue site or if fill was placed throughout the area prior to construction of the houses and salvage yard. Where Erie County tax parcel data is available, it indicates that the houses along Peru Place were constructed in 1925 or 1930, predating the salvage yard.

E & E compared the analytical results with the soil sample descriptions on the boring logs to determine if the arsenic and lead concentrations that exceeded the SCOs were associated with a certain observed material. Soil descriptions and notes regarding the presence of fill are summarized in Table 2. Fifty-three of the initial samples contained arsenic and/or lead at concentrations exceeding SCOs. Of these, 19 samples, or 36%, contained fill material or staining including glass, a flaky fine fill, black ash, and brick. The other 34 samples with exceedances did not contain fill materials in the soil. Of the remaining 155 samples that did not exceed SCOs, only 17 samples, or 11%, also contained fill material. There is a higher correlation of arsenic and lead SCO exceedances associated with historic fill material than not.

3.3 South Properties Analytical Results

This section presents the analytical results for all soil samples collected at the 10 parcels south of the site in both 2020 and 2021. This information is intended to supplement the detailed analysis presented in Section 3.2 that was prepared after initial PDI sampling at the first eight properties (excluding 16 Peru Place and 825 Bailey Avenue..

A total of 322 soil samples (not including QC samples) were collected from 51 soil boring locations at the 10 properties. Arsenic was detected in all of the samples in the range of 2.7 to 50.6 ppm, with a median value of 11.2 ppm. A total of 19% of the samples contained arsenic concentrations above the SCO of 16 ppm. Lead was detected in all of the samples in the range of 14.1 ppm to 6,260 ppm, with a median value of 169 ppm. A total of 28% of the samples contained lead

concentrations above the SCO of 400 ppm. Total arsenic and lead concentrations reported in all samples collected during this investigation are provided on the property figures in Appendix A.

These analytical results were used to develop the property-specific excavation plans presented to NYSDEC and the New York State Department of Health for approval. The approved excavation plans were the basis for the remedial design drawings developed by E & E for each property.

4 Conclusions

This report presents arsenic and lead data in soil samples collected from properties along Bailey Avenue and Peru Place along the southern boundary of the 837 Bailey Avenue site. Potential contaminant transport pathways were evaluated. The air deposition pathway (dust and soot from fires) could not be confirmed nor denied. The primary wind direction in the area is away from the south properties; however, there is potential for airborne contaminant migration to the south during periodic changes in wind direction. No direct evidence of surface water/storm-water runoff from the site was identified. However, pre-remediation contours of the former salvage yard suggest that overland flow is a possibility. The presence of historical fill was also confirmed at the site and south properties. There is a higher correlation of SCO exceedances associated with the presence of fill than not; however, the correlation is not spatially consistent with the distribution of exceedances. It was also not determined if the fill identified in the yards of the south properties was moved from the site or if it was placed throughout the area prior to development. Due to the potential for pre-remedial conditions at the 837 Bailey Avenue site to have impacted the properties south of the site and north of Peru Place, these 10 parcels were included in the remedial design and interim remedial measures implemented for the 837 Bailey Avenue offsite properties.

The presence of arsenic and lead SCO exceedances in the Peru Place right-of-way (ROW) is not suspected to be associated with the former 837 Bailey site. Fill material was present in the soil in some of the ROW locations; however, the type of fill observed was inconsistent with that observed in the backyards closer to the site (gravel, wood, and glass were observed in the ROW, whereas, ash and ashy material were observed elsewhere). The quality of soil fill used in the ROW during prior road construction or utility installation/repair is not known and evidence of multiple layers of road work occurred (the curb is nearly level with the road). It is possible that elevated contaminant concentrations in ROW soil resulted, at least in part, from runoff of airborne or spilled contaminants on the pavement surface. Therefore, it is expected that the extent of contaminant migration from the site is limited to properties immediately adjacent to the site on the north side of Peru Place and no investigation was performed at properties on the south side of Peru Place.

Available historical information for 817 Bailey Avenue in the City of Buffalo Online Assessment Roll System was reviewed. A former service station/auto shop was constructed in 1940 and pavement improvements occurred in 1960. The

good quality of the current pavement suggests that repaving occurred multiple times since 1960. Sanborn Fire Insurance maps show no improvement to the property in 1917, and in 1951 there was a "filling station" with six gas tanks. There are no records for 817 Bailey Avenue in the DECinfo Locator, Spills Incident Database, or Petroleum Bulk Storage Database (NYSDEC 2021). Considering that offsite contamination potentially associated with the 837 Bailey Avenue site is primarily confined to the top 12 inches at other nearby properties, it is likely that contamination predating the pavement at 817 Bailey Avenue was removed during previous property improvements. Therefore, no investigation under the existing asphalt at this property was performed.

5 References

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Tables

Table 1 Sampling Concentration Statistics[1]

Depth	0 to 3 inches		3 to 6 inches		6 to 9 inches		9 to 12 inches		>12 inches	
Analyte	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead
Min	5.4	75.4	3.3	21.1	5.0	24.0	5.7	27.6	3.5	16.3
Max	22.3	1,080	45.7	2,460	50.6	2,870	23.0	2,240	23.7	1,310
Median	12.5	239	13.4	253.0	12.5	203	10.6	105	9.6	50.6
Percent exceeded SCO[2]	23%	34%	34%	37%	29%	23%	17%	17%	5.9%	5.9%

Notes:
[1] Includes results only from the initial sampling performed at eight properties in 2020 used to evaluate off-site contaminant migration, as discussed in Section 3.2.
[2] All results in milligrams per kilogram (parts per million [ppm]) unless noted.
[3] Residential soil cleanup objectives (SCOs) of 16 ppm arsenic or 400 ppm lead (6 New York Codes Rules and Regulations 375-6.8(b)).

Table 2 Soil Sample Descriptions

Soil Boring ID	Sample Depth (Inches)	Soil Description	Presence of Fill	Exceeds SCO[1]	
				Arsenic	Lead
18PERU-01	00-03	Brown silty loam, organics		yes	yes
18PERU-01	03-06	Brown silty loam, organics			yes
18PERU-01	06-09	Brown silty loam, organics			
18PERU-01	09-12	light brown silty clay			
18PERU-01	12-18	light brown silty clay			
18PERU-01	18-24	light brown silty clay			
18PERU-02	00-03	dark brown topsoil, organics		yes	yes
18PERU-02	03-06	dark brown topsoil, organics		yes	yes
18PERU-02	06-09	dark brown topsoil, organics	glass observed (8-9 inches)	yes	
18PERU-02	09-12	light brown silty clay			
18PERU-02	12-18	light brown silty clay	glass observed (17 inches)		
18PERU-02	18-24	light brown silty clay			
18PERU-03	00-03	medium brown sandy silt topsoil, some organics			
18PERU-03	03-06	medium brown sandy silt topsoil, some organics			
18PERU-03	06-09	medium brown sandy silt, trace fine gravel/brick	brick		
18PERU-03	09-12	medium brown sandy silt, trace fine gravel/brick	brick		
18PERU-03	12-18	light yellowish brown silt, trace sand			
18PERU-03	18-24	light yellowish brown silt, trace sand			
18PERU-04	00-03	medium brown sandy silt topsoil, organics	white flaky fine fill material		yes
18PERU-04	03-06	medium brown sandy silt topsoil, organics	white flaky fine fill material	yes	yes
18PERU-04	06-09	medium brown sandy silt, trace fine gravel	white flaky material	yes	yes
18PERU-04	09-12	medium brown sandy silt, trace fine gravel	white flaky material		yes
18PERU-04	12-18	light yellowish brown silt, some sand	white flaky material transferred from above		
18PERU-04	18-24	light yellowish brown silt, some sand	white flaky material transferred from above		
18PERU-06	00-03	medium-dark brown sandy silt topsoil, some organics			
18PERU-06	03-06	medium-dark brown sandy silt topsoil, some organics			yes
18PERU-06	06-09	medium-dark brown sandy silt topsoil, some organics		yes	
18PERU-06	09-12	light yellowish/reddish brown silt, trace sand			
18PERU-06	12-18	light yellowish/reddish brown silt, trace sand			

Table 2 Soil Sample Descriptions

Soil Boring ID	Sample Depth (Inches)	Soil Description	Presence of Fill	Exceeds SCO[1]	
				Arsenic	Lead
18PERU-06	18-24	light yellowish/reddish brown silt, trace sand			
20PERU-01	00-03	brown topsoil with organics			
20PERU-01	03-06	brown topsoil with organics		yes	
20PERU-01	06-09	light brown silty clay			
20PERU-01	09-12	light brown silty clay			
20PERU-01	12-18	light brown silty clay			
20PERU-01	18-24	light brown silty clay. 20": light brown clay			
20PERU-02	00-03	medium brown sandy topsoil, organics, medium small rounded gravel			
20PERU-02	03-06	medium brown sandy silt, trace gravel	rust coloration		
20PERU-02	06-09	medium brown sandy silt, trace gravel	rust coloration		yes
20PERU-02	09-12	medium brown sandy silt, trace gravel	rust coloration	yes	
20PERU-02	12-18	medium brown sandy silt, trace gravel			
20PERU-02	18-24	light yellowish brown sandy silt, trace clay; medium brown silt, trace clay and fine gravel (19-24 inches)			
20PERU-03	00-03	Medium brown sandy silt, trace organics (0-1 inches) and fine gravel			
20PERU-03	03-06	Medium brown sandy silt, trace organics and fine gravel			
20PERU-03	06-09	Medium brown sandy silt, trace organics and fine gravel			
20PERU-03	09-12	Medium brown sandy silt, trace organics and fine gravel			
20PERU-03	12-18	Light yellowish brown sandy silt, trace clay, compact			
20PERU-03	18-24	Light yellowish brown sandy silt, trace clay, compact			
20PERU-04	00-03	Medium/dark brown sandy silt topsoil, some organ-ics, trace fine gravel			
20PERU-04	03-06	Medium/dark brown sandy silt topsoil, some organ-ics, trace fine gravel			
20PERU-04	06-09	Medium/dark brown sandy silt topsoil, some organ-ics, trace fine gravel			

Table 2 Soil Sample Descriptions

Soil Boring ID	Sample Depth (Inches)	Soil Description	Presence of Fill	Exceeds SCO[1]	
				Arsenic	Lead
20PERU-04	09-12	medium/dark brown sandy silt, trace clay and fine gravel			
20PERU-04	12-18	medium/dark brown sandy silt, trace clay and fine gravel			
20PERU-04	18-24	light yellowish brown silt, trace sand, compact			
24PERU-01	00-03	brown silty loam			
24PERU-01	03-06	brown silty loam			
24PERU-01	06-09	brown silty loam			
24PERU-01	09-12	brown silty loam			
24PERU-01	12-18	light brown silty clay			
24PERU-01	18-24	light brown silty clay			
24PERU-02	00-03	dark brown topsoil, organics (to 4 inches)		yes	yes
24PERU-02	03-06	light brown silty clay	4-10 inches trace black ashy fill	yes	yes
24PERU-02	06-09	light brown silty clay	4-10 inches trace black ashy fill	yes	yes
24PERU-02	09-12	light brown silty clay	4-10 inches trace black ashy fill	yes	
24PERU-02	12-18	light brown silty clay			
24PERU-02	18-24	light brown silty clay			
24PERU-03	00-03	topsoil, organics			
24PERU-03	03-06	topsoil, organics		yes	yes
24PERU-03	06-09	light brown silty clay		yes	yes
24PERU-03	09-12	light brown silty clay			
24PERU-03	12-18	dark brown silty clay			yes
24PERU-03	18-24	dark brown silty clay. 21-24 inches: light brown clay			
26PERU-01	00-03	brown silty loam			
26PERU-01	03-06	brown silty loam		yes	
26PERU-01	06-09	brown silty loam		yes	
26PERU-01	09-12	brown silty loam			
26PERU-01	12-18	light brown silty clay			
26PERU-01	18-24	light brown silty clay			
26PERU-02	00-03	topsoil, organics			

Table 2 Soil Sample Descriptions

Soil Boring ID	Sample Depth (Inches)	Soil Description	Presence of Fill	Exceeds SCO[1]	
				Arsenic	Lead
26PERU-02	03-06	topsoil, organics			
26PERU-02	06-09	light brown silt, some clay			
26PERU-02	09-12	light brown silt, some clay			
26PERU-02	12-18	dark brown silty loam			
26PERU-02	18-24	light brown silty clay			
26PERU-03	00-03	brown silt, fine gravel and organics			yes
26PERU-03	03-06	brown silt, few fill - coal ash/white ash and gravel	coal ash/white ash		
26PERU-03	06-09	brown silt, few tan clay and gravel, clay increasing with depth			
26PERU-03	09-12	brown silt, few tan clay and gravel, clay increasing with depth			
26PERU-03	12-18	brown silt, few tan clay and gravel, clay increasing with depth			
26PERU-03	18-24	brown silt, few tan clay and gravel, clay increasing with depth			
26PERU-04	00-03	brown silt topsoil, trace gravel and organics			
26PERU-04	03-06	brown silt topsoil, trace gravel and organics			
26PERU-04	06-09	brown silt topsoil, trace gravel and organics			
26PERU-04	09-12	brown silt topsoil, trace gravel and organics			
26PERU-04	12-18	light brown silt, little clay, dense		yes	yes
26PERU-04	18-24	light brown silt, little clay, dense		yes	yes
26PERU-05	00-03	brown silt topsoil, organics			yes
26PERU-05	03-06	brown silt topsoil, organics			yes
26PERU-05	06-09	brown silt, trace fill (brick) and glass	trace brick, glass		yes
26PERU-05	09-12	brown silt, trace fill (brick) and glass	trace brick, glass	yes	yes
26PERU-05	12-18	brown silt, little tan clay			
26PERU-05	18-24	brown silt, little tan clay			
28PERU-01	00-03	brown topsoil, organics			
28PERU-01	03-06	brown topsoil, organics, small-medium gravel, trace ashy fill	trace ashy fill	yes	yes

Table 2 Soil Sample Descriptions

Soil Boring ID	Sample Depth (Inches)	Soil Description	Presence of Fill	Exceeds SCO[1]	
				Arsenic	Lead
28PERU-01	06-09	brown silty loam, some clay		yes	
28PERU-01	09-12	brown silty loam, some clay			
28PERU-01	12-18	light brown silty clay			
28PERU-01	18-24	light brown silty clay			
28PERU-02	00-03	topsoil, organics			
28PERU-02	03-06	brown silty loam			
28PERU-02	06-09	brown silty loam			
28PERU-02	09-12	light brown silty clay			
28PERU-02	12-18	light brown silty clay			
28PERU-02	18-24	light brown silty clay, 20 inches: light brown clay			
28PERU-03	00-03	brown topsoil, organics			
28PERU-03	03-06	brown topsoil, organics			
28PERU-03	06-09	light brown silty clay			
28PERU-03	09-12	light brown silty clay			
28PERU-03	12-18	light brown silty clay			
28PERU-03	18-24	light brown silty clay			
28PERU-04	00-03	topsoil, organics			
28PERU-04	03-06	topsoil, organics			
28PERU-04	06-09	light brown silty clay			
28PERU-04	09-12	light brown silty clay			
28PERU-04	12-18	light brown silty clay			
28PERU-04	18-24	light brown silty clay			
32PERU-01	00-03	brown topsoil, organics		yes	
32PERU-01	03-06	brown topsoil, organics		yes	yes
32PERU-01	06-09	large gravel, woodchips	woodchips	yes	
32PERU-01	09-12	light brown silty clay			
32PERU-01	12-18	light brown silty clay			
32PERU-01	18-24	light brown silty clay			
32PERU-02	00-03	topsoil, organics			
32PERU-02	03-06	reddish brown clay			

Table 2 Soil Sample Descriptions

Soil Boring ID	Sample Depth (Inches)	Soil Description	Presence of Fill	Exceeds SCO[1]	
				Arsenic	Lead
32PERU-02	06-09	reddish brown clay			
32PERU-02	09-12	reddish brown clay			yes
32PERU-02	12-18	reddish brown clay			
32PERU-02	18-24	light brown clay		yes	
32PERU-03	00-03	brown topsoil, organics			
32PERU-03	03-06	reddish brown silty clay			
32PERU-03	06-09	reddish brown silty clay			
32PERU-03	09-12	reddish brown silty clay			
32PERU-03	12-18	light brown silty clay			
32PERU-03	18-24	light brown silty clay			
32PERU-04	00-03	light brown silty loam, trace black ashy fill	trace black ashy fill		
32PERU-04	03-06	light brown silty loam, trace black ashy fill	trace black ashy fill		
32PERU-04	06-09	light brown silty loam, trace black ashy fill	trace black ashy fill		
32PERU-04	09-12	light brown silty clay			
32PERU-04	12-18	light brown silty clay			
32PERU-04	18-24	light brown silty clay			
36PERU-01	00-03	dark brown topsoil, organics		yes	
36PERU-01	03-06	dark brown topsoil, organics			
36PERU-01	06-09	light brown/reddish clay	trace black ashy fill (7-15 inches)		
36PERU-01	09-12	dark brown silty loam	trace black ashy fill (7-15 inches)		
36PERU-01	12-18	dark brown silty loam; light brown silty clay (15 inches); large gravel, clay (14-15 inches)	trace black ashy fill (7-15 inches)		
36PERU-01	18-24	light brown silty clay			
36PERU-02	00-03	dark brown silty loam, organics, some clay			
36PERU-02	03-06	dark brown silty loam, organics, some clay			
36PERU-02	06-09	dark brown silty loam, organics, some clay			
36PERU-02	09-12	dark brown silty loam, organics, some clay			
36PERU-02	12-18	light brown silty clay			

Table 2 Soil Sample Descriptions

Soil Boring ID	Sample Depth (Inches)	Soil Description	Presence of Fill	Exceeds SCO[1]	
				Arsenic	Lead
36PERU-02	18-24	light brown clay			
36PERU-03	00-03	brown topsoil, organics			
36PERU-03	03-06	brown topsoil, organics		yes	
36PERU-03	06-09	brown silty loam, some sand			
36PERU-03	09-12	brown silty loam, some sand			
36PERU-03	12-18	light brown silty clay, some sand			
36PERU-03	18-24	light brown silty clay, some sand			
36PERU-04	00-03	dark brown silty loam, organics			
36PERU-04	03-06	dark brown silty loam, organics			
36PERU-04	06-09	dark brown silty loam, organics			
36PERU-04	09-12	dark brown silty loam, organics			
36PERU-04	12-18	light brown silty clay			
36PERU-04	18-24	light brown silty clay			
36PERU-05	00-03	brown topsoil, organics	trace black/white ashy fill		
36PERU-05	03-06	brown topsoil, organics	trace black/white ashy fill	yes	
36PERU-05	06-09	brown silty loam	trace black/white ashy fill		
36PERU-05	09-12	brown silty loam	trace black/white ashy fill		
36PERU-05	12-18	light brown silty clay	trace black/white ashy fill (to 13 inches)		
36PERU-05	18-24	light brown silty clay			
36PERU-06	00-03	dark brown silty loam, organics, some clay			
36PERU-06	03-06	dark brown silty loam, organics, some clay			
36PERU-06	06-09	dark brown silty loam, organics, some clay			
36PERU-06	09-12	light brown silty clay			
36PERU-06	12-18	light brown silty clay			
36PERU-06	18-24	light brown silty clay			
36PERU-07	00-03	dark brown silty loam, trace black ashy fill	trace black ashy fill	yes	yes
36PERU-07	03-06	dark brown silty loam, trace black ashy fill	trace black ashy fill	yes	yes
36PERU-07	06-09	dark brown silty loam, trace black ashy fill	trace black ashy fill	yes	yes

Table 2 Soil Sample Descriptions

Soil Boring ID	Sample Depth (Inches)	Soil Description	Presence of Fill	Exceeds SCO[1]	
				Arsenic	Lead
36PERU-07	09-12	dark brown silty loam, trace black ashy fill, some medium gravel	trace black ashy fill, gravel	yes	yes
36PERU-07	12-18	light brown silty clay			
36PERU-07	18-24	light brown silty clay			
36PERU-08	00-03	dark brown sandy silt topsoil			yes
36PERU-08	03-06	dark brown sandy silt topsoil		yes	yes
36PERU-08	06-09	dark brown sandy silt topsoil		yes	yes
36PERU-08	09-12	dark brown silt, some sand, trace fine gravel		yes	yes
36PERU-08	12-18	dark brown silt, some sand, trace fine gravel		yes	yes
36PERU-08	18-24	light yellowish brown sand, trace silt			
817BAILEY-01	00-03	dark brown silty loam topsoil, little gravel			
817BAILEY-01	03-06	dark brown silty loam topsoil, little gravel			
817BAILEY-01	06-09	dark brown silty loam topsoil, little gravel			
817BAILEY-01	09-12	dark brown silty loam topsoil, little gravel			yes
817BAILEY-02	00-03	dark brown silt, little gravel and clay		yes	yes
817BAILEY-02	03-06	dark brown silt, little gravel and clay			yes
817BAILEY-02	06-09	dark brown silt, little gravel and clay			yes
817BAILEY-02	09-12	dark brown silt, little gravel and clay			
817BAILEY-02	12-18	dark brown silt, little gravel and clay			
817BAILEY-02	18-24	brown to light tan silt, some clay			

Note:
[1] Residential soil cleanup objective of 16 parts per million for arsenic, 400 parts per million for lead.
[2] Includes results only from the initial sampling performed at eight properties in 2020 used to evaluate off-site contaminant migration, as discussed in Section 3.2.

