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Bubbly Creek Data Summary Report
The Peoples Gas Light and Coke Company
South Branch Site River Operable Unit, Chicago, Illinois

WEC Business Services, LLC
200 East Randolph Street, 21st Floor
Chicago, Illinois 60601

August 18, 2017

Natural Resource Technology
AN OBG COMPANY

AUGUST 18, 2017| PROJECT #2238

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ACRONYMS AND ABBREVIATIONS

%	percent
AOC	Administrative Order on Consent
ARA	Adjacent River Area
ASTM	American Society for Testing and Materials
B&McD	Burns & McDonnell Engineering
Btos	below top of sediment
CAWS	Chicago Area Waterway Standards
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
cfs	cubic feet per second
COPC	constituent of potential concern
cps	centimeters per second
CSM	Conceptual Site Model
CSO	Combined Sewer Overflow
EC	Effective Concentration
EPRI	Electrical Power Research Institute
META	Meta Environmental
MGP	manufactured gas plant
mg/kg	milligram per kilogram
NRT	Natural Resource Technology, Inc.
OU	operable unit
PAH	polycyclic aromatic hydrocarbon
PCA	Principal Component Analysis
PGL	The Peoples Gas Light and Coke Company
PID	photo-ionization detector
PVOC	petroleum volatile organic compound
RAF	Risk Assessment Framework
RAPS	Racine Avenue Pumping Station
RI	Remedial Investigation
SAS	Superfund Alternative Site
SCBA	Sediment Contaminant Bioavailability Alliance
SOW	Statement of Work
SSWP	Site-Specific Work Plan
SWAC	Surface-Weighted Average Concentration
TOC	total organic carbon
TPAH	total polycyclic aromatic hydrocarbon
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency

UTL	95% upper tolerance limit on the 95th percentile
VOC	volatile organic compound
WBS	WEC Business Services, LLC

1 INTRODUCTION

This Bubbly Creek Data Summary Report (DSR) presents a summary of sediment data collected from the South Fork of the South Branch of the Chicago River (Bubbly Creek) portion of The Peoples Gas Coke and Light Company's (PGL) South Branch Site River Operable Unit (OU). The South Branch Site River OU (hereafter referred to as River OU) is defined as the portion of the South Branch of the Chicago River (South Branch) and Bubbly Creek, adjacent to or near five upland OUs (22nd Street Station, Hough Place Station, Pitney Court Station, South Station, and Throop Street Station), which are the locations of former manufactured gas plant (MGP) sites. The Pitney Court Station upland OU and the western edge of the South Station upland OU are located adjacent to Bubbly Creek. The other upland OUs are adjacent to South Branch (Figures 1 and 2).

This DSR only summarizes the data collected in the Bubbly Creek portion of the OU in order to provide relevant information to evaluate if the Bubbly Creek can be removed from the River OU in support of the United States Army Corps of Engineers (USACE) proposed ecosystem restoration project in Bubbly Creek (USACE 2015).

The sediment investigation includes work activities completed in 2006 and 2015. Sediment investigations were performed in 2006 at the Pitney Court Station (Burns & McDonnell Engineering [B&McD] 2006) and South Station Parcel D (B&McD 2007) adjacent river areas (ARA). The investigations were performed for enrollment into the Superfund Alternative Site (SAS) Program. The entire River OU is currently enrolled in the SAS.

The 2015 investigation, performed by Natural Resource Technology (NRT) was described in the Site-Specific Work Plan (SSWP) submitted to the United States Environmental Protection Agency (USEPA) on March 17, 2015 (NRT 2015) and approved on May 14, 2015. The SSWP describes proposed work activities for the entire River OU; however, this report focuses only on sediment investigation activities completed in Bubbly Creek. The characterization activities summarized in this memorandum were performed in accordance with the USEPA-approved SSWP and the Administrative Order on Consent (AOC) and Statement of Work (SOW), Comprehensive Environmental Response, and Compensation and Liability Act (CERCLA) Docket No. V-W-08-C-917, dated October 31, 2008 (USEPA 2008).

2 SUMMARY OF SEDIMENT INVESTIGATIONS

The following sections summarize the Bubbly Creek sediment information collected as a part of both the 2006 and 2015 investigations. The 2006 investigation completed by B&McD included 92 borings and 42 sediment samples. The 2015 investigation completed by NRT included 60 borings and 327 sediment samples, including the 29 archived samples submitted for analysis, and excluding duplicate samples (Tables 1, 2, and 3).