Figures

Source: Google Earth 2020

Figure 1
837 Bailey Avenue Off-Site Project
837 Bailey Avenue
Buffalo, New York
Site No. C915298A

Figure 2
Arsenic and Lead Concentrations in Soil
0 - 3 Inch Depth Interval
837 Bailey Off-site South Properties

Figure 3
Arsenic and Lead Concentrations in Soil
3 - 6 Inch Depth Interval
837 Bailey Off-site South Properties

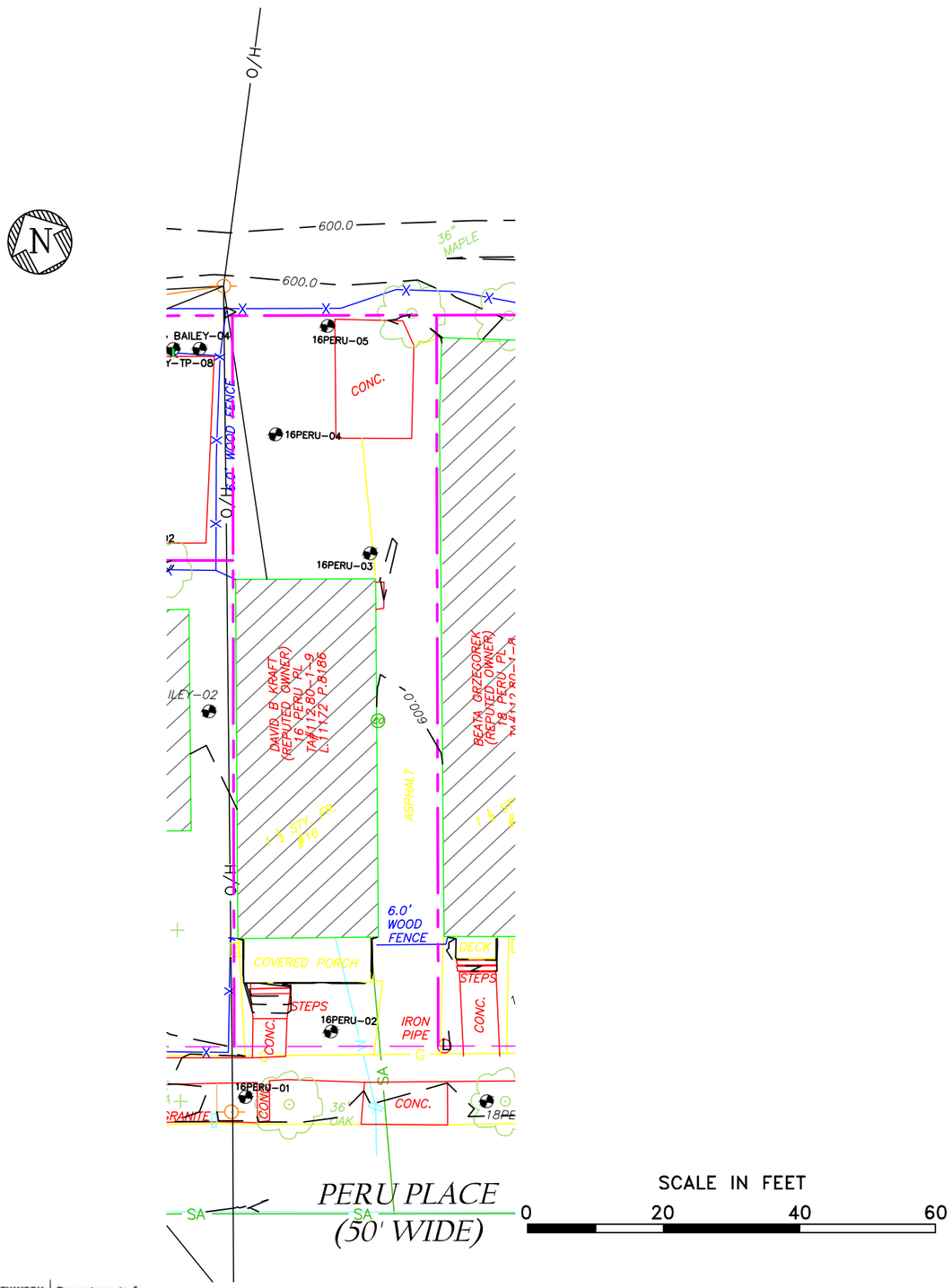
Figure 4
Arsenic and Lead Concentrations in Soil
6 - 9 Inch Depth Interval
837 Bailey Off-site South Properties

Figure 5
Arsenic and Lead Concentrations in Soil
9 - 12 Inch Depth Interval
837 Bailey Off-site South Properties

Figure 6
Arsenic and Lead Concentrations in Soil
12 - 18 Inch Depth Interval
837 Bailey Off-site South Properties

Figure 7
Arsenic and Lead Concentrations in Soil
18 - 24 Inch Depth Interval
837 Bailey Off-site South Properties

A Analytical Results Figures for South Properties



LEGEND

- SURVEY CONTROL POINT
- SURVEY BENCHMARK
- UTILITY LIGHT POLE
- UTILITY POLE
- PEDESTRIAN LIGHT POLE
- POST
- FLAG POLE
- SIGN
- CONIFEROUS SHRUB
- TREE STUMP
- DECIDUOUS SHRUB
- DECIDUOUS TREE
- CONIFEROUS TREE
- UTILITY ELECTRIC METER
- UTILITY ELECTRIC MANHOLE
- UTILITY SANITARY MANHOLE
- UTILITY TELEPHONE MANHOLE
- UTILITY DRAINAGE MANHOLE
- UTILITY UNKNOWN MANHOLE
- UTILITY DRAINAGE CATCHBASIN
- UTILITY FIRE HYDRANT
- UTILITY WATER VALVE
- UTILITY UNKNOWN VALVE
- UTILITY VENT
- UTILITY PULLBOX
- LANDSCAPE BOULDER
- UTILITY OVERHEAD WIRES
- UTILITY UNDERGROUND ELECTRIC
- UTILITY UNDERGROUND GAS MAIN
- UTILITY COMBINED SANITARY SEWER
- UTILITY STORM SEWER
- UTILITY UNDERGROUND WATER MAIN
- PROPERTY LINE

NOTES

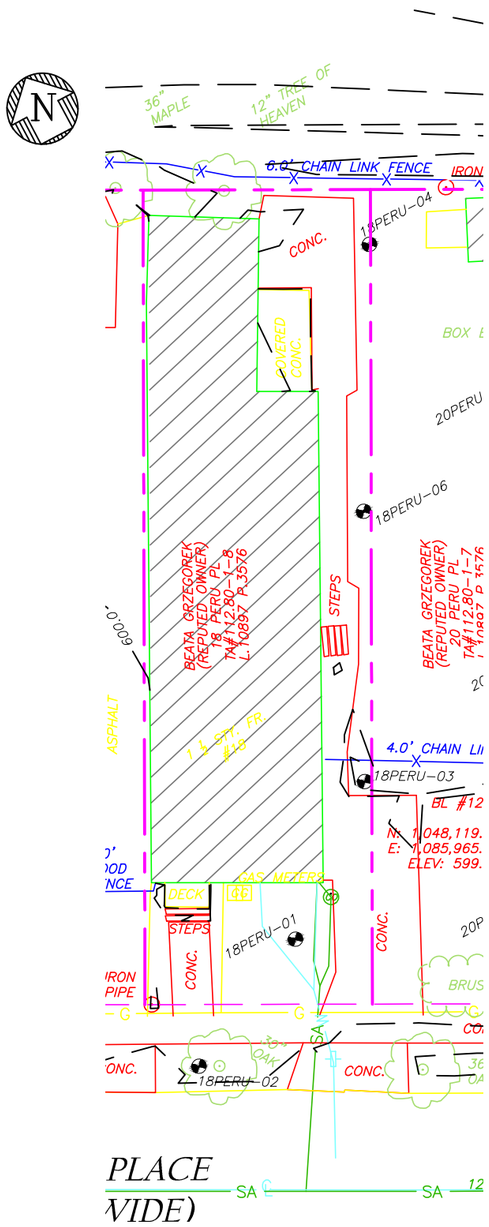
1. FIGURE PREPARED BY ECOLOGY AND ENVIRONMENT ENGINEERING AND GEOLOGY, P.C.
2. BASE MAP SURVEY BY RAVI ENGINEERING AND LAND SURVEYING, P.C.
3. NYSDEC ANALYTICAL RESULTS PROVIDED BY EUROFINS TESTAMERICA.
4. DATA VALIDATION BY ECOLOGY AND ENVIRONMENT ENGINEERING AND GEOLOGY, P.C. ANALYTES FLAGGED "J" WERE POSITIVELY IDENTIFIED AND THE ASSOCIATED VALUE IS THE APPROXIMATE CONCENTRATION OF THE ANALYTE IN THE SAMPLE. SHADED VALUES IN TABLES EXCEED SOIL CLEANUP OBJECTIVES.

2021 Analytical Results for 16 Peru Place

Start Depth (inches)	End Depth (inches)	Results in milligrams per kilogram (mg/kg)									
		16PERU-01		16PERU-02		16PERU-03		16PERU-04		16PERU-05	
		Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead
0	3	9.1	248	11.2	293	**17.2**	**1060**	10.2	**518**	13.2	**1470**
3	6	13.3	**541**	12.7	268	**16.6**	**1140**	11.8	**547**	14.8	**1050**
6	9	13.6	**482**	13.0	274	15.6	**1040**	14.4	**603**	13.5	**553**
9	12	14.3	256	13.8	315	12.8	**577**	13.0	304	15.0	**410**
12	18	8.6	124	12.0	237	10.5	208	10.5	145	13.5	267
18	24	4.5	27.8	8.3	35.6	11.5	254	10.4	134	13.3	294
24	30									9.1	138
30	36									7.1	68.5

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

ANALYTICAL RESULTS
PROPERTY ID: 16 PERU
16 PERU PLACE
BAILEY AVENUE
BUFFALO, NEW YORK



SCALE IN FEET

0 20 40 60

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

LEGEND

SURVEY CONTROL POINT	UTILITY ELECTRIC MANHOLE
SURVEY BENCHMARK	UTILITY SANITARY MANHOLE
UTILITY LIGHT POLE	UTILITY TELEPHONE MANHOLE
UTILITY POLE	UTILITY DRAINAGE MANHOLE
PEDESTRIAN LIGHT POLE	UTILITY UNKNOWN MANHOLE
POST	UTILITY DRAINAGE CATCHBASIN
FLAG POLE	UTILITY FIRE HYDRANT
SIGN	UTILITY WATER VALVE
CONIFEROUS SHRUB	UTILITY UNKNOWN VALVE
TREE STUMP	UTILITY VENT
DECIDUOUS SHRUB	UTILITY PULLBOX
DECIDUOUS TREE	LANDSCAPE BOULDER
CONIFEROUS TREE	UTILITY OVERHEAD WIRES
UTILITY ELECTRIC METER	UTILITY UNDERGROUND ELECTRIC
	UTILITY UNDERGROUND GAS MAIN
	UTILITY COMBINED SANITARY SEWER
	UTILITY STORM SEWER
	UTILITY UNDERGROUND WATER MAIN
	PROPERTY LINE

2020 Analytical Results for 18 Peru Place

Start Depth (inches)	End Depth (inches)	Results in milligrams per kilogram (mg/kg)									
		18PERU-01		18PERU-02		18PERU-03		18PERU-04		18PERU-06	
		Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead
0	3	**17.3**	**942**	**22.3**	**421**	11.7	289	14.4	**514**	13.7	280
3	6	11.2	**417**	**37.1**	**478**	15.3	305	**17.7**	**511**	14.6	**2460**
6	9	7.8	30.3	**25.3**	339	10.4	176	**17.7**	**415**	**16.7**	275
9	12	9.7	71.2	12.9	81.5	5.7	97.8	15.9	**855**	13.8	176
12	18	8.8	258	11.5	87.6 J	9.2	47.4	8.9	242	7.9	76.0
18	24	6.7	58.8	10.3	31.6	12.0	25.5	11.0	89.2	9.3	24.4

NOTES

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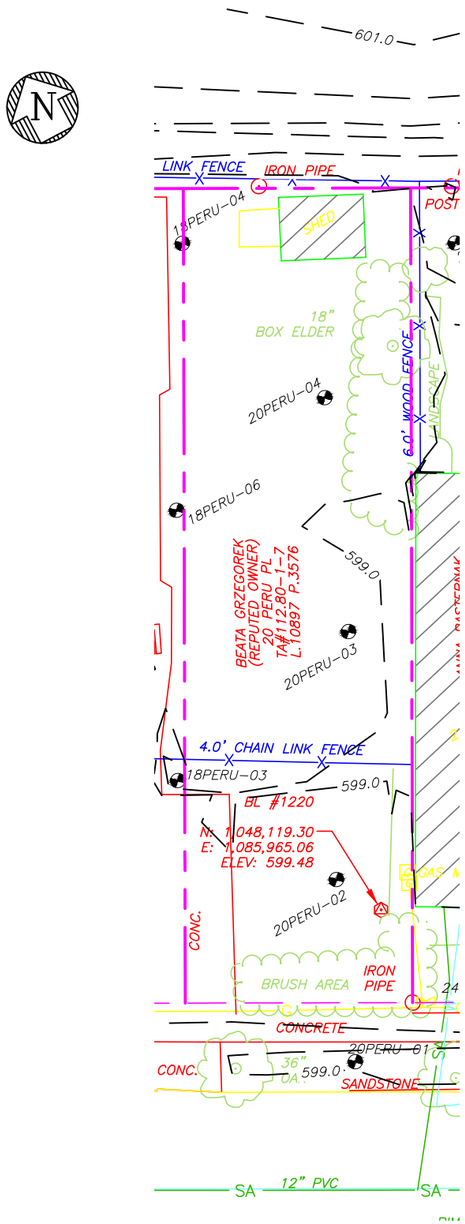
ANALYTICAL RESULTS
PROPERTY ID: 18 PERU
18 PERU PLACE
BAILEY AVENUE
BUFFALO, NEW YORK



SCALE IN FEET

0 20 40 60

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

LEGEND

- SURVEY CONTROL POINT
- SURVEY BENCHMARK
- UTILITY LIGHT POLE
- UTILITY POLE
- PEDESTRIAN LIGHT POLE
- POST
- FLAG POLE
- SIGN
- CONIFEROUS SHRUB
- TREE STUMP
- DECIDUOUS SHRUB
- DECIDUOUS TREE
- CONIFEROUS TREE
- UTILITY ELECTRIC METER
- UTILITY ELECTRIC MANHOLE
- UTILITY SANITARY MANHOLE
- UTILITY TELEPHONE MANHOLE
- UTILITY DRAINAGE MANHOLE
- UTILITY UNKNOWN MANHOLE
- UTILITY DRAINAGE CATCHBASIN
- UTILITY FIRE HYDRANT
- UTILITY WATER VALVE
- UTILITY UNKNOWN VALVE
- UTILITY VENT
- UTILITY PULLBOX
- LANDSCAPE BOULDER
- UTILITY OVERHEAD WIRES (O/H)
- UTILITY UNDERGROUND ELECTRIC (E)
- UTILITY UNDERGROUND GAS MAIN (G)
- UTILITY COMBINED SANITARY SEWER (SA)
- UTILITY STORM SEWER (ST)
- UTILITY UNDERGROUND WATER MAIN (W)
- PROPERTY LINE

2020 Analytical Results for 20 Peru Place

Start Depth (inches)	End Depth (inches)	Results in milligrams per kilogram (mg/kg)							
		20PERU-01		20PERU-02		20PERU-03		20PERU-04	
		Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead
0	3	15.0	199	7.1	113	7.1	129	8.6	156
3	6	**17.4**	256	14.7	261	8.9	149	10.8	211
6	9	11.5	117	13.9	**438**	10.6	211	11.8	219
9	12	8.0	51.6	**16.1**	201	10.4	148 J	10.6	166
12	18	10	19.0	11.6	102	5.9	56.5	8.3	106
18	24	8.9	17.7	3.5	20.0	9.7	21.2	6.9	20.8

NOTES

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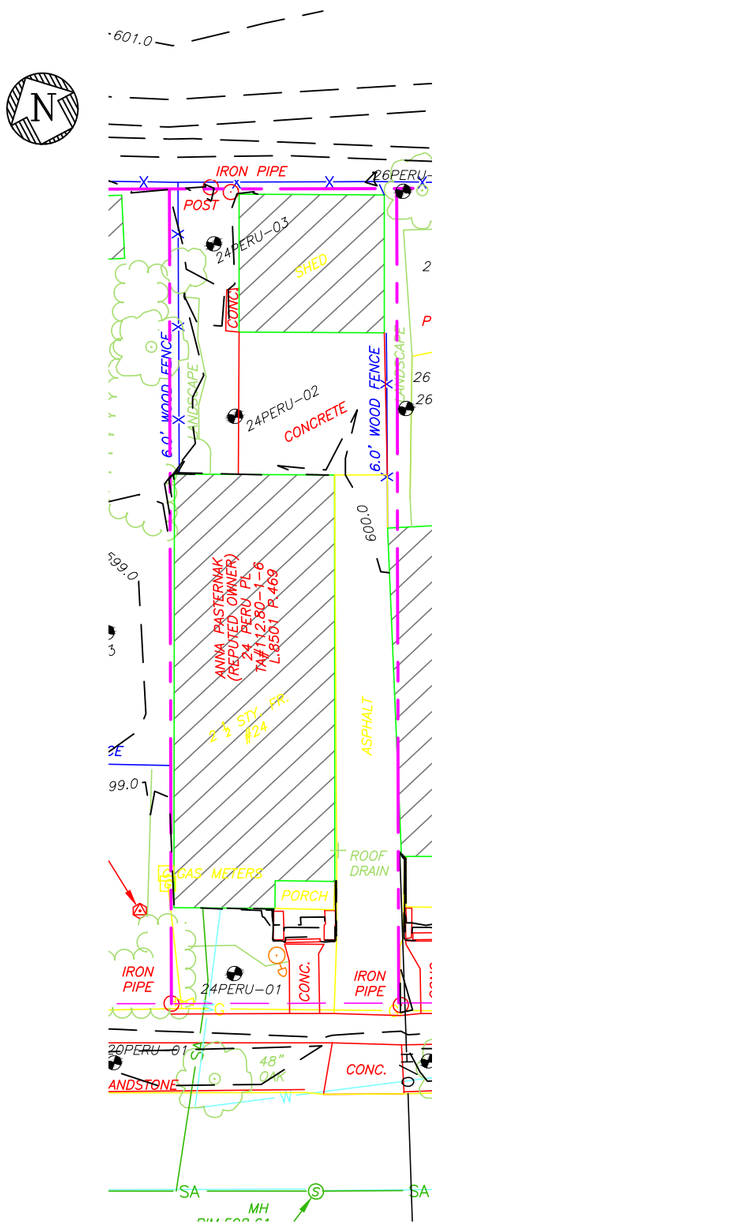
ANALYTICAL RESULTS
PROPERTY ID: 20 PERU
20 PERU PLACE
BAILEY AVENUE
BUFFALO, NEW YORK



SCALE IN FEET

0 20 40 60

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

LEGEND

- SURVEY CONTROL POINT
- SURVEY BENCHMARK
- UTILITY LIGHT POLE
- UTILITY POLE
- PEDESTRIAN LIGHT POLE
- POST
- FLAG POLE
- SIGN
- CONIFEROUS SHRUB
- TREE STUMP
- DECIDUOUS SHRUB
- DECIDUOUS TREE
- CONIFEROUS TREE
- UTILITY ELECTRIC METER
- UTILITY ELECTRIC MANHOLE
- UTILITY SANITARY MANHOLE
- UTILITY TELEPHONE MANHOLE
- UTILITY DRAINAGE MANHOLE
- UTILITY UNKNOWN MANHOLE
- UTILITY DRAINAGE CATCHBASIN
- UTILITY FIRE HYDRANT
- UTILITY WATER VALVE
- UTILITY UNKNOWN VALVE
- UTILITY VENT
- UTILITY PULLBOX
- LANDSCAPE BOULDER
- UTILITY OVERHEAD WIRES (O/H)
- UTILITY UNDERGROUND ELECTRIC (E)
- UTILITY UNDERGROUND GAS MAIN (G)
- UTILITY COMBINED SANITARY SEWER (SA)
- UTILITY STORM SEWER (ST)
- UTILITY UNDERGROUND WATER MAIN (W)
- PROPERTY LINE

2020 Analytical Results for 24 Peru Place

Start Depth (inches)	End Depth (inches)	Results in milligrams per kilogram (mg/kg)					
		24PERU-01		24PERU-02		24PERU-03	
		Arsenic	Lead	Arsenic	Lead	Arsenic	Lead
0	3	13.2	314	**16.7**	**1080**	12.5	131
3	6	13.4	221	**18.7**	**980**	**45.7**	**981**
6	9	11.9	126	**17.1**	**768**	**50.6**	**871**
9	12	9.8	130	**16.4**	259	13.8	226
12	18	6.1	36.0	12.9	109	11.7	**479**
18	24	5.1	18.3	10.7	76.4 J	6.1	89.9

NOTES

1. FIGURE PREPARED BY ECOLOGY AND ENVIRONMENT ENGINEERING AND GEOLOGY, P.C.
2. BASE MAP SURVEY BY RAVI ENGINEERING AND LAND SURVEYING, P.C.
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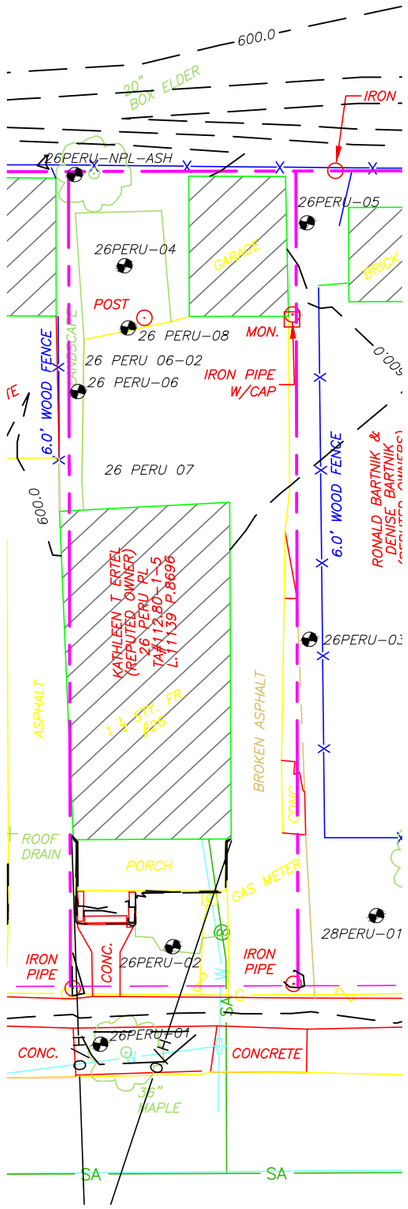
ANALYTICAL RESULTS
PROPERTY ID: 24 PERU
24 PERU PLACE
BAILEY AVENUE
BUFFALO, NEW YORK



SCALE IN FEET

0 20 40 60

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

LEGEND

SURVEY CONTROL POINT	UTILITY ELECTRIC MANHOLE
SURVEY BENCHMARK	UTILITY SANITARY MANHOLE
UTILITY LIGHT POLE	UTILITY TELEPHONE MANHOLE
UTILITY POLE	UTILITY DRAINAGE MANHOLE
PEDESTRIAN LIGHT POLE	UTILITY UNKNOWN MANHOLE
POST	UTILITY DRAINAGE CATCHBASIN
FLAG POLE	UTILITY FIRE HYDRANT
SIGN	UTILITY WATER VALVE
CONIFEROUS SHRUB	UTILITY UNKNOWN VALVE
TREE STUMP	UTILITY VENT
DECIDUOUS SHRUB	UTILITY PULLBOX
DECIDUOUS TREE	LANDSCAPE BOULDER
CONIFEROUS TREE	UTILITY OVERHEAD WIRES
UTILITY ELECTRIC METER	UTILITY UNDERGROUND ELECTRIC
	UTILITY UNDERGROUND GAS MAIN
	UTILITY COMBINED SANITARY SEWER
	UTILITY STORM SEWER
	UTILITY UNDERGROUND WATER MAIN
	PROPERTY LINE

2020 and 2021 Analytical Results for 26 Peru Place

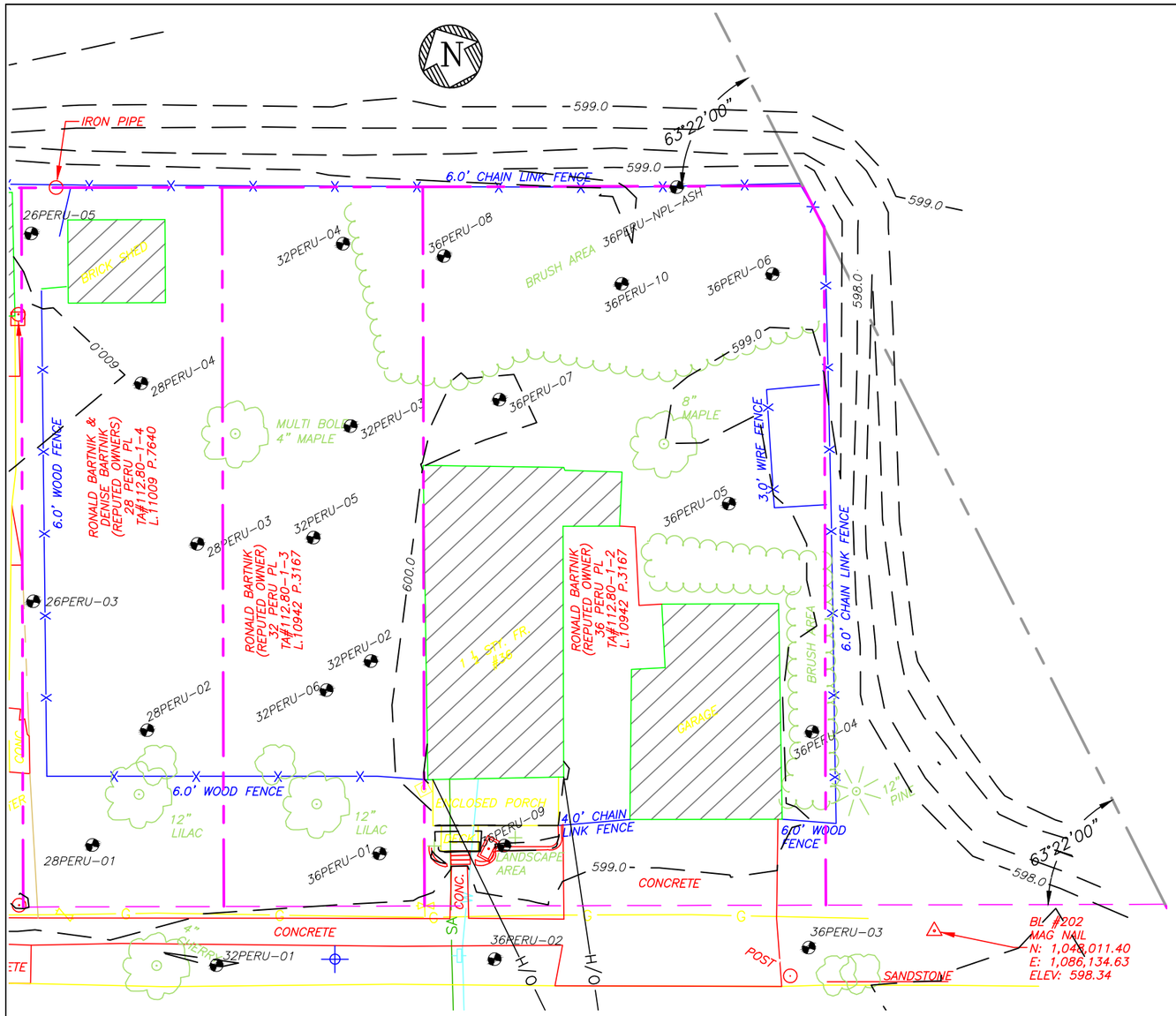
Start Depth (inches)	End Depth (inches)	Results in milligrams per kilogram (mg/kg)															
		26PERU-01		26PERU-02		26PERU-03		26PERU-04		26PERU-05		26PERU-06		26PERU-07		26PERU-08	
		Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead
0	3	14.2	288	12.2	239	12.2	**430**	9.1	184	10.8	**487**	**22.1**	232	**22.8**	**629**	12.8	354
3	6	**17.6**	351	13.7	196 J	12.3	353	11.1	253	11.5	**514**	**32.6**	369	**31.8**	**690**	12.8	307
6	9	**21.8**	346	9.4	54.0	13.0	283	12.5	295	12.3	**603**	**41.4**	**412**	**54.9**	**461**	13.8	341
9	12	6.3	69.6	11.7	98.6	14.5	264	12.4	287	**18.2**	**2240**	**54.1**	**469**	**32.0**	**537**	15.0	262
12	18	6.8	35.0	7.7	60.6	13.9	124	**21.6**	**921**	12.8	249	**56.6**	388	**25.0**	237	13.9	274
18	24	7.7	16.4	6.5	22.2	6.8	53.4	**23.7**	**1310**	7.6	142	**45.5**	230	13.7	86.4	9.8	86.4
24	30							3.3	24.8			6.9	34.9	12.1	310		
30	36							9.0	155			13.1	77.4	6.0	40.8		

[1] DEEPER DATA GAP SAMPLES (24 – 36 INCHES) WERE COLLECTED AND THE RESULTS WERE ADDED TO THE ASSOCIATED LOCATION (DENOTED AS "–02"). HOWEVER, THE LOCATIONS OF THE DATA GAP SAMPLES WERE SLIGHTLY OFFSET FROM THE ORIGINAL BUT RESULTS SHOW NO LEVELS ABOVE SCO AND THEREFORE NOT A FACTOR IN DESIGN CHANGES.

NOTES

1. FIGURE PREPARED BY ECOLOGY AND ENVIRONMENT ENGINEERING AND GEOLOGY, P.C.
2. BASE MAP SURVEY BY RAVI ENGINEERING AND LAND SURVEYING, P.C.
3. NYSDEC ANALYTICAL RESULTS PROVIDED BY EUROFINS TESTAMERICA.
4. DATA VALIDATION BY ECOLOGY AND ENVIRONMENT ENGINEERING AND GEOLOGY, P.C. ANALYTES FLAGGED "J" WERE POSITIVELY IDENTIFIED AND THE ASSOCIATED VALUE IS THE APPROXIMATE CONCENTRATION OF THE ANALYTE IN THE SAMPLE. SHADED VALUES IN TABLES EXCEED SOIL CLEANUP OBJECTIVES.

ANALYTICAL RESULTS
PROPERTY ID: 26 PERU
26 PERU PLACE
BAILEY AVENUE
BUFFALO, NEW YORK



LEGEND

SURVEY CONTROL POINT		UTILITY ELECTRIC MANHOLE	
SURVEY BENCHMARK		UTILITY SANITARY MANHOLE	
UTILITY LIGHT POLE		UTILITY TELEPHONE MANHOLE	
UTILITY POLE		UTILITY DRAINAGE MANHOLE	
PEDESTRIAN LIGHT POLE		UTILITY UNKNOWN MANHOLE	
POST		UTILITY DRAINAGE CATCHBASIN	
FLAG POLE		UTILITY FIRE HYDRANT	
SIGN		UTILITY WATER VALVE	
CONIFEROUS SHRUB		UTILITY UNKNOWN VALVE	
TREE STUMP		UTILITY VENT	
DECIDUOUS SHRUB		UTILITY PULLBOX	
DECIDUOUS TREE		LANDSCAPE BOULDER	
CONIFEROUS TREE		UTILITY OVERHEAD WIRES	O/H
UTILITY ELECTRIC METER		UTILITY UNDERGROUND ELECTRIC	E
		UTILITY UNDERGROUND GAS MAIN	G
		UTILITY COMBINED SANITARY SEWER	SA
		UTILITY STORM SEWER	ST
		UTILITY UNDERGROUND WATER MAIN	W
		PROPERTY LINE	

2020 Analytical Results for 28 Peru Place

Start Depth (inches)	End Depth (inches)	Results in milligrams per kilogram (mg/kg)							
		28PERU-01		28PERU-02		28PERU-03		28PERU-04	
		Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead
0	3	14.6	169	8.7	117	13.5	154	9.7	98.5
3	6	**23.9**	**666**	9.5	98.1	14.8	143	10.7	76.1
6	9	**20.4**	203	9.5	55.7	13.0	59.0	12.4	101
9	12	10.2	68.8	8.6	36.3	12.1	38.1	10.9	70.6
12	18	10.8	22.7	7.5	44.7	10.4	23.0	12.6	136
18	24	9.8	18.9	8.7	18.9	11.3	82.2 J	9.5	71.5

2020 and 2021 Analytical Results for 32 Peru Place

Start Depth (inches)	End Depth (inches)	Results in milligrams per kilogram (mg/kg)											
		32PERU-01		32PERU-02		32PERU-03		32PERU-04		32PERU-05		32PERU-06	
		Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead
0	3	**19.0**	396	5.4	101	6.4	85.3	6.4	82.7	3.5	88.3	4.6	63.0
3	6	**22.5**	**462**	8.2	27.4	3.3	21.1	6.5	42.0	4.9	87.3	4.3	69.0
6	9	**24.8**	383	6.4	101	6.0	24.0	9.7	98.4	4.7	75.4	4.6	75.7
9	12	10.2	64.0	6.7	**698 J**	7.4	81.6	10.4	27.6	6.3	175	4.5	73.5
12	18	12.7	34.4	9.6	176	11.2	73.0	8.7	65.6	6.1	145 J	5.1	93.9
18	24	10.2	18.7	**19.2**	26.6	13.1	30.1	7.9	17.9	10.3	**400**	5.3	97.1
24	30											5.4	266

2020 and 2021 Analytical Results for 36 Peru Place

Start Depth (inches)	End Depth (inches)	Results in milligrams per kilogram (mg/kg)							
		36PERU-01		36PERU-02		36PERU-03		36PERU-04	
		Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead
0	3	**16.3**	110	14.1	271	15.6	299	7.8	75.4
3	6	6.6	97.0	12.9	174 J	**17.8**	163	7.6	66.7
6	9	5.0	57.3	12.8	138	14.7	86.1	8.0	39.1
9	12	8.7	77.5	9.8	107	13.9	70.5	11.0	72.7
12	18	10.0	54.6	9.4	67.2	10.3	32.6	10.7	29.7
18	24	13.4	31.3	12.5	44.1	10.6	22.1	8.4	16.3

2020 and 2021 Analytical Results for 36 Peru Place

Start Depth (inches)	End Depth (inches)	Results in milligrams per kilogram (mg/kg)											
		36PERU-05		36PERU-06		36PERU-07		36PERU-08		36PERU-09		36PERU-10	
		Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead
0	3	11.1	254	**16.1**	158	**17.0**	**615**	9.9	**453**	**18.7**	**442**	**18.3**	196
3	6	**17.2**	231	11.3	135	**18.5**	**693**	**16.6**	**633**	**19.1**	**496**	10.2	196
6	9	15.1	175	12.2	169	**19.9**	**2870**	**22.3**	**847**	**24.7**	**623**	10.1	196
9	12	10.0	105	8.0	97.9	**16.9**	**1670**	**23.0**	**792**	**26.9**	**757**	9.6	149
12	18	5.9	47.8	5.5	17.7	12.2	163	**16.9**	**465**	**20.3**	**522**	7.6	58.3
18	24	6.7	26.9	6.9	24.5	8.7	99.8 J	9.1	59.2	**17.0**	340		

NOTES

1. FIGURE PREPARED BY ECOLOGY AND ENVIRONMENT ENGINEERING AND GEOLOGY, P.C.
2. BASE MAP SURVEY BY RAVI ENGINEERING AND LAND SURVEYING, P.C.
3. NYSDEC ANALYTICAL RESULTS PROVIDED BY EUROFINS TESTAMERICA.
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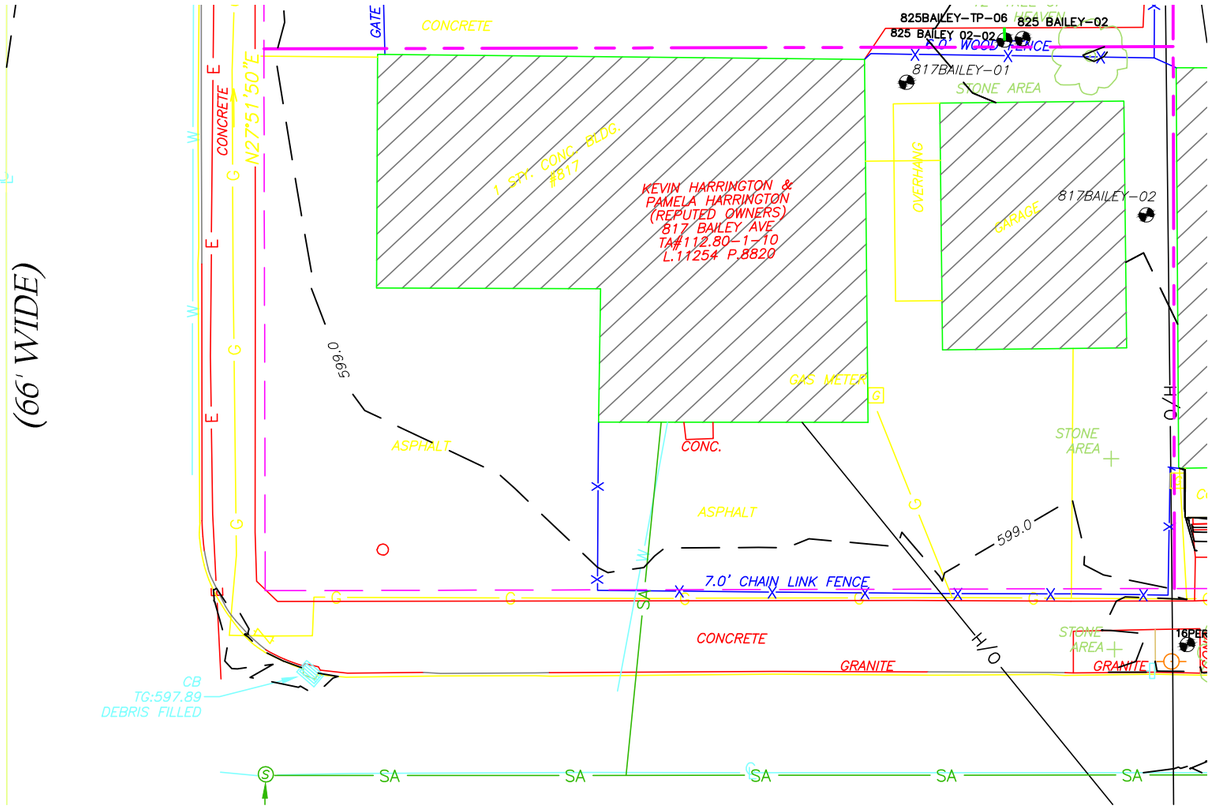
SCALE IN FEET

0 20 40 60

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

ANALYTICAL RESULTS
PROPERTY ID: 28/32/36 PERU
28, 32, AND 36 PERU PLACE
BAILEY AVENUE
BUFFALO, NEW YORK



LEGEND

SURVEY CONTROL POINT		UTILITY ELECTRIC MANHOLE	
SURVEY BENCHMARK		UTILITY SANITARY MANHOLE	
UTILITY LIGHT POLE		UTILITY TELEPHONE MANHOLE	
UTILITY POLE		UTILITY DRAINAGE MANHOLE	
PEDESTRIAN LIGHT POLE		UTILITY UNKNOWN MANHOLE	
POST		UTILITY DRAINAGE CATCHBASIN	
FLAG POLE		UTILITY FIRE HYDRANT	
SIGN		UTILITY WATER VALVE	
CONIFEROUS SHRUB		UTILITY UNKNOWN VALVE	
TREE STUMP		UTILITY VENT	
DECIDUOUS SHRUB		UTILITY PULLBOX	
DECIDUOUS TREE		LANDSCAPE BOULDER	
CONIFEROUS TREE		UTILITY OVERHEAD WIRES	
UTILITY ELECTRIC METER		UTILITY UNDERGROUND ELECTRIC	
		UTILITY UNDERGROUND GAS MAIN	
		UTILITY COMBINED SANITARY SEWER	
		UTILITY STORM SEWER	
		UTILITY UNDERGROUND WATER MAIN	
		PROPERTY LINE	

2020 Analytical Results for 817 Bailey Ave

Start Depth (inches)	End Depth (inches)	Results in milligrams per kilogram (mg/kg)			
		817BAILEY-01		817BAILEY-02	
		Arsenic	Lead	Arsenic	Lead
0	3	9.6	182	**16.9**	**774**
3	6	12.1	235	11.1	**539**
6	9	11.3	251	14.8	**1280**
9	12	10.6	**487**	7.2	302
12	18	N/A	N/A	12.1	225
18	24	N/A	N/A	6.1	72.7

NOTES

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2. BASE MAP SURVEY BY RAVI ENGINEERING AND LAND SURVEYING, P.C.
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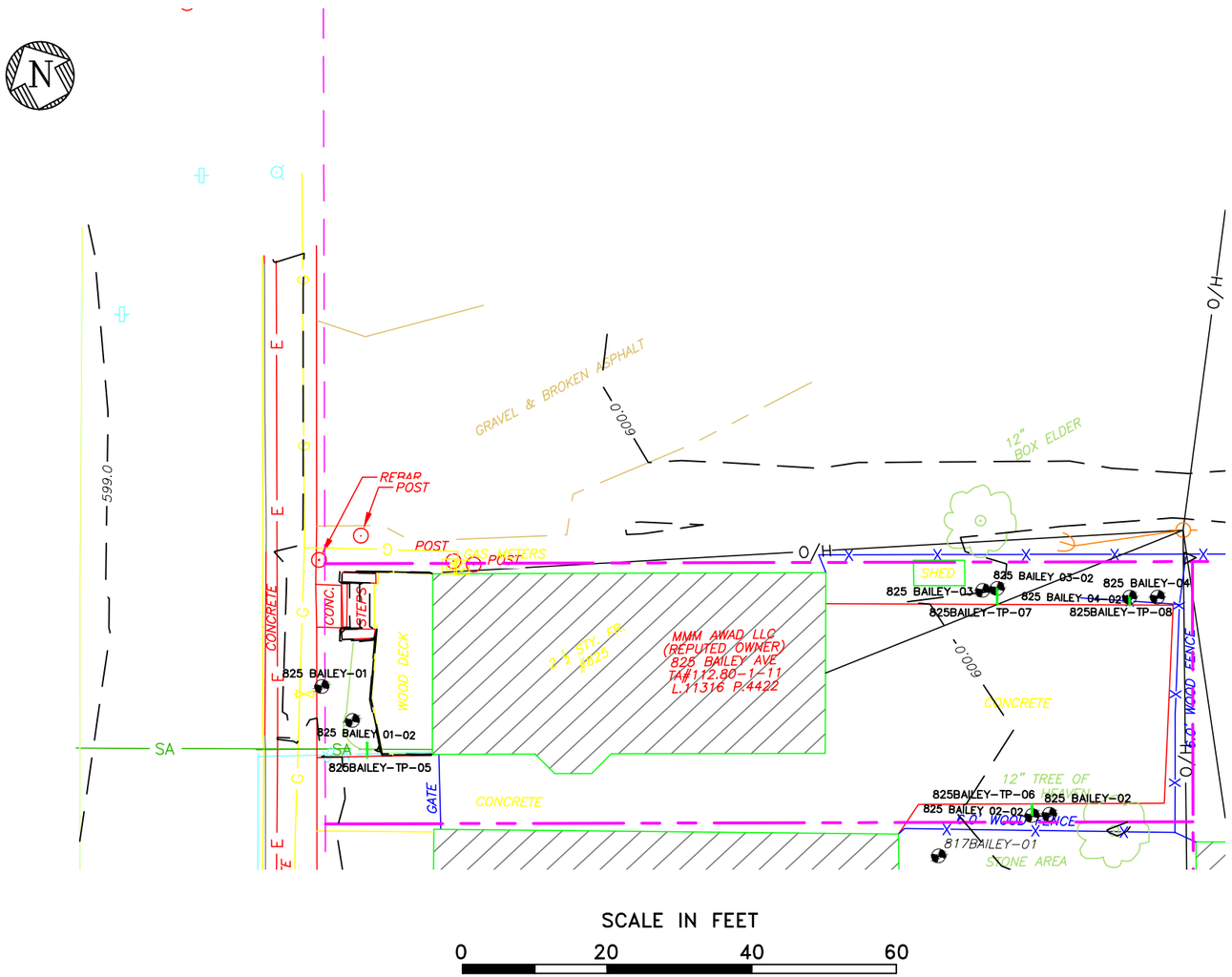
NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

ANALYTICAL RESULTS
PROPERTY ID: 817 BAILEY
817 BAILEY AVENUE
BAILEY AVENUE
BUFFALO, NEW YORK



SCALE IN FEET

0 20 40 60

LEGEND

SURVEY CONTROL POINT	UTILITY ELECTRIC MANHOLE
SURVEY BENCHMARK	UTILITY SANITARY MANHOLE
UTILITY LIGHT POLE	UTILITY TELEPHONE MANHOLE
UTILITY POLE	UTILITY DRAINAGE MANHOLE
PEDESTRIAN LIGHT POLE	UTILITY UNKNOWN MANHOLE
POST	UTILITY DRAINAGE CATCHBASIN
FLAG POLE	UTILITY FIRE HYDRANT
SIGN	UTILITY WATER VALVE
CONIFEROUS SHRUB	UTILITY UNKNOWN VALVE
TREE STUMP	UTILITY VENT
DECIDUOUS SHRUB	UTILITY PULLBOX
DECIDUOUS TREE	LANDSCAPE BOULDER
CONIFEROUS TREE	UTILITY OVERHEAD WIRES
UTILITY ELECTRIC METER	UTILITY UNDERGROUND ELECTRIC
	UTILITY UNDERGROUND GAS MAIN
	UTILITY COMBINED SANITARY SEWER
	UTILITY STORM SEWER
	UTILITY UNDERGROUND WATER MAIN
	PROPERTY LINE

825 BAILEY-02 *TEST PIT LOCATION*

NOTES

1. FIGURE PREPARED BY ECOLOGY AND ENVIRONMENT ENGINEERING AND GEOLOGY, P.C.
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2021 Analytical Results for 825 Bailey Ave

Start Depth (inches)	End Depth (inches)	Results in milligrams per kilogram (mg/kg)															
		825BAILEY-01[1]		825BAILEY-02[1]		825BAILEY-03[1]		825BAILEY-04[1]		825BAILEY-TP-05		825BAILEY-TP-06		825BAILEY-TP-07		825BAILEY-TP-08	
		Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead	Arsenic	Lead
0	3	9.1	**832**	10.7	**1270**	16.0	**1170**	13.1	**703**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3	6	10.5	**663**	12.9	**1490**	**17.7**	**1520**	**17.0**	**872**	13.0	**597**	10.9	**774**	13.5	**618**	N/A	N/A
6	9	13.0	322	12.4	**6260**	15.4	**872**	**18.0**	**713**	6.1	181	12.0	**1310**	14.3	199	**19.4**	**1250**
9	12	**19.0**	**568**	15.8	**1550**	**18.9**	**705**	**19.9**	**967**	6.7	52.4	10.7	**566**	10.3	105	**19.5**	**1240**
12	18	**21.0**	**546**	**16.1**	**877**	14.0	**1090**	**23.0**	**953**	5.7	43.9	12.0	**1720**	9.4	94.4	13.3	**435**
18	24	**19.9**	**447**	14.2	**1010**	13.2	**567**	**16.5**	360	8.4	19.8	5.0	45.1	5.4	56.6	11.0	115
24	30	6.8	16.9	4.9	51.8	6.4	32.5	8.0	60	7.1	15.9	2.9	22.2	13.6	28.9	5.9	67.5
30	36	9.2	20.4	4.5	108	8.6	19.5	7.9	115	8.6	19.6	8.2	20.4	**16.6 J**	34.9	2.7	17.9

[1] DEEPER DATA GAP SAMPLES (24 – 36 INCHES) WERE COLLECTED AND THE RESULTS WERE ADDED TO THE ASSOCIATED LOCATION (DENOTED AS "–02"). HOWEVER, THE LOCATIONS OF THE DATA GAP SAMPLES WERE SLIGHTLY OFFSET FROM THE ORIGINAL BUT RESULTS SHOW NO LEVELS ABOVE SCO AND THEREFORE NOT A FACTOR IN DESIGN CHANGES.

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

ANALYTICAL RESULTS
PROPERTY ID: 825 BAILEY
825 BAILEY AVENUE
BAILEY AVENUE
BUFFALO, NEW YORK

B Soil Boring Logs

ecology and environment engineering, p.c.
Global Environmental Specialists

BORING No.: SB 01 Page 1 of 1

Property ID: 817 Bailey

DATE	6/26/20	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	T. Dillon	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	— Datum —
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA

DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG: ~~Geoprobe~~ hand auger
NUMBER OF CORES COLLECTED: 1
SOIL SAMPLING METHOD: ~~Macro-Core~~ hand auger
FINISHED TOTAL DEPTH: 1 ft

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	1	N/A	817Bailey-01-Z00-03	0-12" dark brown silty loam topsoil with little gravel
					-Z03-06	
					-Z06-09	
1					-Z09-12	
					-Z12-18	
					-Z18-24	
2						
					-Z24-30	
					-Z30-36	
3						
					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments: Sample time 1310

Method of Completion / Backfill: Soil

Signature:

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Global Environmental Specialists

BORING No.: 02 Page 1 of 1

Property ID: 817 Bailey

DATE	6/26/20	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	T. Dillon	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	~ Datum ~
DRILLER	C. Stone	LOCATION COORDINATES	~ N / ~ E

WATER LEVEL DATA

DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	~~Geoprobe~~
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	~~Macro-Core~~ hand auger
FINISHED TOTAL DEPTH	2 ft

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	2	N/A	817 Bailey-02 -Z00-03	0-18" dark brown silt with little gravel and clay
					-Z03-06	
					-Z06-09	18-24" brown to to light tan ~~to~~ M silt with some clay
1					-Z09-12	
					-Z12-18	
					-Z18-24	
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature:

ecology and environment engineering, p.c.