For the purposes of this evaluation, sediment sample data is divided into two categories:

1. Surface sediment – samples collected from the top 0.5 feet (6 inches) of sediment
2. Subsurface sediment – samples collected from greater than 0.5 feet below top of sediment (btos)

Sediment borings were logged and recorded on boring logs by a licensed geologist. Sediment was described in accordance with American Society of Testing Methods (ASTM) D2487-06. Sediment samples were screened for total volatile organic compounds (VOC) with a photo-ionization detector (PID) and visually inspected for oil-wetted/coated sediment, odor, sheen, and staining.

Sediment samples from the 2006 investigation were analyzed by META Environmental (META) for polycyclic aromatic hydrocarbons (PAH), alkylated PAHs, and petroleum VOCs (PVOC). Samples were typically collected from borings where visual (i.e. sheen, oil-wetted/coated sediment), olfactory, and/or PID responses indicated the potential for MGP residuals to be present.

Sediment samples from the 2015 investigation were submitted to Test America Laboratories (Test America) for total organic carbon (TOC) analysis and Pace Analytical Services (Pace) for analysis of PVOCs, PAHs, alkylated PAHs, metals, cyanide, and phenols. Archived sediment samples submitted for analysis were only analyzed for metals and either PAHs or alkylated PAHs. The purpose of the investigation was to characterize the magnitude and extent of sediment potentially affected with MGP residuals within Bubbly Creek and to provide data to support human and ecological risk evaluations. Therefore, sediment samples were collected from a random, unbiased location, not necessarily where visual or olfactory observations were noted (Table 3). Sediment samples collected from upstream of the Pitney Court Station former MGP in Bubbly Creek and outside the River OU boundary were used for the ambient evaluation (Section 2.3). Sediment samples collected from this area are referred to as ambient area sediment samples. The ambient area includes all samples from borings SBR-SD-121 through SBR-SD-132. Sediment samples collected downstream of the ambient area and inside the River OU boundary are referred to as investigative area sediment samples.

2.1 LITHOLOGY

Bubbly Creek sediments consisting primarily of non-native material (i.e. silt, sand, gravel, or fill) are present in the uppermost unit and range in thickness from 0.5 (SBR-SD-128, upstream of Pitney Court Station) to 22 feet (SBR-SD-080 in the Turning Basin). Fine sediments along the river bottom are depositional in nature and occur as the water body's flow velocity reduces and entrained fine-grained material settles. Based on the investigation, the average sediment thickness is approximately 11 feet throughout the investigative and ambient areas. The sediment is predominantly black and typically contains minor amounts of shells, roots, hair, gravel, sand, and woodchips.

Underlying the fine sediment is a dark gray clay unit. The clay unit consists of very stiff clay, occasionally with silt or sand and trace amounts of subrounded fine gravel. This unit typically extended to boring termination depths. This clay unit was formed in an historic lacustrine depositional environment. Bedrock was observed in a minority of the borings and appeared to consist of limestone rock types. Boring logs are included as Appendix B.

2.2 VISUAL OBSERVATIONS

Sample intervals were field logged immediately after collection including visual and olfactory observations. Intervals were visually classified to determine presence of oil-wetted, oil-coated, or oil-stained sediment, as well as the presence of any associated odors or sheen. A summary of visual and olfactory observations from borings collected as a part of the 2015 investigation are included in Table 3. Sheen or oil-wetted/oil-coated material (non-aqueous phased liquid, [NAPL]) was observed in 10 borings from the 2015 investigation (SBR-SD-073, -073.4.MOB, -078, -081, -084, -099, -105, -107, -109, and -1017) and 58 borings from the 2006 investigation (Figures 3A and 3B).

A sediment gas ebullition and flux study was performed for Bubbly Creek as a part of the USACE Ecosystem Restoration Feasibility Study (FS; USACE 2015). Visual observations of gas ebullition were documented in the USACE FS. Gas ebullition was also observed on the surface of the water throughout the 2015 field activities. However, sheen was not observed in association with the ebullition during either the USACE FS or the 2015 field activities.

Ebullition, the USACE FS, and the 2015 visual observations will be further evaluated in Section 4.2.