BORING No.: 01 Page 3 of ___

Property ID: 825 Bailey

DATE	4/15/2021	SITE NAME / LOCATION	837 Bailey Ave IRM-Offsite
E & E GEOLOGIST	T. Dillon	E & E PROJECT ID	1703074.0041.04
SUBCONTRACTOR	NA	ELEVATION	___ Datum ___
DRILLER	NA	LOCATION COORDINATES	N / E

WATER LEVEL DATA

DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	NA
NUMBER OF CORES COLLECTED	NA
SOIL SAMPLING METHOD	hand auger
FINISHED TOTAL DEPTH	2 ft

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	2ft	N/A	825 Bailey-01-Z00-03	0-6" dk brown sandy silt and few gravel
					-Z03-06	
					-Z06-09	6-12" brown silt with few clay and gravel
1					-Z09-12	
					-Z12-18	12-24" dark brown and tan clay with trace gravel
					-Z18-24	
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments: Collect @ 1445

Method of Completion / Backfill: topsoil

Signature: [signature]

ecology and environment engineering, p.c.

BORING No.: 02 Page 5 of ___

Property ID: 825 Bailey

DATE	4/15/2021	SITE NAME / LOCATION	837 Bailey Ave IRM-Offsite
E & E GEOLOGIST	T. Dillon	E & E PROJECT ID	1703074.0041.04
SUBCONTRACTOR	NA	ELEVATION	___ Datum ___
DRILLER	NA	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	NA
NUMBER OF CORES COLLECTED	NA
SOIL SAMPLING METHOD	hand auger
FINISHED TOTAL DEPTH	2 ft

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	2ft	N/A	-Z00-03	0-12" dark brown to brown sand with little silt, few gravel
					-Z03-06	
					-Z06-09	
1					-Z09-12	12-24" brown to few tan silt with little clay, trace gravel, more clay and tan with depth
					-Z12-18	
					-Z18-24	
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments Collected @ 1510

Method of Completion / Backfill: topsoil

Signature: [signature]

ecology and environment engineering, p.c.

BORING No.: 03 Page 4 of ___

Property ID: 825Bailey

DATE	4/15/2021	SITE NAME / LOCATION	837 Bailey Ave IRM-Offsite
E & E GEOLOGIST	T. Dillon	E & E PROJECT ID	1703074.0041.04
SUBCONTRACTOR	NA	ELEVATION	___ Datum ___
DRILLER	NA	LOCATION COORDINATES	N / E

WATER LEVEL DATA

DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	NA
NUMBER OF CORES COLLECTED	NA
SOIL SAMPLING METHOD	hand auger
FINISHED TOTAL DEPTH	2 ft

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	2ft	N/A	825Bailey-03 -Z00-03	0-9" dark brown to brown sandy silt with gravel
					-Z03-06	
					-Z06-09	9-24" brown to tan silt with fine clay, trace gravel
1					-Z09-12	
					-Z12-18	
					-Z18-24	
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments: Collected @ 1530

Method of Completion / Backfill: top soil

Signature: [signature]

ecology and environment engineering, p.c.

BORING No.: 04 Page 6 of ___

Property ID: 825 Bailey

DATE	4/15/2021	SITE NAME / LOCATION	837 Bailey Ave IRM-Offsite
E & E GEOLOGIST	T. Dillon	E & E PROJECT ID	1703074.0041.04
SUBCONTRACTOR	NA	ELEVATION	___ Datum ___
DRILLER	NA	LOCATION COORDINATES	N / E

WATER LEVEL DATA

DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	NA
NUMBER OF CORES COLLECTED	NA
SOIL SAMPLING METHOD	hand auger
FINISHED TOTAL DEPTH	2 ft

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	2ft	N/A	825Bailey-04 -Z00-03	0-6" dark brown sand with few silt, trace gravel
					-Z03-06	
					-Z06-09	6-12" dark brown sandy silt with
1					-Z09-12	few gravel, trace fill (glass of ceramic material) & (white ashy material)
					-Z12-18	
					-Z18-24	12-18" dark brown silt with few clay and sand, trace gravel
2					-Z24-30	18-24" dark brown to light brown clay with some silt and few gravel
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments: Collected @ 1145 MS/MSD @ ~~Z0-3~~ Z12-18 Duplicate Z0-3

Method of Completion / Backfill: topsoil

Signature: [signature]

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BORING No.: 01 Page 1 of 1

Property ID: 16 Peru

DATE	~~9/15/2021~~ 7-8-21	SITE NAME / LOCATION	837 Bailey Ave IRM-Offsite
E & E GEOLOGIST	~~T. Dillon~~ C. Porrello	E & E PROJECT ID	1703074.0041.04
SUBCONTRACTOR	NA	ELEVATION	Datum
DRILLER	NA	LOCATION COORDINATES	N / E

WATER LEVEL DATA

DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	NA
NUMBER OF CORES COLLECTED	NA
SOIL SAMPLING METHOD	hand auger
FINISHED TOTAL DEPTH	2 ft

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	2ft	N/A	16 Peru-01 -Z00-03	0-18" Med. brown silty sand w/organics (roots), trace gravels, little-some consolidation
					-Z03-06	
					-Z06-09	
1					-Z09-12	
					-Z12-18	
					-Z18-24	18-24" Lt.-Med. brown silty clay loam w/organics (roots), some consolidation
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature:

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BORING No.: 02 Page 1 of 1

Property ID: 16 Peru

DATE	~~4/15/2021~~ 7-8-21	SITE NAME / LOCATION	837 Bailey Ave IRM-Offsite
E & E GEOLOGIST	~~T. Dillon~~ (LP) C. Porreca	E & E PROJECT ID	1703074.0041.04
SUBCONTRACTOR	NA	ELEVATION	Datum
DRILLER	NA	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	NA
NUMBER OF CORES COLLECTED	NA
SOIL SAMPLING METHOD	hand auger
FINISHED TOTAL DEPTH	2 ft

Depth (ft. BGS)	SAMPLE INFORMATION Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	2ft	N/A	16 Peru-02-Z00-03	0-18" Med. brown silty sand w/organics (roots, sticks), some consolidation
					-Z03-06	
					-Z06-09	
1					-Z09-12	
					-Z12-18	
					-Z18-24	18-24" lt.-med. brown silty clay loam w/organics (roots, sticks), better consolidation
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature:

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BORING No.: 03 Page 1 of 1

Property ID: 16 Peru

DATE	~~4/15/2021~~ 7-8-21	SITE NAME / LOCATION	837 Bailey Ave IRM-Offsite
E & E GEOLOGIST	~~T. Dunn~~ (CP) C. Porreca	E & E PROJECT ID	1703074.0041.04
SUBCONTRACTOR	NA	ELEVATION	Datum
DRILLER	NA	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

(CP)

TYPE OF DRILL RIG	NA
NUMBER OF CORES COLLECTED	NA
SOIL SAMPLING METHOD	hand auger
FINISHED TOTAL DEPTH	(CP) ~~3~~ 3

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	2ft	N/A	16 Peru-03-Z00-03	0-12" Med. brown silty sand w/ organics (roots), some consolidation, trace gravels
					-Z03-06	
					-Z06-09	
1					-Z09-12	
					-Z12-18	12-24" Med.-lt. brown silty clay loam w/organics (roots), trace brick pieces, some consolidation
					-Z18-24	
2					-Z24-30	24-~~36~~ 32 lt.-med. brown silty sand, well consolidated
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature:

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BORING No.: 04 Page 1 of 1

Property ID: 16 Peru

DATE	~~7/15/2021~~ 7-8-21	SITE NAME / LOCATION	837 Bailey Ave IRM-Offsite
E & E GEOLOGIST	~~J. Diliso~~ (CP) C. Porreca	E & E PROJECT ID	1703074.0041.04
SUBCONTRACTOR	NA	ELEVATION	Datum
DRILLER	NA	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

(CP)

TYPE OF DRILL RIG	NA
NUMBER OF CORES COLLECTED	NA
SOIL SAMPLING METHOD	hand auger
FINISHED TOTAL DEPTH	(CP) ft 3

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	2ft	N/A	16Peru-04-Z00-03	0-12" Med. brown silty sand w/organic material (roots, sticks), little consolidation
					-Z03-06	
					-Z06-09	
1					-Z09-12	
					-Z12-18	12-18" Med.-lt. brown silty sand loam w/organic material (roots), some consolidation
					-Z18-24	18"-30" Med.-lt. brown clay loam
2					-Z24-30	w/organic material (roots), some consolidation
					-Z30-36	30-36" lt.-med. brown loamy clay
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature:

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BORING No.: 05 Page 1 of 1

Property ID: 16 Peru

DATE ~~4/13/2021~~ 7-8-21

E & E GEOLOGIST ~~T. Dillon~~ (CP) C. Porreca

SUBCONTRACTOR NA

DRILLER NA

SITE NAME / LOCATION 837 Bailey Ave IRM-Offsite

E & E PROJECT ID 1703074.0041.04

ELEVATION _____ Datum _____

LOCATION COORDINATES _____ N / _____ E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.
			(CP)

TYPE OF DRILL RIG NA

NUMBER OF CORES COLLECTED NA

SOIL SAMPLING METHOD hand auger

FINISHED TOTAL DEPTH (CP) ~~3~~ 3

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	2ft	N/A	16 Peru-05-Z00-03	0-24" med. brown silty sand w/organic material (roots, sticks), some consolidation
					-Z03-06	
					-Z06-09	
1					-Z09-12	
					-Z12-18	
					-Z18-24	
2					-Z24-30	24-30" med.-lt. brown silty clay loam w/organics (roots), some consolidation
					-Z30-36	30-36" lt.-med. brown loamy clay w/organics (roots), better consolidated
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature: _____

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BORING No.: 18 Pav -01 Page 1 of 1

Property ID: 18Pav -01

DATE	6/26/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	J. Micek	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	Datum
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.8

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	3.8	N/A	18Pav-01-Z00-03	0-10" brown silty loam with organics
					-Z03-06	10-34" light brown silty clay
					-Z06-09	
1					-Z09-12	
					-Z12-18	
					-Z18-24	
2						
					-Z24-30	
					-Z30-36	
3						
					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature:

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BORING No.: 18Pcu-02 Page 1 of 1

Property ID: 18-Pcu-02

DATE	6/26/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	S. Mizel	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	Datum
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.8

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	3.8	N/A	18Pcu-02 -Z00-03	0-9" dark brown top soil w/ fine organics
					-Z03-06	9-24" light brown silty clay
					-Z06-09	
1					-Z09-12	
					-Z12-18	Note: Glass observed @ - 8-9" - 17"
					-Z18-24	
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature:

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BORING No.: 18PERV-03 Page ____ of ____

Property ID: _____

DATE	6/25/20	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	A. Jacobs	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	_____ Datum _____
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.8 / 3.8'

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A		N/A	18PERV-03 -Z00-03	0-5" Medium brown Sandy Silt topsoil with some organics.
					-Z03-06	
					-Z06-09	5-12" Medium brown Sandy Silt with trace fill material such as gravel and fine brick.
1					-Z09-12	
					-Z12-18	12-24" Light yellowish brown silt with trace sand
					-Z18-24	
2						
					-Z24-30	
					-Z30-36	
3						
					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments: Collected on 6/24/20

Method of Completion / Backfill: Topsoil

Signature: [signature]

ecology and environment engineering, p.c.
Global Environmental Specialists

BORING No.: 18PERU-04 Page ____ of ____

Property ID: ____

DATE	6/25/20	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	A. Jacobs	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	____ Datum ____
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.4/3.8'

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A		N/A	18PERU-04 -Z00-03	0-5" Medium brown Sandy silt topsoil
					-Z03-06	with organics. Some white flaky fine
					-Z06-09	fill material throughout
					-Z09-12	5-11" Medium brown sandy silt with trace
1					-Z12-18	fine gravel.
						11-24" Light yellowish brown Silt with some
					-Z18-24	Sandy.
						Note: white flakey fill fine material along
2					-Z24-30	core, transferred from above.
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments: Collected on 6/24/20

Method of Completion / Backfill: Topsoil

Signature: [signature]

ecology and environment engineering, p.c.
Global Environmental Specialists

BORING No.: 18PERU-C06 Page ____ of ____

Property ID: ____

DATE	6/25/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	A. Jacobs	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	____ Datum ____
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA

DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.4/3.8'

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A		N/A	18PERU-C06 -Z00-03	0-9" Medium to Dark brown Sandy
					-Z03-06	silt topsoil with some organics
					-Z06-09	9-24" Light yellowish/reddish brown
1					-Z09-12	Silt with trace sandy.
					-Z12-18	
					-Z18-24	
2						
					-Z24-30	
					-Z30-36	
3						
					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments: Collected on 6/24/2020

Method of Completion / Backfill: Topsoil

Signature: [signature]

ecology and environment engineering, p.c.
Global Environmental Solutions

BORING No.: 20 Perch-01 Page 1 of 1

Property ID: 20 Perch-01

DATE	6/26/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	J. Mizd	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	Datum
DRILLER	C. Stone	LOCATION COORDINATES	N E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.8

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	3.8	N/A	20 Perch-01-Z00-03	0-6" brown top soil with organics
					-Z03-06	6-24" light brown silty clay becomes light brown clay @ 20"
					-Z06-09	
1					-Z09-12	
					-Z12-18	
					-Z18-24	
2						
					-Z24-30	
					-Z30-36	
3						
					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature:

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Global Environmental Specialists

BORING No.: 20PERU-02 Page ____ of ____

Property ID: _____

DATE	6/25/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	A. Jacobs	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	_____ Datum _____
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.7 / 3.8'

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A		N/A	20PERU-02 -Z00-03	0-1" Medium brown sandy topsoil with organics/moss
					-Z03-06	
					-Z06-09	1-2" Medium - small rounded gravel
1					-Z09-12	2-17" Medium brown sandy silt with trace gravel.
					-Z12-18	17-19" Light yellowish brown sandy silt with trace clay
					-Z18-24	19-24" Medium brown silty with trace clay and trace fine gravel.
2					-Z24-30	Note: Some rust coloration noticed in 3-6 and 6-9" and 9-12"
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments: Collected 6/24/20

Method of Completion / Backfill: Topsoil

Signature: _____

ecology and environment engineering, p.c.
Ground Environmental Specialists

BORING No.: 20PERU-03 Page ____ of ____

Property ID: ____

DATE	6/25/20	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	A. Jacobs	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	____ Datum ____
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.8'/3.8'

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A		N/A	20PERU-03-Z00-03	0-14" Medium brown Sandy Silt with
					-Z03-06	trace organics in 0-1". Trace fine gravel.
					-Z06-09	14-24" Light yellowish brown sandy silt
1					-Z09-12	with trace clay, compact.
					-Z12-18	
					-Z18-24	
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments Collected 6/24/20

Method of Completion / Backfill: Topsoil

Signature: [signature]

ecology and environment engineering, p.c.
Ground Environmental Specialists

BORING No.: 20PERU-04 Page ____ of ____

Property ID: _____

DATE	6/25/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	A. Jacobs	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	_____ Datum _____
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.8/3.8'

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A		N/A	20PERU-04 -Z00-03	0-9" Medium/Dark brown sandy silt topsoil with ~~trace~~ some organics and trace fine gravel.
					-Z03-06	
					-Z06-09	
					-Z09-12	9-17" Medium/Dark brown sandy silt with trace clay and trace fine gravel
1					-Z12-18	
					-Z18-24	17-24" Light yellowish brown silt with trace sand, compact.
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments: Collected on 6/24/2020

Method of Completion / Backfill: Topsoil

Signature: [signature]

ecology and environment engineering, p.c.
Global Environmental Specialists

BORING No. 24 Pov -01 Page 1 of 1

Property ID: 24 Pov -01

DATE	6/26/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	S. Miceli	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	Datum
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.8

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	3.8	N/A	24 Pov-01 -Z00-03	0-12" brown silty loam
					-Z03-06	12-24" light brown silty clay
					-Z06-09	
					-Z09-12	
1					-Z12-18	
					-Z18-24	
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature:

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Global Environmental Specialists

BORING No.: 34Pou-02 Page 1 of 1

Property ID: 34Pou-02

DATE	6/26/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	S. Mizel	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	Datum
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.8

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	3.8	N/A	34Pou-02-Z00-03	0-4" dark brown top soil with organics
					-Z03-06	
					-Z06-09	
1					-Z09-12	4-34" light brown silty clay
					-Z12-18	
					-Z18-24	Note @ 4-10" trace black ashy fill
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

4-10 trace black ashy fill

Method of Completion / Backfill:

Signature: Justin J. Murphy

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BORING No. 24Pov-03 Page 1 of 1

Property ID: 24Pov-03

DATE	6/30/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	S. Mucci	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	Datum
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA

DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.4

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	3.4	N/A	24Pov-03-Z00-03	0-6" top soil with organics
					-Z03-06	6-13" light brown silty clay
					-Z06-09	13-21" dark brown silty clay
1					-Z09-12	21-24" light brown clay
					-Z12-18	
					-Z18-24	
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature:

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BORING No.: 26Pov-01 Page 1 of 1

Property ID: 26Pov-01

DATE	6/30/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	J Mucci	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	Datum
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.4

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	3.4	N/A	26Pov-01-Z00-03	0-11" brown silty loam
					-Z03-06	11-34" light brown silty clay
					-Z06-09	
1					-Z09-12	
					-Z12-18	
					-Z18-24	
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature: Justin J Mucci

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BORING No.: 26Pav-02 Page 1 of 1

Property ID: 26Pav-02

DATE	6/26/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	J. Miceli	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	Datum
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.5

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	3.5	N/A	26Pav-02 -Z00-03	0-5" top soil with organics
					-Z03-06	~~5-11"~~ (Lm)
					-Z06-09	5-11" light brown silt with some clay
					-Z09-12	11-18" dark brown silty loam
1					-Z12-18	18-24" light brown silty clay
					-Z18-24	
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature:

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BORING No.: 03 Page 1 of 1

Property ID: 26 Perry

DATE	6/26/20	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	T.D. Allen	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	~~LaBella~~	ELEVATION	Datum
DRILLER	NA	LOCATION COORDINATES	N / E

WATER LEVEL DATA

DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG: ~~Geoprobe~~
NUMBER OF CORES COLLECTED: 1
SOIL SAMPLING METHOD: ~~Macro-Core~~ hand auger
FINISHED TOTAL DEPTH: 2

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	2	N/A	26Perry-03 -Z00-03	0-3 brown silt with few gravel and organics
					-Z03-06	
					-Z06-09	3-6 brown silt with few fill (coal ash/white ash and gravel
1					-Z09-12	
					-Z12-18	6-24 brown silt with few tan clay and gravel; clay increasing with depth
					-Z18-24	
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments: Sample time 1058

Method of Completion / Backfill: Soil

Signature:

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BORING No.: 04 Page 1 of 1

Property ID: 26Peu

DATE	6/26/20	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	T. Dillon	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	— Datum —
DRILLER	T. Dillon	LOCATION COORDINATES	— N / — E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG: ~~Geoprobe~~
NUMBER OF CORES COLLECTED: 1
SOIL SAMPLING METHOD: ~~Macro-Core~~ hand auger
FINISHED TOTAL DEPTH: 2

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	2	N/A	26Peu-04 -Z00-03	0-12 brown silt topsoil w/ trace
					-Z03-06	gravel and organics
					-Z06-09	12-24 light brown silt w/ little
					-Z09-12	clay, dense
1					-Z12-18	
					-Z18-24	
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments: Sample time 1113

Method of Completion / Backfill: Soil

Signature:

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Global Environmental Specialists

BORING No.: 05 Page 1 of 1

Property ID: 26 Peru

DATE	6/26/20	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	T. Dilla	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	— Datum —
DRILLER	C. Stahl	LOCATION COORDINATES	— N / — E

WATER LEVEL DATA

DATE	TIME	~~WATER LEVEL~~	REF. PT.

TYPE OF DRILL RIG	~~Geoprobe~~
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	~~Macro Core~~ hand auger
FINISHED TOTAL DEPTH	2

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	2	N/A	26Peru-05-Z00-03	0-6 brown silt top soil w/ organics
					-Z03-06	6-12 brown silt with trace fill (brick and glass
					-Z06-09	
					-Z09-12	12-24 brown silt with little tan clay
1					-Z12-18	
					-Z18-24	
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments: Sample time 1130

Method of Completion / Backfill: Soil

Signature: [signature]

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BORING No.: 28Perv-01 Page 1 of 1

Property ID: 28Perv-01

DATE	6/26/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	J. Mizeli	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	Datum
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.5

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	3.5	N/A	28Perv-01 -Z00-03	0-5" top soil with organics (brown)
		(5pt)			-Z03-06	
					-Z06-09	5-12" brown silty loam with some clay
1					-Z09-12	
					-Z12-18	12-24" light brown silty clay
					-Z18-24	
2					-Z24-30	Note: 3-6 small to medium sized gravel and some ashy fill
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature:

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Global Environmental Specialists

BORING No. 28Pov-02 Page 1 of 1

Property ID: 28Pov-02

DATE	6/26/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	J. Miceli	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	Datum
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	34

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	3.4	N/A	28Pov-02 -Z00-03	0-3" top soil with organics
					-Z03-06	3-10" brown silty loam
					-Z06-09	10-34" light brown silty clay becomes
					-Z09-12	light brown clay @ 20"
1					-Z12-18	
					-Z18-24	
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature: Justin J. Miceli

ecology and environment engineering, p.c.
Global Environmental Specialists

BORING No.: 28POV-03 Page 1 of 1

Property ID: 28POV-03

DATE	6/26/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	J. Mizel	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	Datum
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.5

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	3.5	N/A	28POV-03 -Z00-03	0-7" brown topsoil with organic
					-Z03-06	7-34" light brown silty clay
					-Z06-09	
1					-Z09-12	
					-Z12-18	
					-Z18-24	
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature:

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Global Environmental Specialists

BORING No. 28Bou-04 Page 1 of 1

Property ID: 28Bou-04

DATE	6/16/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	J. Miceli	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	Datum
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.4

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	3.4	N/A	28Bou-04-Z00-03	0-5" topsoil and organics with 3-5 gravel
					-Z03-06	
					-Z06-09	5-34" light brown silty clay
					-Z09-12	
1					-Z12-18	
					-Z18-24	
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature: [signature]

ecology and environment engineering, p.c.
Global Environmental Specialists

BORING No.: 37Pou-01 Page 1 of 1

Property ID: 37Pou-01

DATE	6/26/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	J. Mccl	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	Datum
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.8

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	3.8	N/A	37Pou-01 -Z00-03	0-6" - brown topsoil with organics
					-Z03-06	7-9" - large gravel and wood chip
					-Z06-09	9-24" light brown silty clay
1					-Z09-12	
					-Z12-18	
					-Z18-24	
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
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7						
8						

Comments

Method of Completion / Backfill:

Signature:

ecology and environment engineering, p.c.
Ground Environmental Specialists

BORING No.: 32Pov-02 Page 1 of 1

Property ID: 32Pov-02

DATE	6/16/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	J. Mizek	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	Datum
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.8

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	3.8	N/A	32Pov-02 -Z00-03	0-2.5" top soil with organics
					-Z03-06	2.5-24" reddish brown clay becomes
					-Z06-09	light brown clay @ 16"
1					-Z09-12	
					-Z12-18	
					-Z18-24	
2						
					-Z24-30	
					-Z30-36	
3						
					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature:

ecology and environment engineering, p.c.
Ground Environmental Scientists

BORING No.: 32Pov-03 Page 1 of 1

Property ID: 32Pov-03

DATE	6/26/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	J. Micek	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	Datum
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	(ft) bgs 4.0

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	4.0	N/A	32Pov-03 -Z00-03	0-2" brown topsoil with organics
					-Z03-06	2-12" reddish brown silty clay
					-Z06-09	12-24" light brown silty clay
					-Z09-12	
1					-Z12-18	
					-Z18-24	
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments • Shoe taped to core

Method of Completion / Backfill:

Signature:

ecology and environment engineering, p.c.
Global Environmental Specialists

BORING No.: 32 Peru-04 Page 1 of 1

Property ID: 32 Peru-04

DATE	6/26/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	J. Mizel.	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	Datum
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.7

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	3.7	N/A	32-Peru-04-Z00-03	0-8" light brown silty loam w/ trace black ash/fill.
					-Z03-06	
					-Z06-09	8-24" light brown silty clay
1					-Z09-12	
					-Z12-18	
					-Z18-24	
2						
					-Z24-30	
					-Z30-36	
3						
					-Z36-42	
					-Z42-48	
4						
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6						
7						
8						

Comments

Method of Completion / Backfill:

Signature:

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BORING No.: 06 Page 1 of 1

Property ID: 32 Peru

DATE	~~4/15/2021~~ 7-8-21
E & E GEOLOGIST	~~T. Dillon~~ (CP) C. Porreca
SUBCONTRACTOR	NA
DRILLER	NA
SITE NAME / LOCATION	837 Bailey Ave IRM-Offsite
E & E PROJECT ID	1703074.0041.04
ELEVATION	Datum
LOCATION COORDINATES	N / E
TYPE OF DRILL RIG	NA
NUMBER OF CORES COLLECTED	NA
SOIL SAMPLING METHOD	hand auger
FINISHED TOTAL DEPTH	1 ft (CP)

WATER LEVEL DATA

DATE	TIME	WATER LEVEL	REF. PT.

(CP)

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	2ft	N/A	32Peru-06 -Z00-03	0-6" Reddish, lt.-med. brown silty sand w/organic material (roots), somewhat consolidated
					-Z03-06	
					-Z06-09	
1					-Z09-12	9-12" Reddish, lt.-med. brown silty sand w/organic material (roots), better consolidated
					-Z12-18	
					-Z18-24	
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature:

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Global Environmental Solutions

BORING No.: 36 Perv - 01 Page 1 of 1

Property ID: 36 Perv - 01

DATE	6/26/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	S. Miceli	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	Datum
DRILLER	C. Steve	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.5

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis		SOIL DESCRIPTION / COMMENTS
		N/A	3.5	N/A	36-Perv-01	-Z00-03	0-3' dark brown top soil with organics
						-Z03-06	5-10" light brown / reddish clay
						-Z06-09	10-24" dark brown silty loam becomes
1						-Z09-12	light brown silty clay @ 15"
						-Z12-18	Note:
						-Z18-24	7-15 trace black ashy fill
2							14-15 large gravel sized clast black ashy fill
						-Z24-30	
						-Z30-36	
3						-Z36-42	
						-Z42-48	
4							
5							
6							
7							
8							

Comments

7-15 trace black ashy fill

14-15 large gravel clast bade ashy fill.

Method of Completion / Backfill:

Signature:

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Global Environmental Specialists

BORING No.: 36 Perv - 02 Page 1 of 1

Property ID: 36 Perv - 02

DATE	6/26/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	J. Mizel	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	Datum
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.3

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	3.3	N/A	36Perv-02-Z00-03	0-12" dark brown silty loam w/ trace organics and some clay
					-Z03-06	
					-Z06-09	
1					-Z09-12	12-24" light brown silty clay becomes light brown clay @ 13"
					-Z12-18	
					-Z18-24	
2						
					-Z24-30	
					-Z30-36	
3						
					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature:

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Global Environmental Specialists

BORING No.: 36Pou-03 Page 1 of 1

Property ID: 36Pou-03

DATE	6/16/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	S. Micel	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	Datum
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.6

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	3.6	N/A	36Pou-03 -Z00-03	0-5" brown topsoil with organics
					-Z03-06	5-12" brown silty loam with some sand
					-Z06-09	
1					-Z09-12	12-144" light brown silty clay with some sand
					-Z12-18	
					-Z18-24	
2						
					-Z24-30	
					-Z30-36	
3						
					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature:

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Global Environmental Specialists

BORING No.: 36Perv4-04 Page 1 of 1
Property ID: 36Perv4-04

DATE		SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST		E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	Datum
DRILLER		LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.3

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	3.3	N/A	36Perv4-04 -Z00-03	0-14" dark brown silty loam
					-Z03-06	with organics
					-Z06-09	
1					-Z09-12	14-34" light brown silty clay
					-Z12-18	
					-Z18-24	
2						
					-Z24-30	
					-Z30-36	
3						
					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature:

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Global Environmental Specialists

BORING No.: 36Perv-05 Page 1 of 1

Property ID: 36Perv-05

DATE	6/16/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	S. Mitel	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	Datum
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.5

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	3.5	N/A	36Perv-05 -Z00-03	0-6" brown top soil with organics
					-Z03-06	6-12" brown Silty loam
					-Z06-09	12-34" light brown Silty clay
1					-Z09-12	
					-Z12-18	Note: 0-13 trace black and white ashy fill
					-Z18-24	
2						
					-Z24-30	
					-Z30-36	
3						
					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments: 0-13 trace black and white ashy fill

Method of Completion / Backfill:

Signature:

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Global Environmental Specialists

BORING No.: 36 Pouc-06 Page 1 of 1

Property ID: 36 Pouc-06

DATE	6/26/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	S. Mucci	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	Datum
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.6

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	3.6	N/A	36Pouc-06-Z00-03	0-10" dark brown silty loam with organics with some clay (SLM)
					-Z03-06	
					-Z06-09	
1					-Z09-12	10-34" light brown silty ~~clay~~ Clay
					-Z12-18	
					-Z18-24	
2						
					-Z24-30	
					-Z30-36	
3						
					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature:

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Global Environmental Specialists

BORING No.: 36Pou-07 Page 1 of 1

Property ID: 36Pou-07

DATE	6/26/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	S. Mizdi	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	LaBella	ELEVATION	Datum
DRILLER	C. Stone	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	Geoprobe
NUMBER OF CORES COLLECTED	1
SOIL SAMPLING METHOD	Macro-Core
FINISHED TOTAL DEPTH	3.7

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A	3.7	N/A	36Pou-07 -Z00-03	0-11" dark brown silty loam with trace black ashy fill and
					-Z03-06	
					-Z06-09	
					-Z09-12	9-11 some medium sized gravel
1					-Z12-18	11-34" light brown silty clay
					-Z18-24	
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill:

Signature:

ecology and environment engineering, p.c.
Global Environmental Specialists

BORING No.: 36PERU-08 Page ____ of ____

Property ID: ____

DATE	6/25/2020	SITE NAME / LOCATION	837 Bailey Offsite, Buffalo NY
E & E GEOLOGIST	A. Jacobs	E & E PROJECT ID	1705007.0008.01
SUBCONTRACTOR	~~LaBella~~	ELEVATION	____ Datum ____
DRILLER	~	LOCATION COORDINATES	N / E

WATER LEVEL DATA			
DATE	TIME	WATER LEVEL	REF. PT.

TYPE OF DRILL RIG	~~Geoprobe~~
NUMBER OF CORES COLLECTED	Hand Auger
SOIL SAMPLING METHOD	~~Macro-Core~~
FINISHED TOTAL DEPTH	2ft

Depth (ft. BGS)	SAMPLE INFORMATION: Core/SS No.	Blow Count	Recovery (ft)	PID/FID (ppm)	Lab/Field Sample ID & Analysis	SOIL DESCRIPTION / COMMENTS
		N/A		N/A	36PERU-08 -Z00-03	0-9" Dark brown Sandy silt topsoil
					-Z03-06	9-18 Dark brown silt with some
					-Z06-09	Sand and trace fine gravel.
					-Z09-12	~~12-18 Medium brown~~
1					-Z12-18	18-24" Light yellowish brown Sand with trace silt.
					-Z18-24	
2					-Z24-30	
					-Z30-36	
3					-Z36-42	
					-Z42-48	
4						
5						
6						
7						
8						

Comments

Method of Completion / Backfill: Topsoil

Signature: [signature]

C Laboratory Reports

Category B laboratory reports are provided separately.

D Data Usability Summary Reports

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 9, 2020	Completed by: Eridania Marte

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness based on applicable sections of the following guidelines.

- NYSDEC Division of Environmental Remediation Guidance for Data Deliverables and the Development of Data Usability Summary Reports (in DER-10, May 2010)
- EPA Region 2 Data Validation SOPs

Specific criteria for QC limits were obtained from the master QAPP. Compliance with the project QA program is indicated in the checklist and tables below. Any major or minor concerns affecting data usability are listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

Laboratory	Sample Delivery Group	Task Code
Test America, Edison Test America, Buffalo	460-212131-8 480-186727-1	Remedial Design

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
460-212131-8	SO	817BAILEY-01-Z00-03	460-212131-164	06/26/2020 13:10			
460-212131-8	SO	817BAILEY-01-Z03-06	460-212131-165	06/26/2020 13:10			
460-212131-8	SO	817BAILEY-01-Z06-09	460-212131-166	06/26/2020 13:10			
460-212131-8	SO	817BAILEY-01-Z09-12	460-212131-167	06/26/2020 13:10			
460-212131-8	SO	817BAILEY-02-Z00-03	460-212131-168	06/26/2020 13:20			
460-212131-8	SO	817BAILEY-02-Z03-06	460-212131-169	06/26/2020 13:20			
460-212131-8	SO	817BAILEY-02-Z06-09	460-212131-170	06/26/2020 13:20			
460-212131-8	SO	817BAILEY-02-Z09-12	460-212131-171	06/26/2020 13:20			
460-212131-8	SO	817BAILEY-02-Z12-18	460-212131-172	06/26/2020 13:20			
460-212131-8	SO	817BAILEY-02-Z18-24	460-212131-173	06/26/2020 13:20			
480-186727-1	SO	817Bailey-01-Z9-12	480-186727-1	06/30/2021 10:38			
480-186727-1	SO	817Bailey-01-Z12-18	480-186727-2	06/30/2021 10:38			
480-186727-1	SO	817Bailey-01-Z18-24	480-186727-3	06/30/2021 10:38			
480-186727-1	SO	817Bailey-01-Z24-30	480-186727-4	06/30/2021 11:20			
480-186727-1	SO	817Bailey-01-Z30-36	480-186727-5	06/30/2021 11:20			

SDG	Matrix	Test Method	Number of Samples	Sample Type
460-212131-8	SO	6010C	10	N
480-186727-1	SO	6010C	5	N

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 9, 2020	Completed by: Eridania Marte

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes.
Did coolers arrive at lab between 2 and 6ºC and in good condition as indicated on COC and Cooler Receipt Form?	Yes.
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	The frequency of field QC will be evaluated at the end of project. 0 FD per 15 samples. 0 MS/MSD per 15 samples. 0 rinsate blank.
Case narrative present and complete?	Yes.
Any holding time violations?	No.

The following tables are presented at the end of this DUSR and provide summaries of results outside QC criteria:

- Method Blanks Results (Table 2, 2A, and 2B)
- MS/MSD Outside Limits (Table 3 and 3A)
- LCS Outside Limits (Table 4)
- Serial Dilution Outside Limits (Table 5)
- Reanalysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to List

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 9, 2020	Completed by: Eridania Marte

Arsenic/Lead by Method 6010C	
Description	**Notes and Qualifiers**
Are any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are < 5 times the blank then "U" flag data.	N/A
Is laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes.
Are MS/MSD within QC criteria (see Table 3)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	Yes.
Were elements recovered ≤30%? If so, "R" flag associated NDs.	No.
Is LCS within QC criteria (see Table 4)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes.
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes.
Are serial dilution within QC criteria? (see Table 5)	Yes.
Spot check ICS recoveries 80-120%. Contact lab if unacceptable.	Yes.
Spot check ICV 90-110%. Contact lab if unacceptable.	Yes.
Spot check CCV 90-110%. Contact lab if unacceptable.	Yes.
Spot check ICVL/CCVL 70-130%. Contact lab if unacceptable.	Yes.
Were samples re-analyzed or diluted? (see Table 6)	No.
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes.

Summary of Potential Impacts on Data Usability
Concerns
• None

Table 2 - List of Positive Results for Blank Samples
None.

Table 2A - List of Samples Qualified for Method Blank Contamination
None.

Table 2B - List of Samples Qualified for Field Blank Contamination
None.

Table 3 – List of MS/MSD Recoveries outside Control Limits
None.

Table 3A – List of RPDs outside Control Limits
None.

Table 4 - List of LCS Recoveries outside Control Limits
None.

Table 5 - List of Serial Dilution Recoveries outside Control Limits
None.

Table 6 –Samples that were Re-analyzed or Diluted
None.

Table 7 – Summary of Field Duplicate Results
N/A

Acronym List and Table Key:

COC	=	chain of custody
DUSR	=	data usability summary report
FD	=	Field duplicate
LCS	=	laboratory control sample
LR	=	Laboratory replicate
MB	=	method blank
MS	=	matrix spike

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 9, 2020	Completed by: Eridania Marte

Acronym List and Table Key:

MSD	=	matrix spike duplicate
N	=	Normal sample
ND	=	not detected
NYSDEC	=	New York State Department of Environmental Conservation
PDS	=	Post-digestion spike
PQL	=	practical quantitation limit
QA	=	quality assurance
QAPP	=	quality assurance project plan
QC	=	quality control
RB	=	Rinsate blank
RPD	=	relative percent difference
SDG	=	sample delivery group

Data Usability Summary Report	Project: 825 Bailey Offsite
Date Completed: February 10, 2022	Completed by: Nick Archer

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness based on applicable sections of the following guidelines.

- NYSDEC Division of Environmental Remediation Guidance for Data Deliverables and the Development of Data Usability Summary Reports (in DER-10, May 2010)
- EPA Region 2 Data Validation SOPs

Specific criteria for QC limits were obtained from the master QAPP. Compliance with the project QA program is indicated in the checklist and tables below. Any major or minor concerns affecting data usability are listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

Laboratory	Sample Delivery Group	Task Code
Test America, Buffalo	480-183506-1 480-184654-1	Remedial Design

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
480-183506-1	SO	825BAILEY-01-Z0-3	480-183506-1	4/15/2021 14:45			
480-183506-1	SO	825BAILEY-01-Z3-6	480-183506-2	4/15/2021 14:45			
480-183506-1	SO	825BAILEY-01-Z6-9	480-183506-3	4/15/2021 14:45			
480-183506-1	SO	825BAILEY-01-Z9-12	480-183506-4	4/15/2021 14:45			
480-183506-1	SO	825BAILEY-01-Z12-18	480-183506-5	4/15/2021 14:45			
480-183506-1	SO	825BAILEY-01-Z18-24	480-183506-6	4/15/2021 14:45			
480-183506-1	SO	825BAILEY-02-Z0-3	480-183506-7	4/15/2021 15:10			
480-183506-1	SO	825BAILEY-02-Z3-6	480-183506-8	4/15/2021 15:10			
480-183506-1	SO	825BAILEY-02-Z6-9	480-183506-9	4/15/2021 15:10			
480-183506-1	SO	825BAILEY-02-Z9-12	480-183506-10	4/15/2021 15:10			
480-183506-1	SO	825BAILEY-02-Z12-18	480-183506-11	4/15/2021 15:10			
480-183506-1	SO	825BAILEY-02-Z18-24	480-183506-12	4/15/2021 15:10			
480-183506-1	SO	825BAILEY-03-Z0-3	480-183506-13	4/15/2021 15:30			
480-183506-1	SO	825BAILEY-03-Z3-6	480-183506-14	4/15/2021 15:30			
480-183506-1	SO	825BAILEY-03-Z6-9	480-183506-15	4/15/2021 15:30			
480-183506-1	SO	825BAILEY-03-Z9-12	480-183506-16	4/15/2021 15:30			
480-183506-1	SO	825BAILEY-03-Z12-18	480-183506-17	4/15/2021 15:30			
480-183506-1	SO	825BAILEY-03-Z18-24	480-183506-18	4/15/2021 15:30			
480-183506-1	SO	825BAILEY-04-Z0-3	480-183506-31	4/16/2021 11:45			
480-183506-1	SO	825BAILEY-04-Z3-6	480-183506-32	4/16/2021 11:45			
480-183506-1	SO	825BAILEY-04-Z6-9	480-183506-33	4/16/2021 11:45			
480-183506-1	SO	825BAILEY-04-Z9-12	480-183506-34	4/16/2021 11:45			
480-183506-1	SO	825BAILEY-04-Z12-18	480-183506-35	4/16/2021 11:45		MS/ MSD	
480-183506-1	SO	825BAILEY-04-Z18-24	480-183506-36	4/16/2021 11:45			
480-183506-1	SO	825BAILEY-04-Z0-3-Q	480-183506-38	4/16/2021 11:45			

Data Usability Summary Report	Project: 825 Bailey Offsite
Date Completed: February 10, 2022	Completed by: Nick Archer

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
480-183506-1	WQ	RB-04162021	480-183506-39	4/16/2021 12:30			
480-184654-1	SO	825BAILEY-TP-05-Z3-6	480-184654-1	5/13/2021 11:30		MS/ MSD	
480-184654-1	SO	825BAILEY-TP-05-Z6-9	480-184654-2	5/13/2021 11:30			
480-184654-1	SO	825BAILEY-TP-05-Z9-12	480-184654-3	5/13/2021 11:30			
480-184654-1	SO	825BAILEY-TP-05-Z12-18	480-184654-4	5/13/2021 11:30			
480-184654-1	SO	825BAILEY-TP-05-Z18-24	480-184654-5	5/13/2021 11:30			
480-184654-1	SO	825BAILEY-TP-05-Z24-30	480-184654-6	5/13/2021 11:30			
480-184654-1	SO	825BAILEY-TP-05-Z30-36	480-184654-7	5/13/2021 11:30			
480-184654-1	SO	825BAILEY-TP-06-Z3-6	480-184654-8	5/13/2021 09:15			
480-184654-1	SO	825BAILEY-TP-06-Z6-9	480-184654-9	5/13/2021 09:15			
480-184654-1	SO	825BAILEY-TP-06-Z9-12	480-184654-10	5/13/2021 09:15			
480-184654-1	SO	825BAILEY-TP-06-Z12-18	480-184654-11	5/13/2021 09:15			
480-184654-1	SO	825BAILEY-TP-06-Z18-12	480-184654-12	5/13/2021 09:15			
480-184654-1	SO	825BAILEY-TP-06-Z24-30	480-184654-13	5/13/2021 09:15			
480-184654-1	SO	825BAILEY-TP-06-Z30-36	480-184654-14	5/13/2021 09:15			
480-184654-1	SO	825BAILEY-TP-07-Z-3-6	480-184654-15	5/13/2021 08:11			825BAILEY-TP-07-Z3-6
480-184654-1	SO	825BAILEY-TP-07-Z-6-9	480-184654-16	5/13/2021 08:11			825BAILEY-TP-07-Z6-9
480-184654-1	SO	825BAILEY-TP-07-Z-9-12	480-184654-17	5/13/2021 08:11			825BAILEY-TP-07-Z9-12
480-184654-1	SO	825BAILEY-TP-07-Z-12-18	480-184654-18	5/13/2021 08:11			825BAILEY-TP-07-Z12-18
480-184654-1	SO	825BAILEY-TP-07-Z-18-24	480-184654-19	5/13/2021 08:11			825BAILEY-TP-07-Z18-24
480-184654-1	SO	825BAILEY-TP-07-Z-24-30	480-184654-20	5/13/2021 08:11			825BAILEY-TP-07-Z24-30
480-184654-1	SO	825BAILEY-TP-07-Z-30-36	480-184654-21	5/13/2021 08:11			825BAILEY-TP-07-Z30-36
480-184654-1	SO	825BAILEY-TP-08-Z6-9	480-184654-22	5/13/2021 08:41			
480-184654-1	SO	825BAILEY-TP-08-Z9-12	480-184654-23	5/13/2021 08:41			
480-184654-1	SO	825BAILEY-TP-08-Z12-18	480-184654-24	5/13/2021 08:41			
480-184654-1	SO	825BAILEY-TP-08-Z18-24	480-184654-25	5/13/2021 08:41			
480-184654-1	SO	825BAILEY-TP-08-Z24-30	480-184654-26	5/13/2021 08:41			
480-184654-1	SO	825BAILEY-TP-08-Z30-36	480-184654-27	5/13/2021 08:41			

SDG	Matrix	Test Method	Number of Samples	Sample Type
480-183506-1	SO	6010C	26	N
480-183506-1	SO	6010C	1	RB
480-183506-1	SO	6010C	1	MS/MSD
480-184654-1	SO	6010C	27	N
480-184654-1	SO	6010C	1	MS/MSD

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes.
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes.

Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	The frequency of field QC will be evaluated at the end of project. 1 FD per 53 samples. 2 MS/MSD per 53 samples. 1 rinsate blank.
Case narrative present and complete?	Yes.
Any holding time violations?	No.

The following tables are presented at the end of this DUSR and provide summaries of results outside QC criteria:

- Method Blanks Results (Table 2, 2A, and 2B)
- MS/MSD Outside Limits (Table 3 and 3A)
- LCS Outside Limits (Table 4)
- Serial Dilution Outside Limits (Table 5)
- Reanalysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to List

Data Usability Summary Report	Project: 825 Bailey Offsite
Date Completed: February 10, 2022	Completed by: Nick Archer

Arsenic/Lead by Method 6010C	
Description	**Notes and Qualifiers**
Are any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are < 5 times the blank then "U" flag data.	N/A
Is laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes.
Are MS/MSD within QC criteria (see Table 3)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No. Lead recovered outside acceptance criteria in the MS and MSD for samples 825BAILEY-04-Z12-18 and 825BAILEY-TP-05-Z3-6. Lead also exhibited poor precision between the MS and MSD for sample 825BAILEY-04-Z12-18. The parent result was greater than 4 times the spike amount; therefore, no qualification was made. Arsenic was recovered below acceptance criteria in the MS for sample 825BAILEY-TP-07-Z30-36. The parent sample was J qualified as estimated.
Were elements recovered ≤30%? If so, “R” flag associated NDs.	No.
Is LCS within QC criteria (see Table 4)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes.
Is there one serial dilution per 20 samples? Flag all data reported with an “E” as “J”.	Yes.
Are serial dilution within QC criteria? (see Table 5)	No. Arsenic recovered above acceptance criteria in the serial dilution for 825BAILEY-TP-05-Z3-6. The result was less than 50 times the MDL; therefore, no qualification was made.
Spot check ICS recoveries 80-120%. Contact lab if unacceptable.	Yes.
Spot check ICV 90-110%. Contact lab if unacceptable.	Yes.
Spot check CCV 90-110%. Contact lab if unacceptable.	Yes.
Spot check ICVL/CCVL 70-130%. Contact lab if unacceptable.	No. Lead was recovered above acceptance criteria in CCVL 480-581638/76. Associated samples were greater than 10 times the PQL; therefore, no qualification was made.
Were samples re-analyzed or diluted? (see Table 6)	Yes. Sample 825BAILEY-TP-07-Z6-9 was diluted due to the presence of iron which interferes with arsenic and lead.
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes.

Data Usability Summary Report	Project: 825 Bailey Offsite
Date Completed: February 10, 2022	Completed by: Nick Archer

Summary of Potential Impacts on Data Usability
Concerns
• Arsenic was J qualified in sample 825BAILEY-TP-07-Z30-36 due to low recovery in the MS. • Sample 825BAILEY-TP-07-Z6-9 by two fold due to the presence of iron which interferes with arsenic and lead.