2.3 CHEMICAL DATA SUMMARY

The following sections summarize the chemical data available for Bubbly Creek. The dataset includes analytical data from both the 2006 and the 2015 investigations, including data from archived sediment samples. The discussion below focuses on total polycyclic aromatic hydrocarbon (TPAH)-13 concentrations, as PAHs are the constituents of potential concern (COPC) most commonly associated with MGP-affected sediment. All sediment analytical data is included in Tables 1 and 2.

2.3.1 Characterization of Ambient Conditions in Bubbly Creek

The statistic used to characterize sediment in the ambient area is the 95percent (%) upper tolerance limit on the 95th percentile (UTL). The methods used to develop the UTL are presented in the attached (Appendix A) *Bubbly Creek Ambient Evaluation Technical Memorandum Revision 0* (Ambient Tech Memo, Exponent 2017). Sediment concentration data for sample locations collected from Bubbly Creek investigative area can be compared to the Bubbly Creek ambient UTLs to determine if a sample location in the investigative area are consistent with ambient conditions or potentially affected by the MGP. Thus, a chemical concentration above the ambient UTL collected within the investigative area represents a location where MGP-related effects are potentially present. Conversely, if the concentration of an analyte in the Investigative area is below the ambient UTL, it is more likely to represent ambient conditions rather than contribution from the former MGP.

A forensic evaluation was performed on the ambient sediment samples with TPAH-34[1] concentrations greater than 100 mg/kg to confirm whether ambient sediment samples potentially included MGP source material (Forensic Evaluation, Exponent 2016). As discussed in the Forensic Evaluation (Exponent 2016), a minimum 100 mg/kg TPAH-34 concentration limit was used to focus the forensic evaluation on samples with sufficient PAH concentration to characterize the sources of PAHs. All Bubbly Creek ambient sediment samples evaluated were confirmed to be inconsistent with a MGP source profile.

[1] A list of 34 PAHs, which includes specific alkylated PAHs, were analyzed to support the forensic evaluation. The extended list of PAHs is needed to determine the likely source (i.e. MGP or background) of the PAHs in a sediment sample. See Section 6.5.1 of the SWPP (NRT 2015) for a description of which samples were selected for 34 PAH analysis.

After reviewing draft UTL calculations, USEPA requested one value (669 milligrams per kilogram [mg/kg] TPAH-13[2] from SBR-SD-122 0-0.5) be removed from the ambient surface dataset because it is considered an "extreme" value relative to the rest of the ambient surface dataset. The following subsections describe a total of seven selected TPAH-13 UTLs, developed using either surface, subsurface, or combined surface/subsurface TPAH-13 data. Additional details of the UTL calculations are included in Appendix A and Table 4.

Ambient Surface Sediment TPAH-13 UTLs

The surface UTLs were calculated both with and without the "extreme" value of 669 mg/kg from SBR-SD-122, 0 to 0.5 feet btos. The resulting ambient surface TPAH-13 UTLs are:

1. Ambient surface UTL including all data = 669 mg/kg
2. Ambient surface UTL excluding SBR-SD-122 0 to 0.5 feet btos = 239 mg/kg

Ambient Subsurface Sediment TPAH-13 UTLs

The TPAH-13 concentration in the sample collected from 5.5 to 6.5 feet btos in boring SBR-SD-130, 758 mg/kg, exceeds the 669 mg/kg value USEPA requested be removed from the ambient surface dataset. This value might also be considered "extreme," and therefore ambient subsurface UTLs were calculated with and without this value (758 mg/kg). The resulting ambient subsurface TPAH-13 UTLs are:

3. Ambient subsurface UTL including all data = 300 mg/kg
4. Ambient subsurface UTL excluding SBR-SD-130 5.5 to 6.5 feet btos = 239 mg/kg

Combined Ambient Surface/Subsurface Sediment TPAH-13 UTLs

Upon additional statistical evaluation following the inclusion of the data from archived sediment samples, it was determined that there was no statistical difference between TPAH-13 concentrations in surface and subsurface sediments thus no reason to separate the ambient surface and subsurface data sets for the UTL calculation. Therefore, considering the two "extreme" results discussed above, three TPAH-13 UTLs were calculated for the combined ambient sediment dataset (surface and subsurface samples combined). The resulting combined ambient surface/subsurface UTLs are:

5. Ambient surface/subsurface UTL including all data = 301 mg/kg
6. Ambient surface/subsurface UTL excluding SBR-SD-122 0 to 0.5 feet btos = 260 mg/kg
7. Ambient surface/subsurface UTL excluding SBR-SD-122 0 to 0.5 feet btos and SBR-SD-130 5.5 to 6.5 feet btos = 214 mg/kg

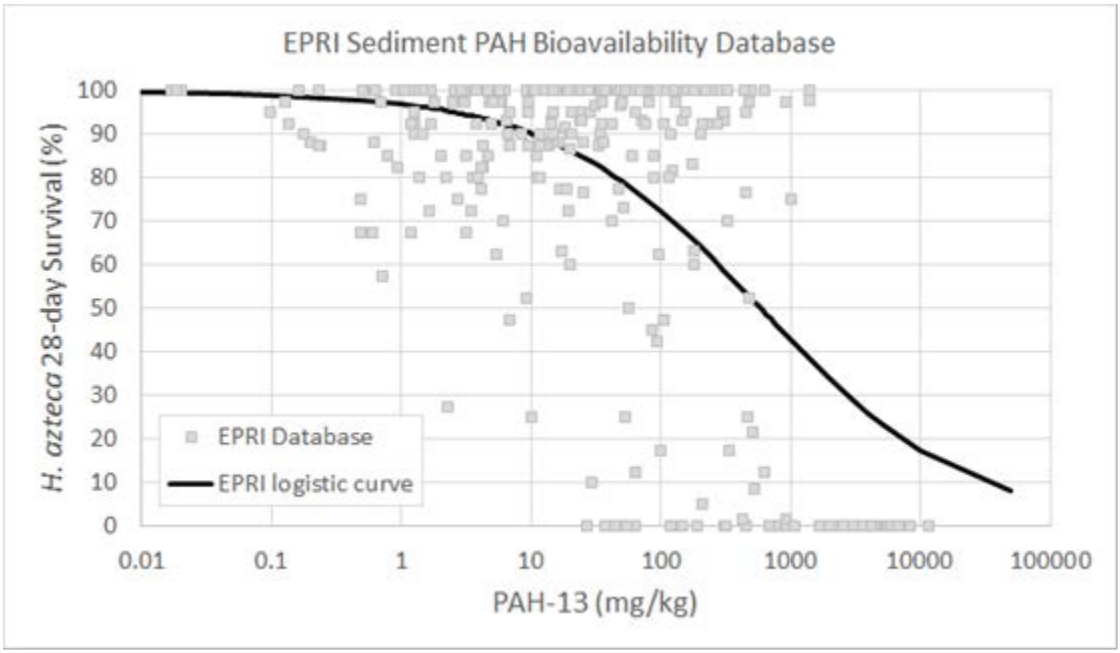
[2] Other than for the forensic evaluation, TPAH-13 sediment concentrations are used as a point of comparison in this report because the TPAH ecological sediment screening benchmarks developed for the protection of sensitive ecological receptors (i.e., benthic invertebrates) are based on a specific list of 13 PAHs. There is no sediment screening benchmark for TPAH-34. The TPAH-13 ecological sediment benchmarks used in the Multi-site MGP program are the Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) (MacDonald, et. al. 2000). While there are individual criteria for some of the PAHs, the total PAH sediment benchmarks are considered to better represent the toxicity of the mixture of PAHs, which is known to cause narcotic effects on benthic invertebrates. Within CERCLA, risks are normally not addressed if they do not exceed background (or ambient) conditions, and so the ambient UTL Calculated for TPAH was also based on TPAH-13 so it could be compared to the available sediment screening benchmarks.

Table 5 presents a comparison of investigative area data to these surface, subsurface, and combined TPAH-13 UTLs.

2.3.2 Description of Ambient-Based and Toxicity-Based Screening Criteria

To date, sediment toxicity testing has not been conducted on sediment from Bubbly Creek. The Electric Power Research Institute (EPRI) and the Sediment Contaminant Bioavailability Alliance (SCBA) have been conducting research on improved approaches for predicting the toxicity of PAHs in sediments to benthic macroinvertebrates (EPRI 2013). Between 2003 and 2011, a series of 20 case studies were conducted to assess different characterization approaches for PAH-impacted sediments. The chemical, biological, and physical data collected during each case study have been compiled and transferred to a database. The current database contains data for 618 sediment samples collected from a total of 20 different field sites (3 aluminum smelters, 14 MGPs, 1 U.S. Navy yard, 1 steel mill, and 1 urban background location). The EPRI/SCBA data has been published in several peer-reviewed publications including Hawthorne, et.al. 2007, McDonough et.al 2010 and Arp et.al. 2011. All the data were collected using a set of standardized sampling, analytical chemistry and biological testing protocols including measurement of USEPA's list of 34 alkylated and parent PAHs (TPAH-34).