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Sample Type	Analyte	Result	Qualifier	Units	MDL	PQL
6010C	480-577270/1-A	MB	Sodium	0.464	J	mg/L	0.32	1.0
6010C	480-577748/6	ICB	Potassium	0.111	J	mg/L	-	0.50
6010C	RB-04162021	RB	Calcium	0.12	J	mg/L	0.10	0.50
6010C	RB-04162021	RB	Iron	0.48	J	mg/L	0.019	0.050
6010C	RB-04162021	RB	Manganese	0.011	J	mg/L	0.00040	0.0030
6010C	RB-04162021	RB	Zinc	0.015	J	mg/L	0.0015	0.010
6010C	480-581638/75	CCB	Lead	0.00671	J	mg/L	-	0.010

Table 2A - List of Samples Qualified for Method Blank Contamination
None.

Table 2B - List of Samples Qualified for Field Blank Contamination
None.

Table 3 – List of MS/MSD Recoveries outside Control Limits
None.

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	MS	MSD	Low Limit	High Limit	Sample Qualifier
6010C	825BAILEY-04-Z12-18	MS	Lead	953	53.7	-552	460	75	125	None – 4X
6010C	825BAILEY-TP-05-Z3-6	MS	Lead	597	46.5	-446	-603	75	125	None – 4X
6010C	825BAILEY-TP-07-Z30-36	MS	Arsenic	16.6	50.7	74	79	75	125	J Flag

Table 3A – List of RPDs outside Control Limits

Method	Sample ID	Analyte	RPD	RPD Limit	Sample Qualifier
6010C	825BAILEY-04-Z12-18	Lead	59	20	None – 4X

Table 4 - List of LCS Recoveries outside Control Limits
None.

Table 5 - List of Serial Dilution Recoveries outside Control Limits

Method	Sample ID	Analyte	Orig. Result	Serial Dilution Result	MDL	%D	Sample Qualifier
6010C	825BAILEY-TP-05-Z3-6	Arsenic	13.0	14.93	0.47	15	None

Table 6 –Samples that were Re-analyzed or Diluted

Sample ID	Lab ID	Method	Sample Type	Action
825BAILEY-TP-07-Z6-9	480-184654-16	6010C	N	2X: Initial analysis diluted due to the presence of iron which interferes with arsenic and lead.

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	Matrix	PQL	825BAILEY-04-Z0-3	825BAILEY-04-Z0-3-Q	RPD	RPD Rating	Sample Qual
SW6010C	Arsenic	mg/kg	Solid	2.5	13.1	9.9	27.8%	Good	None
SW6010C	Lead	mg/kg	Solid	1.2	703	501	33.6%	Good	None

Acronym List and Table Key:

COC = chain of custody
DUSR = data usability summary report
FD = Field duplicate
LCS = laboratory control sample
LR = Laboratory replicate
MB = method blank
MS = matrix spike
MSD = matrix spike duplicate
N = Normal sample
ND = not detected
NYSDEC = New York State Department of Environmental Conservation
PDS = Post-digestion spike
PQL = practical quantitation limit
QA = quality assurance
QAPP = quality assurance project plan
QC = quality control
RB = Rinsate blank
RPD = relative percent difference
SDG = sample delivery group

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: February 09, 2022	Completed by: Eridania Marte

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness based on applicable sections of the following guidelines.

- NYSDEC Division of Environmental Remediation Guidance for Data Deliverables and the Development of Data Usability Summary Reports (in DER-10, May 2010)
- EPA Region 2 Data Validation SOPs

Specific criteria for QC limits were obtained from the master QAPP. Compliance with the project QA program is indicated in the checklist and tables below. Any major or minor concerns affecting data usability are listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

Laboratory	Sample Delivery Group	Task Code
Test America, Buffalo Test America, Edison	480-185119-1 480-185522-1	Remedial Design

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
480-185119-1	SO	16PERU-01-Z0-03	480-185119-1	5/21/2021 8:00:00 AM			
480-185119-1	SO	16PERU-01-Z03-06	480-185119-2	5/21/2021 8:00:00 AM			
480-185119-1	SO	16PERU-01-Z06-09	480-185119-3	5/21/2021 8:00:00 AM			
480-185119-1	SO	16PERU-01-Z09-12	480-185119-4	5/21/2021 8:00:00 AM			
480-185119-1	SO	16PERU-01-Z12-18	480-185119-5	5/21/2021 8:00:00 AM			
480-185119-1	SO	16PERU-01-Z18-24	480-185119-6	5/21/2021 8:00:00 AM			
480-185119-1	SO	16PERU-02-Z00-03	480-185119-7	5/21/2021 8:30:00 AM			
480-185119-1	SO	16PERU-02-Z03-06	480-185119-8	5/21/2021 8:30:00 AM			
480-185119-1	SO	16PERU-02-Z06-09	480-185119-9	5/21/2021 8:30:00 AM			
480-185119-1	SO	16PERU-02-Z09-12	480-185119-10	5/21/2021 8:30:00 AM			
480-185119-1	SO	16PERU-02-Z12-18	480-185119-11	5/21/2021 8:30:00 AM			
480-185119-1	SO	16PERU-02-Z18-24	480-185119-12	5/21/2021 8:30:00 AM			
480-185119-1	SO	16PERU-03-Z00-03	480-185119-13	5/21/2021 9:00:00 AM			

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
480-185119-1	SO	16PERU-03-Z03-06	480-185119-14	5/21/2021 9:00:00 AM			
480-185119-1	SO	16PERU-03-Z06-09	480-185119-15	5/21/2021 9:00:00 AM			
480-185119-1	SO	16PERU-03-Z09-12	480-185119-16	5/21/2021 9:00:00 AM			
480-185119-1	SO	16PERU-03-Z12-18	480-185119-17	5/21/2021 9:00:00 AM			
480-185119-1	SO	16PERU-03-Z18-24	480-185119-18	5/21/2021 9:00:00 AM			
480-185119-1	SO	16PERU-03-Z18-24-Q	480-185119-19	5/21/2021 9:00:00 AM			
480-185119-1	SO	16PERU-04-Z00-03	480-185119-20	5/21/2021 9:30:00 AM			
480-185119-1	SO	16PERU-04-Z03-06	480-185119-21	5/21/2021 9:30:00 AM		MS/ MSD	
480-185119-1	SO	16PERU-04-Z06-09	480-185119-22	5/21/2021 9:30:00 AM			
480-185119-1	SO	16PERU-04-Z09-12	480-185119-23	5/21/2021 9:30:00 AM			
480-185119-1	SO	16PERU-04-Z12-18	480-185119-24	5/21/2021 9:30:00 AM			
480-185119-1	SO	16PERU-04-Z18-24	480-185119-25	5/21/2021 9:30:00 AM			
480-185119-1	SO	RB-20210521	480-185119-26	5/21/2021 11:48:00 AM			
480-185522-1	SO	16PERU-05-Z00-03	480-185522-1	5/21/2021 10:00:00 AM			
480-185522-1	SO	16PERU-05-Z03-06	480-185522-2	5/21/2021 10:00:00 AM			
480-185522-1	SO	16PERU-05-Z06-09	480-185522-3	5/21/2021 10:00:00 AM			
480-185522-1	SO	16PERU-05-Z09-12	480-185522-4	5/21/2021 10:00:00 AM			
480-185522-1	SO	16PERU-05-Z12-18	480-185522-5	5/21/2021 10:00:00 AM			
480-185522-1	SO	16PERU-05-Z18-24	480-185522-6	5/21/2021 10:00:00 AM			
480-185522-1	SO	16PERU-05-Z24-30	480-185522-7	5/21/2021 10:00:00 AM		MS/ MSD	
480-185522-1	SO	16PERU-05-Z30-36	480-185522-8	5/21/2021 10:00:00 AM			
480-185522-1	SO	16PERU-05-Z03-	480-185522-9	5/21/2021			

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
		06-Q		10:00:00 AM			

SDG	Matrix	Test Method	Number of Samples	Sample Type
480-185119-1	SO	6010C	24	N
480-185119-1	SO	6010C	1	FD
480-185119-1	SO	6010C	1	MS/MSD
480-185119-1	SO	6010C	1	RB
480-185522-1	SO	6010C	8	N
480-185522-1	SO	6010C	1	FD
480-185522-1	SO	6010C	1	MS/MSD

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes.
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	The frequency of field QC will be evaluated at the end of project. 2 FD per 32 samples. 2 MS/MSD per 32 samples. 1 rinsate blank.
Case narrative present and complete?	Yes.
Any holding time violations?	No.

The following tables are presented at the end of this DUSR and provide summaries of results outside QC criteria:

- Method Blanks Results (Table 2, 2A, and 2B)
- MS/MSD Outside Limits (Table 3 and 3A)
- LCS Outside Limits (Table 4)
- Serial Dilution Outside Limits (Table 5)
- Reanalysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to List

Arsenic/Lead by Method 6010C	
Description	**Notes and Qualifiers**
Are any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are < 5 times the blank then "U" flag data.	Not applicable.
Is laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes.
Are MS/MSD within QC criteria (see Table 3)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No. Lead recovered below acceptance criteria in the MS and MSD for sample 16PERU-04-Z03-06. The parent sample concentration was greater than four times the spike amount; therefore, no qualification was made. Lead recovered above acceptance criteria in the MS and MSD for sample 16PERU-05-Z24-30. Lead also exhibited poor precision between the MS and MSD. The parent sample was J qualified as estimated.
Were elements recovered ≤30%? If so, “R” flag associated NDs.	No.
Is LCS within QC criteria (see Table 4)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes.
Is there one serial dilution per 20 samples? Flag all data reported with an “E” as “J”.	Yes.
Are serial dilution within QC criteria? (see Table 5)	Yes.
Spot check ICS recoveries 80-120%. Contact lab if unacceptable.	Yes.
Spot check ICV 90-110%. Contact lab if unacceptable.	Yes.
Spot check CCV 90-110%. Contact lab if unacceptable.	Yes.
Spot check ICVL/CCVL 70-130%. Contact lab if unacceptable.	Yes.
Were samples re-analyzed or diluted? (see Table 6)	No.
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes.

Summary of Potential Impacts on Data Usability
Concerns
• Lead was J qualified in sample 16PERU-05-Z24-30 due to high recovery in the MS and MSD. In addition lead exhibited poor precision between the MS and MSD.

Table 2 - List of Positive Results for Blank Samples
None.

Table 2A - List of Samples Qualified for Method Blank Contamination
None.

Table 2B - List of Samples Qualified for Field Blank Contamination
None.

Table 3 – List of MS/MSD Recoveries outside Control Limits
None.

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	MS	MSD	Low Limit	High Limit	Sample Qualifier
6010C	16PERU-04-Z03-06	N	Lead	547	49.8	-119	-188	75	125	None – 4X
6010C	16PERU-05-Z24-30	N	Lead	138	52.36	189	541	75	125	J Flag

Table 3A – List of RPDs outside Control Limits
None.

Method	Sample ID	Analyte	RPD	RPD Limit	Sample Qualifier
6010C	16PERU-05-Z24-30	Lead	56	20	J Flag

Table 4 - List of LCS Recoveries outside Control Limits
None.

Table 5 - List of Serial Dilution Recoveries outside Control Limits
None.

Table 6 –Samples that were Re-analyzed or Diluted
None.

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	Matrix	PQL	16PERU-03-Z18-24	16PERU-03-Z18-24-Q	RPD	RPD Rating	Sample Qual
SW6010C	Arsenic	mg/kg	Solid	2.6	10.9	11.5	5.4%	Good	None
SW6010C	Lead	mg/kg	Solid	1.3	254	172	38.5%	Good	None

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: February 09, 2022	Completed by: Eridania Marte

Method	Analyte	Unit	Matrix	PQL	16PERU-05-Z03-06	16PERU-05-Z03-06-Q	RPD	RPD Rating	Sample Qual
SW6010C	Arsenic	mg/kg	Solid	2.4	14.4	14.8	2.7%	Good	None
SW6010C	Lead	mg/kg	Solid	1.2	1050	1010	3.9%	Good	None

Acronym List and Table Key:

COC = chain of custody
DUSR = data usability summary report
FD = Field duplicate
LCS = laboratory control sample
LR = Laboratory replicate
MB = method blank
MS = matrix spike
MSD = matrix spike duplicate
N = Normal sample
ND = not detected
NYSDEC = New York State Department of Environmental Conservation
PDS = Post-digestion spike
PQL = practical quantitation limit
QA = quality assurance
QAPP = quality assurance project plan
QC = quality control
RB = Rinsate blank
RPD = relative percent difference
SDG = sample delivery group

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 24, 2020	Completed by: Eridania Marte

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness based on applicable sections of the following guidelines.

- NYSDEC Division of Environmental Remediation Guidance for Data Deliverables and the Development of Data Usability Summary Reports (in DER-10, May 2010)
- EPA Region 2 Data Validation SOPs

Specific criteria for QC limits were obtained from the master QAPP. Compliance with the project QA program is indicated in the checklist and tables below. Any major or minor concerns affecting data usability are listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

Laboratory	Sample Delivery Group	Task Code
Test America, Edison	460-212131-1 460-212080-3	Remedial Design

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
460-212131-1	SO	18PERU-01-Z00-03	460-212131-152	06/26/2020 09:30			
460-212131-1	SO	18PERU-01-Z03-06	460-212131-153	06/26/2020 09:30			
460-212131-1	SO	18PERU-01-Z06-09	460-212131-154	06/26/2020 09:30			
460-212131-1	SO	18PERU-01-Z09-12	460-212131-155	06/26/2020 09:30			
460-212131-1	SO	18PERU-01-Z12-18	460-212131-156	06/26/2020 09:30			
460-212131-1	SO	18PERU-01-Z18-24	460-212131-157	06/26/2020 09:30			
460-212131-1	SO	18PERU-02-Z00-03	460-212131-158	06/26/2020 09:40			
460-212131-1	SO	18PERU-02-Z03-06	460-212131-159	06/26/2020 09:40			
460-212131-1	SO	18PERU-02-Z06-09	460-212131-160	06/26/2020 09:40			
460-212131-1	SO	18PERU-02-Z09-12	460-212131-161	06/26/2020 09:40			
460-212131-1	SO	18PERU-02-Z12-18	460-212131-162	06/26/2020 09:40			
460-212131-1	SO	18PERU-02-Z18-24	460-212131-163	06/26/2020 09:40			
460-212131-1	SO	18PERU-02-Z18-24-Q	460-212131-181	06/26/2020 09:40			
460-212080-3	SO	18PERU-03-Z00-03	460-212080-37	06/24/2020 14:50			
460-212080-3	SO	18PERU-03-Z03-06	460-212080-38	06/24/2020 14:50			
460-212080-3	SO	18PERU-03-Z06-09	460-212080-39	06/24/2020 14:50			
460-212080-3	SO	18PERU-03-Z09-12	460-212080-40	06/24/2020 14:50			
460-212080-3	SO	18PERU-03-Z12-18	460-212080-41	06/24/2020 14:50			
460-212080-3	SO	18PERU-03-Z18-24	460-212080-42	06/24/2020 14:50			
460-212080-3	SO	18PERU-04-Z00-03	460-212080-43	06/24/2020 15:15			
460-212080-3	SO	18PERU-04-Z00-03-Q	460-212080-80	06/24/2020 15:15			
460-212080-3	SO	18PERU-04-Z03-06	460-212080-44	06/24/2020 15:15	LR	MS	
460-212080-3	SO	18PERU-04-Z06-09	460-212080-45	06/24/2020 15:15			
460-212080-3	SO	18PERU-04-Z09-12	460-212080-46	06/24/2020 15:15			
460-212080-3	SO	18PERU-04-Z12-18	460-212080-47	06/24/2020 15:15			
460-212080-3	SO	18PERU-04-Z18-24	460-212080-48	06/24/2020 15:15			

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 24, 2020	Completed by: Eridania Marte

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
460-212080-3	SO	18PERU-06-Z00-03	460-212080-49	06/24/2020 15:10			
460-212080-3	SO	18PERU-06-Z03-06	460-212080-50	06/24/2020 15:10			
460-212080-3	SO	18PERU-06-Z06-09	460-212080-51	06/24/2020 15:10			
460-212080-3	SO	18PERU-06-Z09-12	460-212080-52	06/24/2020 15:10			
460-212080-3	SO	18PERU-06-Z12-18	460-212080-53	06/24/2020 15:10			
460-212080-3	SO	18PERU-06-Z18-24	460-212080-54	06/24/2020 15:10			

SDG	Matrix	Test Method	Number of Samples	Sample Type
460-212131-1	SO	6010D	12	N
460-212131-1	SO	6010D	1	FD
460-212080-3	SO	6010D	18	N
460-212080-3	SO	6010D	1	FD

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes.
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes.
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	The frequency of field QC will be evaluated at the end of project. 2 FD per 30 samples. 2 MS/MSD per 30 samples. 0 rinsate blank.
Case narrative present and complete?	Yes.
Any holding time violations?	No.

The following tables are presented at the end of this DUSR and provide summaries of results outside QC criteria:

- Method Blanks Results (Table 2, 2A, and 2B)
- MS/MSD Outside Limits (Table 3 and 3A)
- LCS Outside Limits (Table 4)
- Serial Dilution Outside Limits (Table 5)
- Reanalysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to List

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 24, 2020	Completed by: Eridania Marte

Arsenic/Lead by Method 6010C	
Description	**Notes and Qualifiers**
Are any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are < 5 times the blank then "U" flag data.	N/A
Is laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes.
Are MS/MSD within QC criteria (see Table 3)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No. Lead was recovered below the acceptance criteria in the MS for sample 18PERU-02-Z12-18. The parent sample result was J qualified as estimated.
Were elements recovered ≤30%? If so, "R" flag associated NDs.	No.
Is LCS within QC criteria (see Table 4)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes.
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes.
Are serial dilution within QC criteria? (see Table 5)	Yes.
Spot check ICS recoveries 80-120%. Contact lab if unacceptable.	Yes.
Spot check ICV 90-110%. Contact lab if unacceptable.	Yes.
Spot check CCV 90-110%. Contact lab if unacceptable.	Yes.
Spot check ICVL/CCVL 70-130%. Contact lab if unacceptable.	Yes.
Were samples re-analyzed or diluted? (see Table 6)	No.
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes.

Summary of Potential Impacts on Data Usability
Concerns
• Lead was recovered below the acceptance criteria in the MS for sample 18PERU-02-Z12-18. The parent sample result was J qualified as estimated.

Table 2 - List of Positive Results for Blank Samples
None.

Table 2A - List of Samples Qualified for Method Blank Contamination
None.

Table 2B - List of Samples Qualified for Field Blank Contamination
None.

Table 3 – List of MS/MSD Recoveries outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	MS	MSD	Low Limit	High Limit	Sample Qualifier
6010D	18PERU-02-Z12-18	MS	Lead	87.6	50.4	134	--	75	125	J Flag

Table 3A – List of RPDs outside Control Limits

Method	Sample ID	Analyte	RPD	RPD Limit	Sample Qualifier
6010D	18PERU-02-Z12-18	Lead	36	20	J Flag

Table 4 - List of LCS Recoveries outside Control Limits
None.

Table 5 - List of Serial Dilution Recoveries outside Control Limits
None.

Table 6 –Samples that were Re-analyzed or Diluted
None.

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	Matrix	PQL	18PERU-02-Z18-24	18PERU-02-Z18-24-Q	RPD	RPD Rating	Sample Qual
6010D	Arsenic	mg/kg	SO	3	9.8	10.3	5.0%	Good	None
6010D	Lead	mg/kg	SO	2	125.5	155.3	21.2%	Good	None

Method	Analyte	Unit	Matrix	PQL	18PERU-04-Z00-03	18PERU-04-Z00-03-Q	RPD	RPD Rating	Sample Qual

6010D	Arsenic	mg/kg	SO	3.3	14.4	13.9	3.5%	Good	None
6010D	Lead	mg/kg	SO	2.2	514	513	0.2%	Good	None

Acronym List and Table Key:

COC = chain of custody
DUSR = data usability summary report
FD = Field duplicate
LCS = laboratory control sample
LR = Laboratory replicate
MB = method blank
MS = matrix spike
MSD = matrix spike duplicate
N = Normal sample
ND = not detected
NYSDEC = New York State Department of Environmental Conservation
PDS = Post-digestion spike
PQL = practical quantitation limit
QA = quality assurance
QAPP = quality assurance project plan
QC = quality control
RB = Rinsate blank
RPD = relative percent difference
SDG = sample delivery group

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 27, 2020	Completed by: Eridania Marte

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness based on applicable sections of the following guidelines.

- NYSDEC Division of Environmental Remediation Guidance for Data Deliverables and the Development of Data Usability Summary Reports (in DER-10, May 2010)
- EPA Region 2 Data Validation SOPs

Specific criteria for QC limits were obtained from the master QAPP. Compliance with the project QA program is indicated in the checklist and tables below. Any major or minor concerns affecting data usability are listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

Laboratory	Sample Delivery Group	Task Code
Test America, Edison	460-212131-6 460-212080-2	Remedial Design

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
460-212131-6	SO	20PERU-01-Z00-03	460-212131-122	06/26/2020 09:20			
460-212131-6	SO	20PERU-01-Z03-06	460-212131-123	06/26/2020 09:20			
460-212131-6	SO	20PERU-01-Z06-09	460-212131-124	06/26/2020 09:20			
460-212131-6	SO	20PERU-01-Z09-12	460-212131-125	06/26/2020 09:20	LR	MS	
460-212131-6	SO	20PERU-01-Z12-18	460-212131-126	06/26/2020 09:20			
460-212131-6	SO	20PERU-01-Z18-24	460-212131-127	06/26/2020 09:20			
460-212080-2	SO	20PERU-02-Z00-03	460-212080-19	06/24/2020 14:45			
460-212080-2	SO	20PERU-02-Z03-06	460-212080-20	06/24/2020 14:45			
460-212080-2	SO	20PERU-02-Z06-09	460-212080-21	06/24/2020 14:45			
460-212080-2	SO	20PERU-02-Z09-12	460-212080-22	06/24/2020 14:45			
460-212080-2	SO	20PERU-02-Z12-18	460-212080-23	06/24/2020 14:45			
460-212080-2	SO	20PERU-02-Z18-24	460-212080-24	06/24/2020 14:45			
460-212080-2	SO	20PERU-03-Z00-03	460-212080-25	06/24/2020 15:35			
460-212080-2	SO	20PERU-03-Z03-06	460-212080-26	06/24/2020 15:35			
460-212080-2	SO	20PERU-03-Z06-09	460-212080-27	06/24/2020 15:35			
460-212080-2	SO	20PERU-03-Z09-12	460-212080-28	06/24/2020 15:35	LR	MS	
460-212080-2	SO	20PERU-03-Z12-18	460-212080-29	06/24/2020 15:35			
460-212080-2	SO	20PERU-03-Z18-24	460-212080-30	06/24/2020 15:35			
460-212080-2	SO	20PERU-03-Z18-24-Q	460-212080-79	06/24/2020 15:35			
460-212080-2	SO	20PERU-04-Z00-03	460-212080-31	06/24/2020 15:25			
460-212080-2	SO	20PERU-04-Z03-06	460-212080-32	06/24/2020 15:25			
460-212080-2	SO	20PERU-04-Z06-09	460-212080-33	06/24/2020 15:25			
460-212080-2	SO	20PERU-04-Z09-12	460-212080-34	06/24/2020 15:25			
460-212080-2	SO	20PERU-04-Z12-18	460-212080-35	06/24/2020 15:25			
460-212080-2	SO	20PERU-04-Z18-24	460-212080-36	06/24/2020 15:25			

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 27, 2020	Completed by: Eridania Marte

SDG	Matrix	Test Method	Number of Samples	Sample Type
460-212131-6	SO	6010C	6	N
460-212080-2	SO	6010C	18	N
460-212080-2	SO	6010C	1	N

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes.
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes.
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	The frequency of field QC will be evaluated at the end of project. 1 FD per 24 samples. 1 MS/MSD per 24 samples. 0 rinsate blank.
Case narrative present and complete?	Yes.
Any holding time violations?	No.