A common metric used in evaluating sediment toxicity data is the Effective Concentration (EC). Specifically, the EC20 and EC50 are concentrations that are expected to result in a 20% and 50%, respectively, reduction in *Hyalella azteca* response relative to the laboratory sediment control sample included as part of the sediment toxicity testing. In order to develop a dose response curve to estimate the EC20 and EC50 that utilizes the EPRI/SCBA dataset yet is directly comparable to the Bubbly Creek data, TPAH-13 concentrations were calculated from the TPAH-34 concentration data summing the same 13 PAHs as the Bubbly Creek sediment data. These TPAH-13 concentrations were plotted with the corresponding *Hyalella azteca* survival data in the EPRI/SCBA database and a logistic regression was fit to produce the dose response curve presented in the figure below. Using this logistic regression equation, the TPAH-13 toxicity-based EC20 and EC50 can be estimated as 80 mg TPAH-13/kg and 400 mg TPAH-13/kg, respectively.



TPAH-13 concentrations in only the surface interval (0 to 0.5 feet btos) are compared to the EC20 value (80 mg/kg) and EC50 (400 mg/kg) in the following sections, as this interval represents the biologically active

zone (USEPA 2015). This comparison is presented for informational purposes only and should not be considered a formal toxicity-based screening for Bubbly Creek.

2.3.3 Total PAHs in Ambient Area

2.3.3.1 Ambient Area Surface Sediment (0 to 0.5 feet btos)

No sediment samples from the 2006 investigation were collected from the ambient area.

A total of 15 surface sediment samples were submitted for TPAH-13 analysis in the ambient area during the 2015 sediment investigation. The TPAH-13 concentrations ranged from 2.1 mg/kg in boring SBR-SD-130 (0 to 0.5 feet btos) to 669 mg/kg in SBR-SD-122 (0 to 0.5 feet btos) (Figures 4A through 4E and 5A through 5E). The mean TPAH-13 concentration is 79.4 mg/kg and the median TPAH-13 concentration is 17.6 mg/kg (Figure 7A and Table 1).

The TPAH-13 concentrations in two ambient surface samples exceed the EC20, and one ambient surface sample exceeds the EC50 (Table 1).

2.3.3.2 Ambient Area Subsurface Sediment (greater than 0.5 feet btos)

No sediment samples from the 2006 investigation were collected from the ambient area.

A total of 55 subsurface sediment samples were submitted for PAH analysis in the ambient area during the 2015 sediment investigation, including archived samples submitted for analysis. The TPAH-13 concentrations ranged from 0.213 mg/kg in boring SBR-SD-125 (10.9 to 11.5 feet btos) to 758 mg/kg in SBR-SD-130 (5.5 to 6.5 feet btos) (Figures 4A through 4E and Figures 6A through 6E). The mean ambient TPAH-13 concentration is 64.9 mg/kg and the median TPAH-13 concentration is 29.0 mg/kg (Figure 7A and Table 1).

2.3.4 Total PAHs in Investigative Area

2.3.4.1 Investigative Area Surface Sediment (0 to 0.5 feet btos)

A total of 45 surface sediment samples were submitted for PAH analysis in the investigative area during the 2006 and 2015 sediment investigations. The TPAH-13 concentration ranged from 0.544 mg/kg in boring SBR-SD-120 to 748 mg/kg in SBR-SD-075 (Figures 4A through 4E and 5A through 5E). The mean TPAH-13 concentration is 47.5 mg/kg and the median TPAH-13 concentration is 22.2 mg/kg (Table 2 and Figure 7A). Sample SBR-SD-075 (0 to 0.5 feet btos, 748 mg/kg,) was identified as a statistical outlier based on Rosner's test ($P<0.01$). The mean and median TPAH-13 concentrations excluding this sample are 31.6 and 20.4 mg/kg, respectively.

Only one surface sediment sample in the investigative area (SBR-SD-075, 0 to 0.5 feet btos, 748 mg/kg), located downstream in the Turning Basin, exceeded the most conservative of the five applicable ambient surface UTLs (surface and combined) for TPAH-13 (214 mg/kg).