The following tables are presented at the end of this DUSR and provide summaries of results outside QC criteria:

- Method Blanks Results (Table 2, 2A, and 2B)
- MS/MSD Outside Limits (Table 3 and 3A)
- LCS Outside Limits (Table 4)
- Serial Dilution Outside Limits (Table 5)
- Reanalysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to List

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 27, 2020	Completed by: Eridania Marte

Arsenic/Lead by Method 6010C	
Description	**Notes and Qualifiers**
Are any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are < 5 times the blank then "U" flag data.	N/A
Is laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes.
Are MS/MSD within QC criteria (see Table 3)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No. Lead was recovered below the acceptance criteria in the MS for 20PERU-03-Z09-12. The parent sample result was J qualified as estimated.
Were elements recovered ≤30%? If so, "R" flag associated NDs.	No.
Is LCS within QC criteria (see Table 4)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes.
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes.
Are serial dilution within QC criteria? (see Table 5)	Yes.
Spot check ICS recoveries 80-120%. Contact lab if unacceptable.	Yes.
Spot check ICV 90-110%. Contact lab if unacceptable.	Yes.
Spot check CCV 90-110%. Contact lab if unacceptable.	Yes.
Spot check ICVL/CCVL 70-130%. Contact lab if unacceptable.	Yes.
Were samples re-analyzed or diluted? (see Table 6)	No.
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes.

Summary of Potential Impacts on Data Usability
Concerns
• Lead was recovered below the acceptance criteria in the MS for 20PERU-03-Z09-12. The parent sample result was J qualified as estimated.

Table 2 - List of Positive Results for Blank Samples
None.

Table 2A - List of Samples Qualified for Method Blank Contamination
None.

Table 2B - List of Samples Qualified for Field Blank Contamination
None.

Table 3 – List of MS/MSD Recoveries outside Control Limits
None.

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	MS	MSD	Low Limit	High Limit	Sample Qualifier
6010D	20PERU-03-Z09-12	MS	Lead	148	44.5	62	--	75	125	J Flag

Table 3A – List of RPDs outside Control Limits
None.

Table 4 - List of LCS Recoveries outside Control Limits
None.

Table 5 - List of Serial Dilution Recoveries outside Control Limits
None.

Table 6 –Samples that were Re-analyzed or Diluted
None.

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	Matrix	PQL	20PERU-03-Z18-24	20PERU-03-Z18-24-Q	RPD	RPD Rating	Sample Qual
6010C	Arsenic	mg/kg	SO	2.6	6.1	9.7	45.6%	Good	None
6010C	Lead	mg/kg	SO	1.7	14.1	21.2	40.2%	Good	None

Acronym List and Table Key:
COC = chain of custody

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 27, 2020	Completed by: Eridania Marte

Acronym List and Table Key:

DUSR	=	data usability summary report
FD	=	Field duplicate
LCS	=	laboratory control sample
LR	=	Laboratory replicate
MB	=	method blank
MS	=	matrix spike
MSD	=	matrix spike duplicate
N	=	Normal sample
ND	=	not detected
NYSDEC	=	New York State Department of Environmental Conservation
PDS	=	Post-digestion spike
PQL	=	practical quantitation limit
QA	=	quality assurance
QAPP	=	quality assurance project plan
QC	=	quality control
RB	=	Rinsate blank
RPD	=	relative percent difference
SDG	=	sample delivery group

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 27, 2020	Completed by: Eridania Marte

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness based on applicable sections of the following guidelines.

- NYSDEC Division of Environmental Remediation Guidance for Data Deliverables and the Development of Data Usability Summary Reports (in DER-10, May 2010)
- EPA Region 2 Data Validation SOPs

Specific criteria for QC limits were obtained from the master QAPP. Compliance with the project QA program is indicated in the checklist and tables below. Any major or minor concerns affecting data usability are listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

Laboratory	Sample Delivery Group	Task Code
Test America, Edison	460-212131-2	Remedial Design

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
460-212131-2	SO	24PERU-01-Z00-03	460-212131-8	06/26/2020 09:15			
460-212131-2	SO	24PERU-01-Z03-06	460-212131-9	06/26/2020 09:15			
460-212131-2	SO	24PERU-01-Z06-09	460-212131-10	06/26/2020 09:15			
460-212131-2	SO	24PERU-01-Z09-12	460-212131-11	06/26/2020 09:15			
460-212131-2	SO	24PERU-01-Z12-18	460-212131-12	06/26/2020 09:15			
460-212131-2	SO	24PERU-01-Z18-24	460-212131-13	06/26/2020 09:15			
460-212131-2	SO	24PERU-02-Z00-03	460-212131-14	06/26/2020 09:00			
460-212131-2	SO	24PERU-02-Z00-03-Q	460-212131-180	06/26/2020 09:00			
460-212131-2	SO	24PERU-02-Z03-06	460-212131-15	06/26/2020 09:00			
460-212131-2	SO	24PERU-02-Z06-09	460-212131-16	06/26/2020 09:00			
460-212131-2	SO	24PERU-02-Z09-12	460-212131-17	06/26/2020 09:00			
460-212131-2	SO	24PERU-02-Z12-18	460-212131-18	06/26/2020 09:00			
460-212131-2	SO	24PERU-02-Z18-24	460-212131-19	06/26/2020 09:00	LR	MS	
460-212131-2	SO	24PERU-03-Z00-03	460-212131-20	06/26/2020 09:05			
460-212131-2	SO	24PERU-03-Z03-06	460-212131-21	06/26/2020 09:05			
460-212131-2	SO	24PERU-03-Z06-09	460-212131-22	06/26/2020 09:05			
460-212131-2	SO	24PERU-03-Z09-12	460-212131-23	06/26/2020 09:05			
460-212131-2	SO	24PERU-03-Z12-18	460-212131-24	06/26/2020 09:05			
460-212131-2	SO	24PERU-03-Z18-24	460-212131-25	06/26/2020 09:05			

SDG	Matrix	Test Method	Number of Samples	Sample Type
460-212131-2	SO	6010D	18	N
460-212131-2	SO	6010D	1	FD

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 27, 2020	Completed by: Eridania Marte

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes.
Did coolers arrive at lab between 2 and 6ºC and in good condition as indicated on COC and Cooler Receipt Form?	Yes.
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	The frequency of field QC will be evaluated at the end of project. 1 FD per 18 samples. 1 MS/MSD per 18 samples. 0 rinsate blank.
Case narrative present and complete?	Yes.
Any holding time violations?	No.

The following tables are presented at the end of this DUSR and provide summaries of results outside QC criteria:

- Method Blanks Results (Table 2, 2A, and 2B)
- MS/MSD Outside Limits (Table 3 and 3A)
- LCS Outside Limits (Table 4)
- Serial Dilution Outside Limits (Table 5)
- Reanalysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to List

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 27, 2020	Completed by: Eridania Marte

Arsenic/Lead by Method 6010C	
Description	**Notes and Qualifiers**
Are any compounds present in method and field blanks as noted on Table 2?	Yes.
For samples, if results are < 5 times the blank then "U" flag data.	Lead was detected in CCB 460-707040/17. The CCB was associated with MB sample which was non-detect. No qualification was made.
Is laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes.
Are MS/MSD within QC criteria (see Table 3)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No. Lead was recovered below the acceptance criteria in the MS for sample 24PERU-02-Z18-24. The parent sample result was J qualified as estimated.
Were elements recovered ≤30%? If so, "R" flag associated NDs.	No.
Is LCS within QC criteria (see Table 4)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes.
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes.
Are serial dilution within QC criteria? (see Table 5)	Yes.
Spot check ICS recoveries 80-120%. Contact lab if unacceptable.	Yes.
Spot check ICV 90-110%. Contact lab if unacceptable.	Yes.
Spot check CCV 90-110%. Contact lab if unacceptable.	Yes.
Spot check ICVL/CCVL 70-130%. Contact lab if unacceptable.	Yes.
Were samples re-analyzed or diluted? (see Table 6)	No.
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes.

Summary of Potential Impacts on Data Usability
Concerns
• Lead was recovered below the acceptance criteria in the MS for sample 24PERU-02-Z18-24. The parent sample result was J qualified as estimated.

Table 2 - List of Positive Results for Blank Samples
None.

Method	Sample ID	Sample Type	Analyte	Result	Qualifier	Units	MDL	PQL
6010D	460-707040/17	CCB	Lead	2.94	J	ug/L	2.35	10

Table 2A - List of Samples Qualified for Method Blank Contamination
None.

Table 2B - List of Samples Qualified for Field Blank Contamination
None.

Table 3 – List of MS/MSD Recoveries outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	MS	MSD	Low Limit	High Limit	Sample Qualifier
6010D	24PERU-02-Z18-24	MS	Lead	76.4	49.8	66	--	75	125	J Flag

Table 3A – List of RPDs outside Control Limits
None.

Table 4 - List of LCS Recoveries outside Control Limits
None.

Table 5 - List of Serial Dilution Recoveries outside Control Limits
None.

Table 6 –Samples that were Re-analyzed or Diluted
None.

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	Matrix	PQL	24PERU-02-Z00-03	24PERU-02-Z00-03-Q	RPD	RPD Rating	Sample Qual
6010D	Arsenic	mg/kg	SO	3.5	15	16.7	10.7%	Good	None
6010D	Lead	mg/kg	SO	2.4	890	1080	19.3%	Good	None

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 27, 2020	Completed by: Eridania Marte

Acronym List and Table Key:

COC	=	chain of custody
DUSR	=	data usability summary report
FD	=	Field duplicate
LCS	=	laboratory control sample
LR	=	Laboratory replicate
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MSD	=	matrix spike duplicate
N	=	Normal sample
ND	=	not detected
NYSDEC	=	New York State Department of Environmental Conservation
PDS	=	Post-digestion spike
PQL	=	practical quantitation limit
QA	=	quality assurance
QAPP	=	quality assurance project plan
QC	=	quality control
RB	=	Rinsate blank
RPD	=	relative percent difference
SDG	=	sample delivery group

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 27, 2020	Completed by: Eridania Marte

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness based on applicable sections of the following guidelines.

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- EPA Region 2 Data Validation SOPs

Specific criteria for QC limits were obtained from the master QAPP. Compliance with the project QA program is indicated in the checklist and tables below. Any major or minor concerns affecting data usability are listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

Laboratory	Sample Delivery Group	Task Code
Test America, Edison	460-212131-1	Remedial Design

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
460-212131-1	SO	26PERU-01-Z00-03	460-212131-128	06/26/2020 08:45			
460-212131-1	SO	26PERU-01-Z03-06	460-212131-129	06/26/2020 08:45			
460-212131-1	SO	26PERU-01-Z06-09	460-212131-130	06/26/2020 08:45			
460-212131-1	SO	26PERU-01-Z09-12	460-212131-131	06/26/2020 08:45			
460-212131-1	SO	26PERU-01-Z12-18	460-212131-132	06/26/2020 08:45			
460-212131-1	SO	26PERU-01-Z18-24	460-212131-133	06/26/2020 08:45			
460-212131-1	SO	26PERU-02-Z00-03	460-212131-134	06/26/2020 08:55			
460-212131-1	SO	26PERU-02-Z03-06	460-212131-135	06/26/2020 08:55			
460-212131-1	SO	26PERU-02-Z06-09	460-212131-136	06/26/2020 08:55			
460-212131-1	SO	26PERU-02-Z06-09-Q	460-212131-179	06/26/2020 08:55			
460-212131-1	SO	26PERU-02-Z09-12	460-212131-137	06/26/2020 08:55			
460-212131-1	SO	26PERU-02-Z12-18	460-212131-138	06/26/2020 08:55			
460-212131-1	SO	26PERU-02-Z18-24	460-212131-139	06/26/2020 08:55			
460-212131-1	SO	26PERU-03-Z00-03	460-212131-140	06/26/2020 10:58			
460-212131-1	SO	26PERU-03-Z03-06	460-212131-141	06/26/2020 10:58			
460-212131-1	SO	26PERU-03-Z06-09	460-212131-142	06/26/2020 10:58			
460-212131-1	SO	26PERU-03-Z09-12	460-212131-143	06/26/2020 10:58			
460-212131-1	SO	26PERU-03-Z12-18	460-212131-144	06/26/2020 10:58			
460-212131-1	SO	26PERU-03-Z18-24	460-212131-145	06/26/2020 10:58			
460-212131-1	SO	26PERU-04-Z00-03	460-212131-146	06/26/2020 11:13			
460-212131-1	SO	26PERU-04-Z03-06	460-212131-147	06/26/2020 11:13			
460-212131-1	SO	26PERU-04-Z06-09	460-212131-148	06/26/2020 11:13			
460-212131-1	SO	26PERU-04-Z09-12	460-212131-149	06/26/2020 11:13			
460-212131-1	SO	26PERU-04-Z12-18	460-212131-150	06/26/2020 11:13			
460-212131-1	SO	26PERU-04-Z18-24	460-212131-151	06/26/2020 11:13			
460-212131-1	SO	26PERU-05-Z00-03	460-212131-1	06/26/2020 11:30			
460-212131-1	SO	26PERU-05-Z03-06	460-212131-2	06/26/2020 11:30			

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 27, 2020	Completed by: Eridania Marte

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
460-212131-1	SO	26PERU-05-Z03-06-Q	460-212131-7	06/26/2020 11:30			
460-212131-1	SO	26PERU-05-Z06-09	460-212131-3	06/26/2020 11:30			
460-212131-1	SO	26PERU-05-Z09-12	460-212131-4	06/26/2020 11:30			
460-212131-1	SO	26PERU-05-Z12-18	460-212131-5	06/26/2020 11:30			
460-212131-1	SO	26PERU-05-Z18-24	460-212131-6	06/26/2020 11:30			
480-185707-1	SO	26PERU-04-Z24-30	480-185707-1	06/07/21 14:20			
480-185707-1	SO	26PERU-04-Z30-36	480-185707-2	06/07/21 14:20			
480-185707-1	SO	26PERU-NPL-ASH	480-185707-3	06/07/21 14:26			

SDG	Matrix	Test Method	Number of Samples	Sample Type
460-212131-1	SO	6010D	30	N
460-212131-1	SO	6010D	2	N
480-185707-1	SO	6010D	3	N

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes.
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes.
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	The frequency of field QC will be evaluated at the end of project. 2 FD per 33 samples. 2 MS/MSD per 33 samples. 0 rinsate blank.
Case narrative present and complete?	Yes.
Any holding time violations?	No.

The following tables are presented at the end of this DUSR and provide summaries of results outside QC criteria:

- Method Blanks Results (Table 2, 2A, and 2B)
- MS/MSD Outside Limits (Table 3 and 3A)
- LCS Outside Limits (Table 4)
- Serial Dilution Outside Limits (Table 5)
- Reanalysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to List

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 27, 2020	Completed by: Eridania Marte

Arsenic/Lead by Method 6010C	
Description	**Notes and Qualifiers**
Are any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are < 5 times the blank then "U" flag data.	N/A
Is laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes.
Are MS/MSD within QC criteria (see Table 3)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No. Lead was recovered below the acceptance limit in MS for sample 26PERU-02-Z03-06. The parent sample result was J qualified as estimated.
Were elements recovered ≤30%? If so, "R" flag associated NDs.	No.
Is LCS within QC criteria (see Table 4)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes.
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes.
Are serial dilution within QC criteria? (see Table 5)	Yes.
Spot check ICS recoveries 80-120%. Contact lab if unacceptable.	Yes.
Spot check ICV 90-110%. Contact lab if unacceptable.	Yes.
Spot check CCV 90-110%. Contact lab if unacceptable.	Yes.
Spot check ICVL/CCVL 70-130%. Contact lab if unacceptable.	Yes.
Were samples re-analyzed or diluted? (see Table 6)	No.
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes.

Summary of Potential Impacts on Data Usability
Concerns
• Lead was recovered below the acceptance limit in MS for sample 26PERU-02-Z03-06. The parent sample result was J qualified as estimated.

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 27, 2020	Completed by: Eridania Marte

Table 2 - List of Positive Results for Blank Samples
None.

Table 2A - List of Samples Qualified for Method Blank Contamination
None.

Table 2B - List of Samples Qualified for Field Blank Contamination
None.

Table 3 – List of MS/MSD Recoveries outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	MS	MSD	Low Limit	High Limit	Sample Qualifier
6010D	26PERU-02-Z03-06	MS	Lead	196	54.2	48	--	75	125	J Flag

Table 3A – List of RPDs outside Control Limits

Method	Sample ID	Analyte	RPD	RPD Limit	Sample Qualifier
6010D	26PERU-02-Z03-06	Lead	64	20	J Flag

Table 4 - List of LCS Recoveries outside Control Limits
None.

Table 5 - List of Serial Dilution Recoveries outside Control Limits
None.

Table 6 –Samples that were Re-analyzed or Diluted

Sample Name	Matrix	Method	Sample Type	Detect Flag	# of Chemicals	Dil. Factor	Test Type	Notes
26PERU-NPL-ASH	SO	6010D	N	Y	1	5	INITIAL	Initial analysis performed at 5X dilution due to the presence of total iron which interferes with lead.

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	Matrix	PQL	26PERU-02-Z06-09	26PERU-02-Z06-09-Q	RPD	RPD Rating	Sample Qual
6010D	Arsenic	mg/kg	SO	2.7	7.2	9.4	26.5%	Good	None
6010D	Lead	mg/kg	SO	1.8	41	54	27.4%	Good	None

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 27, 2020	Completed by: Eridania Marte

Method	Analyte	Unit	Matrix	PQL	26PERU-05-Z03-06	26PERU-05-Z03-06-Q	RPD	RPD Rating	Sample Qual
6010D	Arsenic	mg/kg	SO	3.8	11.5	10.7	7.2%	Good	None
6010D	Lead	mg/kg	SO	2.5	487	514	5.4%	Good	None

Acronym List and Table Key:

COC = chain of custody
DUSR = data usability summary report
FD = Field duplicate
LCS = laboratory control sample
LR = Laboratory replicate
MB = method blank
MS = matrix spike
MSD = matrix spike duplicate
N = Normal sample
ND = not detected
NYSDEC = New York State Department of Environmental Conservation
PDS = Post-digestion spike
PQL = practical quantitation limit
QA = quality assurance
QAPP = quality assurance project plan
QC = quality control
RB = Rinsate blank
RPD = relative percent difference
SDG = sample delivery group

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 27, 2020	Completed by: Eridania Marte

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness based on applicable sections of the following guidelines.

- NYSDEC Division of Environmental Remediation Guidance for Data Deliverables and the Development of Data Usability Summary Reports (in DER-10, May 2010)
- EPA Region 2 Data Validation SOPs

Specific criteria for QC limits were obtained from the master QAPP. Compliance with the project QA program is indicated in the checklist and tables below. Any major or minor concerns affecting data usability are listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

Laboratory	Sample Delivery Group	Task Code
Test America, Edison	460-212131-4	Remedial Design

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
460-212131-4	SO	28PERU-01-Z00-03	460-212131-74	06/25/2020 14:25			
460-212131-4	SO	28PERU-01-Z03-06	460-212131-75	06/25/2020 14:25			
460-212131-4	SO	28PERU-01-Z06-09	460-212131-76	06/25/2020 14:25			
460-212131-4	SO	28PERU-01-Z09-12	460-212131-77	06/25/2020 14:25			
460-212131-4	SO	28PERU-01-Z12-18	460-212131-78	06/25/2020 14:25			
460-212131-4	SO	28PERU-01-Z18-24	460-212131-79	06/25/2020 14:25			
460-212131-4	SO	28PERU-02-Z00-03	460-212131-80	06/25/2020 15:50			
460-212131-4	SO	28PERU-02-Z03-06	460-212131-81	06/25/2020 15:50			
460-212131-4	SO	28PERU-02-Z06-09	460-212131-82	06/25/2020 15:50			
460-212131-4	SO	28PERU-02-Z09-12	460-212131-83	06/25/2020 15:50			
460-212131-4	SO	28PERU-02-Z12-18	460-212131-84	06/25/2020 15:50			
460-212131-4	SO	28PERU-02-Z18-24	460-212131-85	06/25/2020 15:50			
460-212131-4	SO	28PERU-03-Z00-03	460-212131-86	06/25/2020 14:40			
460-212131-4	SO	28PERU-03-Z03-06	460-212131-87	06/25/2020 14:40			
460-212131-4	SO	28PERU-03-Z06-09	460-212131-88	06/25/2020 14:40			
460-212131-4	SO	28PERU-03-Z09-12	460-212131-89	06/25/2020 14:40			
460-212131-4	SO	28PERU-03-Z12-18	460-212131-90	06/25/2020 14:40	LR	MS	
460-212131-4	SO	28PERU-03-Z18-24	460-212131-91	06/25/2020 14:40			
460-212131-4	SO	28PERU-03-Z18-24-Q	460-212131-177	06/25/2020 14:40			
460-212131-4	SO	28PERU-04-Z00-03	460-212131-92	06/25/2020 15:35			
460-212131-4	SO	28PERU-04-Z03-06	460-212131-93	06/25/2020 15:35			
460-212131-4	SO	28PERU-04-Z06-09	460-212131-94	06/25/2020 15:35			
460-212131-4	SO	28PERU-04-Z09-12	460-212131-95	06/25/2020 15:35			
460-212131-4	SO	28PERU-04-Z12-18	460-212131-96	06/25/2020 15:35			
460-212131-4	SO	28PERU-04-Z18-24	460-212131-97	06/25/2020 15:35			

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 27, 2020	Completed by: Eridania Marte

SDG	Matrix	Test Method	Number of Samples	Sample Type
460-212131-4	SO	6010C	24	N
460-212131-4	SO	6010C	1	FD

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes.
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes.
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	The frequency of field QC will be evaluated at the end of project. 1 FD per 24 samples. 1 MS/MSD per 24 samples. 0 rinsate blank.
Case narrative present and complete?	Yes.
Any holding time violations?	No.

The following tables are presented at the end of this DUSR and provide summaries of results outside QC criteria:

- Method Blanks Results (Table 2, 2A, and 2B)
- MS/MSD Outside Limits (Table 3 and 3A)
- LCS Outside Limits (Table 4)
- Serial Dilution Outside Limits (Table 5)
- Reanalysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to List

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 27, 2020	Completed by: Eridania Marte

Arsenic/Lead by Method 6010C	
Description	**Notes and Qualifiers**
Are any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are < 5 times the blank then "U" flag data.	N/A
Is laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes.
Are MS/MSD within QC criteria (see Table 3)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	Yes.
Were elements recovered ≤30%? If so, "R" flag associated NDs.	No.
Is LCS within QC criteria (see Table 4)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes.
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes.
Are serial dilution within QC criteria? (see Table 5)	Yes.
Spot check ICS recoveries 80-120%. Contact lab if unacceptable.	Yes.
Spot check ICV 90-110%. Contact lab if unacceptable.	Yes.
Spot check CCV 90-110%. Contact lab if unacceptable.	Yes.
Spot check ICVL/CCVL 70-130%. Contact lab if unacceptable.	Yes.
Were samples re-analyzed or diluted? (see Table 6)	No.
Do field duplicate results show good precision for all compounds (see Table 7)?	No. Sample 28PERU-03-Z18-24 and duplicate exhibited poor precision for lead. The sample results were J qualified as estimated.

Summary of Potential Impacts on Data Usability
Concerns
• Sample 28PERU-03-Z18-24 and duplicate exhibited poor precision for lead. The sample results were J qualified as estimated.

Table 2 - List of Positive Results for Blank Samples
None.

Table 2A - List of Samples Qualified for Method Blank Contamination
None.

Table 2B - List of Samples Qualified for Field Blank Contamination
None.

Table 3 – List of MS/MSD Recoveries outside Control Limits
None.

Table 3A – List of RPDs outside Control Limits
None.

Table 4 - List of LCS Recoveries outside Control Limits
None.