The TPAH-13 concentration in four investigative area surface samples exceed the EC20 (80 mg/kg) with only one exceeding the EC50 (400 mg/kg) (Table 2).

2.3.4.2 Investigative Area Subsurface Sediment (greater than 0.5 feet btos)

A total of 254 subsurface sediment samples were submitted for PAH analysis from the investigative area during the 2006 and 2015 sediment investigations, including archived samples submitted for analysis. The TPAH-13 concentrations ranged from 0.213 mg/kg in boring SBR-SD-105 (3.5 to 4.5 feet btos) to 39,023 mg/kg in SSCD-RSB-005-001(N) (8.5 to 9 feet btos) (Figures 4A through 4E and Figures 6A through 6E). The mean TPAH-13 concentration is 588.7 mg/kg and the median TPAH-13 concentration is 21.6 mg/kg (Figure 7A and Table 2).

TPAH-13 concentrations in 53 subsurface sediment investigative area samples exceed the lowest of the five applicable UTLs (subsurface and combined) of 214 mg/kg with 43 of them exceeding the highest applicable UTL of 301 mg/kg (Table 5).

2.3.4.3 Forensic Characterization

The results of the forensic PAH evaluation of the South Branch Site River OU sediment are included in the Forensic Evaluation (Exponent 2016). This section describes how the Forensic Evaluation is used in this DSR.

The Forensic Evaluation had two objectives:

1. Identify if ambient sediment samples collected upstream of the MGP sites (outside of the River OU) had potentially been impacted by MGP PAH source material compared to non-MGP PAH source material and other PAH sources included in urban background conditions.
2. Identify investigative sediment samples collected near the MGPs within the River OU that had PAH chemical composition profiles more characteristic of MGP PAH source materials than other non-MGP PAH source material included in urban background.

The results of the evaluation performed to address Objective 1 concluded that none of the ambient area upstream samples collected in Bubbly Creek were consistent with a MGP PAH source chemical composition profile. The results of the evaluation performed to address Objective 2 are used in Section 3 to summarize PAH source profiles of the available investigative area sediment data collected in Bubbly Creek. A portion of the sediment samples collected in the investigative area of Bubbly Creek were identified as having a PAH composition profile consistent with a MGP source.

The Forensic Evaluation (Exponent 2016) was performed on 10 surface and 89 subsurface samples collected from Bubbly Creek analyzed for alkylated PAHs with TPAH-34 concentrations greater than 100 mg/kg. In addition, the forensic review considered both parent and duplicate samples individually, where available. The forensic evaluation was not updated to include the data from archived sediment samples.

3 SEDIMENT DATA EVALUATION

3.1 SURFACE SEDIMENT (0 TO 0.5 FEET BTOS) DATA EVALUATION

As show on Figure 7A, the range of surface TPAH-13 concentrations in the investigative area and ambient area are similar. In addition, the median TPAH-13 concentration of 22.2 mg/kg in the investigative area and 17.6 mg/kg in the ambient area are similar. There is significant overlap of the 95% confidence intervals around the median concentrations for the investigative and ambient areas (Figures 7A and 7B). These factors together indicate that TPAH-13 concentrations in the investigative area surface sediment are not significantly higher than TPAH-13 concentrations from the ambient area surface sediment.

Two out of 15 (13%) surface sediment samples in the ambient area exceed the EC20 and one sample exceeds the EC50 (7%). Four out of 45 (9%) sediment samples in the investigative area exceed the EC20 and one sample exceeds the EC50 (2%). The potential surface toxicity in the investigative area is not significantly higher than the potential surface toxicity in the ambient area. Further, both the median and mean surface concentrations can be considered estimates of a Surface Weighted Average Concentration (SWAC), a useful surrogate risk metric, representing the average contaminant concentration across the entire biologically active portion of sediment. In the investigative area of Bubbly Creek, surface sediments across the site on average are considerably less than the EC20.

One out of 45 (2.2%) surface samples in the investigative area (SBR-SD-075, 0.0 to 0.5 feet btos) exceeds the most stringent applicable UTL (surface and combined) of 214 mg/kg. Boring SBR-SD-075 is located in the investigative area within the Turning Basin, approximately 1,700 feet downstream of Pitney Court Station former MGP and near South Station Parcel D (Figure 4B). However, this surficial sample has the PAH profile of an ambient urban background source, not an MGP source (Figures 8A and 8B).