Table 5 - List of Serial Dilution Recoveries outside Control Limits
None.

Table 6 –Samples that were Re-analyzed or Diluted
None.

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	Matrix	PQL	28PERU-03-Z18-24	28PERU-03-Z18-24-Q	RPD	RPD Rating	Sample Qual
6010C	Arsenic	mg/kg	SO	3.5	11.3	9	22.7%	Good	None
6010C	Lead	mg/kg	SO	2.3	82.2	28.9	95.9%	Poor	J Flag

Acronym List and Table Key:
COC = chain of custody
DUSR = data usability summary report
FD = Field duplicate

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 27, 2020	Completed by: Eridania Marte

Acronym List and Table Key:

LCS	=	laboratory control sample
LR	=	Laboratory replicate
MB	=	method blank
MS	=	matrix spike
MSD	=	matrix spike duplicate
N	=	Normal sample
ND	=	not detected
NYSDEC	=	New York State Department of Environmental Conservation
PDS	=	Post-digestion spike
PQL	=	practical quantitation limit
QA	=	quality assurance
QAPP	=	quality assurance project plan
QC	=	quality control
RB	=	Rinsate blank
RPD	=	relative percent difference
SDG	=	sample delivery group

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 28, 2020	Completed by: Eridania Marte

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness based on applicable sections of the following guidelines.

- NYSDEC Division of Environmental Remediation Guidance for Data Deliverables and the Development of Data Usability Summary Reports (in DER-10, May 2010)
- EPA Region 2 Data Validation SOPs

Specific criteria for QC limits were obtained from the master QAPP. Compliance with the project QA program is indicated in the checklist and tables below. Any major or minor concerns affecting data usability are listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

Laboratory	Sample Delivery Group	Task Code
Test America, Edison	460-212131-5	Remedial Design

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
460-212131-5	SO	32PERU-01-Z00-03	460-212131-98	06/25/2020 14:15			
460-212131-5	SO	32PERU-01-Z03-06	460-212131-99	06/25/2020 14:15			
460-212131-5	SO	32PERU-01-Z06-09	460-212131-100	06/25/2020 14:15			
460-212131-5	SO	32PERU-01-Z09-12	460-212131-101	06/25/2020 14:15			
460-212131-5	SO	32PERU-01-Z12-18	460-212131-102	06/25/2020 14:15			
460-212131-5	SO	32PERU-01-Z18-24	460-212131-103	06/25/2020 14:15			
460-212131-5	SO	32PERU-02-Z00-03	460-212131-104	06/25/2020 15:40			
460-212131-5	SO	32PERU-02-Z03-06	460-212131-105	06/25/2020 15:40			
460-212131-5	SO	32PERU-02-Z06-09	460-212131-106	06/25/2020 15:40			
460-212131-5	SO	32PERU-02-Z09-12	460-212131-107	06/25/2020 15:40	LR	MS	
460-212131-5	SO	32PERU-02-Z12-18	460-212131-108	06/25/2020 15:40			
460-212131-5	SO	32PERU-02-Z12-18-Q	460-212131-178	06/25/2020 15:40			
460-212131-5	SO	32PERU-02-Z18-24	460-212131-109	06/25/2020 15:40			
460-212131-5	SO	32PERU-03-Z00-03	460-212131-110	06/25/2020 14:45			
460-212131-5	SO	32PERU-03-Z03-06	460-212131-111	06/25/2020 14:45			
460-212131-5	SO	32PERU-03-Z06-09	460-212131-112	06/25/2020 14:45			

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
460-212131-5	SO	32PERU-03-Z09-12	460-212131-113	06/25/2020 14:45			
460-212131-5	SO	32PERU-03-Z12-18	460-212131-114	06/25/2020 14:45			
460-212131-5	SO	32PERU-03-Z18-24	460-212131-115	06/25/2020 14:45			
460-212131-5	SO	32PERU-04-Z00-03	460-212131-116	06/25/2020 15:30			
460-212131-5	SO	32PERU-04-Z03-06	460-212131-117	06/25/2020 15:30			
460-212131-5	SO	32PERU-04-Z06-09	460-212131-118	06/25/2020 15:30			
460-212131-5	SO	32PERU-04-Z09-12	460-212131-119	06/25/2020 15:30			
460-212131-5	SO	32PERU-04-Z12-18	460-212131-120	06/25/2020 15:30			
460-212131-5	SO	32PERU-04-Z18-24	460-212131-121	06/25/2020 15:30			
480-185986-1	SO	32PERU-05-Z0-03	480-185986-1	06/11/2021 12:05			
480-185986-1	SO	32PERU-05-Z03-06	480-185986-2	06/11/2021 12:05			
480-185986-1	SO	32PERU-05-Z06-09	480-185986-3	06/11/2021 12:05			
480-185986-1	SO	32PERU-05-Z09-12	480-185986-4	06/11/2021 12:05			
480-185986-1	SO	32PERU-05-Z12-18	480-185986-5	06/11/2021 12:05		MS/ MSD	
480-185986-1	SO	32PERU-05-Z18-24	480-185986-6	06/11/2021 12:05			
480-185986-1	SO	32PERU-06-Z0-03	480-185986-7	06/11/2021 10:10			
480-185986-1	SO	32PERU-06-Z03-06	480-185986-8	06/11/2021 10:10			
480-185986-1	SO	32PERU-06-Z06-09	480-185986-9	06/11/2021 10:10			
480-185986-1	SO	32PERU-06-Z09-12	480-185986-10	06/11/2021 10:10			
480-185986-1	SO	32PERU-06-Z12-18	480-185986-11	06/11/2021 10:10			
480-185986-1	SO	32PERU-06-Z18-24	480-185986-12	06/11/2021 10:10			
480-185986-2	SO	32PERU-06-Z18-24-Q	480-185986-20	6/11/2021 12:10			
480-185986-1	SO	32PERU-06-Z24-30	480-185986-13	06/11/2021 10:10			

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 28, 2020	Completed by: Eridania Marte

SDG	Matrix	Test Method	Number of Samples	Sample Type
460-212131-5	SO	6010C	24	N
460-212131-5	SO	6010C	1	FD
460-212131-5	SO	6010C	1	MS
480-185986-1	SO	6010C	13	N
480-185986-1	SO	6010C	1	FD
480-185986-1	SO	6010C	1	MS/MSD

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes.
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes.
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	The frequency of field QC will be evaluated at the end of project. 1 FD per 37 samples. 2 MS/MSD per 37 samples. 0 rinsate blank.
Case narrative present and complete?	Yes.
Any holding time violations?	No.

The following tables are presented at the end of this DUSR and provide summaries of results outside QC criteria:

- Method Blanks Results (Table 2, 2A, and 2B)
- MS/MSD Outside Limits (Table 3 and 3A)
- LCS Outside Limits (Table 4)
- Serial Dilution Outside Limits (Table 5)
- Reanalysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to List

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 28, 2020	Completed by: Eridania Marte

Arsenic/Lead by Method 6010C	
Description	**Notes and Qualifiers**
Are any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are < 5 times the blank then "U" flag data.	N/A
Is laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes.
Are MS/MSD within QC criteria (see Table 3)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No. Lead was recovered below the acceptance criteria in the MS for sample 32PERU-02-Z09-12. The parent sample result was greater than 4X the spike amount. No qualification was made. Lead was recovered above the acceptance criteria in the MSD for sample 32PERU-05-Z12-18. The result was J qualified as estimated.
Were elements recovered ≤30%? If so, "R" flag associated NDs.	No.
Is LCS within QC criteria (see Table 4)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes.
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes.
Are serial dilution within QC criteria? (see Table 5)	Yes.
Spot check ICS recoveries 80-120%. Contact lab if unacceptable.	Yes.
Spot check ICV 90-110%. Contact lab if unacceptable.	Yes.
Spot check CCV 90-110%. Contact lab if unacceptable.	Yes.
Spot check ICVL/CCVL 70-130%. Contact lab if unacceptable.	Yes.
Were samples re-analyzed or diluted? (see Table 6)	No.
Do field duplicate or laboratory duplicate results show good precision for all compounds (see Table 7 or Table 3A)?	No. The laboratory sample pair for sample 32PERU-02-Z12-18 exhibited poor precision for lead and arsenic. Arsenic sample result was less than 2X the PQL, therefore; no qualification was made. The sample result for lead was J qualified as estimated.

Summary of Potential Impacts on Data Usability
Concerns
• The laboratory sample pair for sample 32PERU-02-Z12-18 exhibited poor precision for lead. The sample result was J qualified as estimated. • Lead was J qualified in sample 32PERU-05-Z12-18 due to high recovery in the MSD.

Table 2 - List of Positive Results for Blank Samples
None.

Table 2A - List of Samples Qualified for Method Blank Contamination
None.

Table 2B - List of Samples Qualified for Field Blank Contamination
None.

Table 3 – List of MS/MSD Recoveries outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	MS	MSD	Low Limit	High Limit	Sample Qualifier
6010D	32PERU-02-Z09-12	MS	Lead	698	57.2	-1013	--	75	125	None – 4X
6010D	32PERU-05-Z12-18	MS	Lead	145	46.7	117	145	75	125	J Flag

Table 3A – List of RPDs outside Control Limits

Method	Sample ID	Analyte	RPD	RPD Limit	Sample Qualifier
6010D	32PERU-02-Z09-12	Arsenic	22	20	None
6010D	32PERU-02-Z09-12	Lead	151	20	J Flag

Table 4 - List of LCS Recoveries outside Control Limits
None.

Table 5 - List of Serial Dilution Recoveries outside Control Limits
None.

Table 6 –Samples that were Re-analyzed or Diluted
None.

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	Matrix	PQL	32PERU-02-Z12-18	32PERU-02-Z12-18-Q	RPD	RPD Rating	Sample Qual
6010D	Arsenic	mg/kg	SO	3.3	9.6	8.7	9.8%	Good	None
6010D	Lead	mg/kg	SO	2.2	176	137	24.9%	Good	None

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 28, 2020	Completed by: Eridania Marte

Method	Analyte	Unit	Matrix	PQL	32PERU-06-Z18-24	32PERU-06-Z18-24-Q	RPD	RPD Rating	Sample Qual
6010C	Arsenic	mg/kg	Solid	2.4	5.3	5.3	0.0%	Good	None
6010C	Lead	mg/kg	Solid	1.2	96.2	97.1	0.9%	Good	None

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FD = Field duplicate
LCS = laboratory control sample
LR = Laboratory replicate
MB = method blank
MS = matrix spike
MSD = matrix spike duplicate
N = Normal sample
ND = not detected
NYSDEC = New York State Department of Environmental Conservation
PDS = Post-digestion spike
PQL = practical quantitation limit
QA = quality assurance
QAPP = quality assurance project plan
QC = quality control
RB = Rinsate blank
RPD = relative percent difference
SDG = sample delivery group

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 28, 2020	Completed by: Eridania Marte

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness based on applicable sections of the following guidelines.

- NYSDEC Division of Environmental Remediation Guidance for Data Deliverables and the Development of Data Usability Summary Reports (in DER-10, May 2010)
- EPA Region 2 Data Validation SOPs

Specific criteria for QC limits were obtained from the master QAPP. Compliance with the project QA program is indicated in the checklist and tables below. Any major or minor concerns affecting data usability are listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

Laboratory	Sample Delivery Group	Task Code
Test America, Edison Test America, Buffalo	460-212131-3 480-185986-2 480-188170-1	Remedial Design

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
460-212131-3	SO	36PERU-01-Z00-03	460-212131-26	06/25/2020 14:05			
460-212131-3	SO	36PERU-01-Z03-06	460-212131-27	06/25/2020 14:05			
460-212131-3	SO	36PERU-01-Z06-09	460-212131-28	06/25/2020 14:05			
460-212131-3	SO	36PERU-01-Z09-12	460-212131-29	06/25/2020 14:05			
460-212131-3	SO	36PERU-01-Z12-18	460-212131-30	06/25/2020 14:05			
460-212131-3	SO	36PERU-01-Z18-24	460-212131-31	06/25/2020 14:05			
460-212131-3	SO	36PERU-02-Z00-03	460-212131-32	06/25/2020 14:00			
460-212131-3	SO	36PERU-02-Z03-06	460-212131-33	06/25/2020 14:00			
460-212131-3	SO	36PERU-02-Z06-09	460-212131-34	06/25/2020 14:00			
460-212131-3	SO	36PERU-02-Z06-09-Q	460-212131-174	06/25/2020 14:00			
460-212131-3	SO	36PERU-02-Z09-12	460-212131-35	06/25/2020 14:00			
460-212131-3	SO	36PERU-02-Z12-18	460-212131-36	06/25/2020 14:00			
460-212131-3	SO	36PERU-02-Z18-24	460-212131-37	06/25/2020 14:00			
460-212131-3	SO	36PERU-03-Z00-03	460-212131-38	06/25/2020 16:05			
460-212131-3	SO	36PERU-03-Z03-06	460-212131-39	06/25/2020 16:05	LR	MS	

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
460-212131-3	SO	36PERU-03-Z06-09	460-212131-40	06/25/2020 16:05			
460-212131-3	SO	36PERU-03-Z09-12	460-212131-41	06/25/2020 16:05			
460-212131-3	SO	36PERU-03-Z12-18	460-212131-42	06/25/2020 16:05			
460-212131-3	SO	36PERU-03-Z18-24	460-212131-43	06/25/2020 16:05			
460-212131-3	SO	36PERU-04-Z00-03	460-212131-44	06/25/2020 15:15	LR	MS	
460-212131-3	SO	36PERU-04-Z03-06	460-212131-45	06/25/2020 15:15			
460-212131-3	SO	36PERU-04-Z03-06-Q	460-212131-175	06/25/2020 15:15			
460-212131-3	SO	36PERU-04-Z06-09	460-212131-46	06/25/2020 15:15			
460-212131-3	SO	36PERU-04-Z09-12	460-212131-47	06/25/2020 15:15			
460-212131-3	SO	36PERU-04-Z12-18	460-212131-48	06/25/2020 15:15			
460-212131-3	SO	36PERU-04-Z18-24	460-212131-49	06/25/2020 15:15			
460-212131-3	SO	36PERU-05-Z00-03	460-212131-50	06/25/2020 15:00			
460-212131-3	SO	36PERU-05-Z03-06	460-212131-51	06/25/2020 15:00			
460-212131-3	SO	36PERU-05-Z06-09	460-212131-52	06/25/2020 15:00			
460-212131-3	SO	36PERU-05-Z09-12	460-212131-53	06/25/2020 15:00			
460-212131-3	SO	36PERU-05-Z12-18	460-212131-54	06/25/2020 15:00			
460-212131-3	SO	36PERU-05-Z18-24	460-212131-55	06/25/2020 15:00			
460-212131-3	SO	36PERU-06-Z00-03	460-212131-56	06/25/2020 15:20			
460-212131-3	SO	36PERU-06-Z03-06	460-212131-57	06/25/2020 15:20			
460-212131-3	SO	36PERU-06-Z06-09	460-212131-58	06/25/2020 15:20			
460-212131-3	SO	36PERU-06-Z09-12	460-212131-59	06/25/2020 15:20			
460-212131-3	SO	36PERU-06-Z12-18	460-212131-60	06/25/2020 15:20			
460-212131-3	SO	36PERU-06-Z18-24	460-212131-61	06/25/2020 15:20			
460-212131-3	SO	36PERU-07-Z00-03	460-212131-62	06/25/2020 14:50			
460-212131-3	SO	36PERU-07-Z00-03-Q	460-212131-176	06/25/2020 14:50			

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
460-212131-3	SO	36PERU-07-Z03-06	460-212131-63	06/25/2020 14:50			
460-212131-3	SO	36PERU-07-Z06-09	460-212131-64	06/25/2020 14:50			
460-212131-3	SO	36PERU-07-Z09-12	460-212131-65	06/25/2020 14:50			
460-212131-3	SO	36PERU-07-Z12-18	460-212131-66	06/25/2020 14:50			
460-212131-3	SO	36PERU-07-Z18-24	460-212131-67	06/25/2020 14:50	LR	MS	
460-212131-3	SO	36PERU-08-Z00-03	460-212131-68	06/25/2020 16:35			
460-212131-3	SO	36PERU-08-Z03-06	460-212131-69	06/25/2020 16:35			
460-212131-3	SO	36PERU-08-Z06-09	460-212131-70	06/25/2020 16:35			
460-212131-3	SO	36PERU-08-Z09-12	460-212131-71	06/25/2020 16:35			
460-212131-3	SO	36PERU-08-Z12-18	460-212131-72	06/25/2020 16:35			
460-212131-3	SO	36PERU-08-Z18-24	460-212131-73	06/25/2020 16:35			
480-185986-2	SO	36PERU-09-Z0-03	480-185986-14	06/11/2021 11:25			
480-185986-2	SO	36PERU-09-Z03-06	480-185986-15	06/11/2021 11:25			
480-185986-2	SO	36PERU-09-Z06-09	480-185986-16	06/11/2021 11:25			
480-185986-2	SO	36PERU-09-Z09-12	480-185986-17	06/11/2021 11:25			
480-185986-2	SO	36PERU-09-Z12-18	480-185986-18	06/11/2021 11:30			
480-185986-2	SO	36PERU-09-Z18-24	480-185986-19	06/11/2021 11:30		MS/ MSD	
480-185986-2	SO	36PERU-09-Z12-18-Q	480-185986-21	06/11/2021 11:30			
480-185986-2	SO	36PERU-08-Z0-03	480-185986-22	06/11/2021 11:00			
480-185986-2	SO	36PERU-08-Z03-06	480-185986-23	06/11/2021 11:00			
480-185986-2	SO	36PERU-08-Z06-09	480-185986-24	06/11/2021 11:00			
480-185986-2	SO	36PERU-08-Z09-12	480-185986-25	06/11/2021 11:08			
480-188170-1	CA	36 Peru NPL-Ash	480-188170-1	08/09/2021 11:41			

SDG	Matrix	Test Method	Number of Samples	Sample Type
460-212131-3	SO	6010C	48	N

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 28, 2020	Completed by: Eridania Marte

SDG	Matrix	Test Method	Number of Samples	Sample Type
460-212131-3	SO	6010C	3	FD
480-185986-2	SO	6010C	11	N
480-185986-2	SO	6010C	1	FD
480-185986-2	SO	6010C	1	MS/MSD
480-188170-1	CA	6010C	1	N

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes.
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes.
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	The frequency of field QC will be evaluated at the end of project. 4 FD per 60 samples. 4 MS/MSD per 60 samples. 0 rinsate blank.
Case narrative present and complete?	Yes.
Any holding time violations?	No.

The following tables are presented at the end of this DUSR and provide summaries of results outside QC criteria:

- Method Blanks Results (Table 2, 2A, and 2B)
- MS/MSD Outside Limits (Table 3 and 3A)
- LCS Outside Limits (Table 4)
- Serial Dilution Outside Limits (Table 5)
- Reanalysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to List

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 28, 2020	Completed by: Eridania Marte

Arsenic/Lead by Method 6010C	
Description	**Notes and Qualifiers**
Are any compounds present in method and field blanks as noted on Table 2?	Yes.
For samples, if results are < 5 times the blank then "U" flag data.	Lead was detected in CCB 460-707040/17. There were no associated samples; therefore, no qualification was made.
Is laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes.
Are MS/MSD within QC criteria (see Table 3)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No. Lead was recovered below the acceptance criteria in the MS for samples 36PERU-07-Z18-24 and 36PERU-02-Z03-06. The sample results were J qualified as estimated.
Were elements recovered ≤30%? If so, "R" flag associated NDs.	No.
Is LCS within QC criteria (see Table 4)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes.
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes.
Are serial dilution within QC criteria? (see Table 5)	Yes.
Spot check ICS recoveries 80-120%. Contact lab if unacceptable.	Yes.
Spot check ICV 90-110%. Contact lab if unacceptable.	Yes.
Spot check CCV 90-110%. Contact lab if unacceptable.	Yes.
Spot check ICVL/CCVL 70-130%. Contact lab if unacceptable.	Yes.
Were samples re-analyzed or diluted? (see Table 6)	No.
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes.

Summary of Potential Impacts on Data Usability
Concerns
• Lead was recovered below the acceptance criteria in the MS for samples 36PERU-07-Z18-24 and 36PERU-02-Z03-06. The sample results were J qualified as estimated. • Sample 36-Peru-NPL-Ash was diluted by five fold for lead.

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 28, 2020	Completed by: Eridania Marte

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Sample Type	Analyte	Result	Qualifier	Units	MDL	PQL
6010D	460-707040/17	CCB	Lead	2.94	J	ug/L	2.35	10

Table 2A - List of Samples Qualified for Method Blank Contamination
None.

Table 2B - List of Samples Qualified for Field Blank Contamination
None.

Table 3 – List of MS/MSD Recoveries outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	MS	MSD	Low Limit	High Limit	Sample Qualifier
6010D	36PERU-07-Z18-24	MS	Lead	99.8	61.9	69	--	75	125	J Flag
6010D	36PERU-02-Z03-06	MS	Lead	174	44.7	42	--	75	125	J Flag
6010D	36PERU-09-Z18-24	MS	Lead	340	49.9	62	1215	75	125	None – 4X

Table 3A – List of RPDs outside Control Limits

Method	Sample ID	Analyte	RPD	RPD Limit	Sample Qualifier
6010D	36PERU-07-Z18-24	Lead	41	20	J Flag
6010D	36PERU-09-Z18-24	Lead	90	20	None – 4X

Table 4 - List of LCS Recoveries outside Control Limits
None.

Table 5 - List of Serial Dilution Recoveries outside Control Limits
None.

Table 6 –Samples that were Re-analyzed or Diluted

Sample ID	Lab ID	Method	Sample Type	Action
36 Peru NPL-Ash	480-188170-1	6010D	N	Initial analysis diluted by 5x for lead.

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	Matrix	PQL	36PERU-02-Z06-09	36PERU-02-Z06-09-Q	RPD	RPD Rating	Sample Qual
6010C	Arsenic	mg/kg	SO	3.2	12.8	11.2	13.3%	Good	None

6010C	Lead	mg/kg	SO	2.2	130	138	6.0%	Good	None

Method	Analyte	Unit	Matrix	PQL	36PERU-04-Z03-06	36PERU-04-Z03-06-Q	RPD	RPD Rating	Sample Qual
6010C	Arsenic	mg/kg	SO	3.1	7.3	7.6	4.0%	Good	None
6010C	Lead	mg/kg	SO	2.1	66.7	64.7	3.0%	Good	None

Method	Analyte	Unit	Matrix	PQL	36PERU-07-Z00-03	36PERU-07-Z00-03-Q	RPD	RPD Rating	Sample Qual
6010C	Arsenic	mg/kg	SO	3.8	14.6	17	15.2%	Good	None
6010C	Lead	mg/kg	SO	2.5	555	615	10.3%	Good	None

Method	Analyte	Unit	Matrix	PQL	36PERU-09-Z12-18	36PERU-09-Z12-18-Q	RPD	RPD Rating	Sample Qual
6010C	Arsenic	mg/kg	Solid	2.6	20.3	19.7	3.0%	Good	None
6010C	Lead	mg/kg	Solid	1.3	522	510	2.3%	Good	None

Acronym List and Table Key:

COC = chain of custody
DUSR = data usability summary report
FD = Field duplicate
LCS = laboratory control sample
LR = Laboratory replicate
MB = method blank
MS = matrix spike
MSD = matrix spike duplicate
N = Normal sample
ND = not detected
NYSDEC = New York State Department of Environmental Conservation
PDS = Post-digestion spike
PQL = practical quantitation limit

Data Usability Summary Report	Project: 837 Bailey Offsite
Date Completed: July 28, 2020	Completed by: Eridania Marte

Acronym List and Table Key:

QA	=	quality assurance
QAPP	=	quality assurance project plan
QC	=	quality control
RB	=	Rinsate blank
RPD	=	relative percent difference
SDG	=	sample delivery group