According to the Forensic Evaluation (Exponent 2016), none of the 10 surface samples evaluated as part of the forensic evaluation in the investigative area had a PAH profile similar to an MGP profile, indicating that TPAH-13 concentrations in surface sediment in the investigative area are not due to MGP sources.

Tar-saturated sediment was observed in the surficial sediment in boring PCS-RSB-007B. According to the Forensic Evaluation (Exponent 2016), the sample had a PAH profile similar to an Ambient-Petroleum profile, indicating that TPAH-13 concentrations in surface sediment in the investigative area are not due to MGP sources.

In summary, the TPAH-13 concentrations and toxicity in surface sediment in the investigative area are not significantly higher than the ambient area and on average would not exhibit significant toxicity. In addition, surface sediment in the investigative area does not have a PAH profile similar to an MGP profile. Overall, the surface sediment in the investigative area is unlikely to be affected by the historical MGPs.

3.2 SUBSURFACE SEDIMENT (GREATER THAN 0.5 FEET BTOS) DATA EVALUATION

As shown on Figure 7A, the median TPAH-13 concentration in the investigative area subsurface sediment is similar to the ambient subsurface median TPAH-13 concentration. However, the 75th percentile and upper whisker (Figure 7A) of subsurface TPAH-13 concentrations are higher in the investigative area than the ambient area. In addition, the investigative area mean TPAH-13 concentration (588.7 mg/kg) is higher than the ambient area mean TPAH-13 concentration (64.9 mg/kg), indicating that elevated TPAH-13 concentration are present in the investigative area subsurface sediment.

A total of 53 subsurface samples in the investigative area exceeded the subsurface UTL of 214 TPAH-13 mg/kg with 43 also exceeding the subsurface UTL of 301 TPAH-13 mg/kg (Table 5). The subsurface UTL exceedances were observed in sediment samples between 0.5 and 18.5 btos (Figures 4A through 4E, Figures 6A through 6E,

Figures 9A and 9B, Table 2, and Table 5). The average and median 214 TPAH-13 mg/kg UTL exceedance depths are 8.9 and 8.3 feet, respectively with ninety-four percent (94%) occurring in sediment deeper than 3.3 feet btos. The significance of the top 3.3 feet of sediment (ebullition depth) is further discussed in Section 4.2.

According to the Forensic Evaluation (Exponent 2016), 45 out of 89 subsurface samples considered in the investigative area had a PAH profile similar to an MGP source. These samples were located between 1.5 and 18.5 btos (Table 6) with an average and median depth of samples of 8.9 and 8.3 feet, respectively. All but one, or 98%, of samples with a PAH profile similar to an MGP source were located at depths greater than 3.3 feet btos. Forty-three of these 45 samples also exceeded the most stringent TPAH-13 UTL of 214 mg/kg for the combined surface/subsurface dataset excluding both "extreme" values while thirty-seven of these 45 samples exceed the reference subsurface TPAH-13 UTL of 300 mg/kg (Figures 9A and 9B).

NAPL or sheen was observed in 10 borings during the 2015 investigation and 58 borings during the 2006 investigation. 2015 sediment borings were installed in the same general area as the 2006 borings with visual observations of sheen or NAPL, however, NAPL or sheen was observed less frequently in the 2015 borings. NAPL sediment or sheen were observed at depths between 1.5 and 15.2 feet btos (Figures 3A through 3B and Appendix B). The average and median depth of samples with an observation of NAPL or sheen are 6.8 and 7 feet btos, respectively, with the average sheen observation at approximately 6 feet btos and the average depth of NAPL observation at approximately 8 feet btos. Fifty-six of 68 (82%) of NAPL or sheen observations were located in sediment deeper than 3.3 feet btos. Visual observations of NAPL or sheen do not necessarily confirm presence of MGP-affected sediment. The area surrounding Bubbly Creek was historically industrialized, and Bubbly Creek currently receives combined sewer overflow (CSO) discharge from the Racine Avenue Pumping Station (RAPS), so like most urban waterways, there are likely numerous sources of petroleum products to the waterway that would result in a NAPL or sheen observation. For example, NAPL was observed in boring PCS-RSB-007B, but the forensic evaluation identified the PAHs at this location as having a profile similar to an ambient petroleum source. Sheen was observed in borings PCS-RSB-025, PCS-RSB-046, PCS-RSB-063, SBR-SD-099, and SBR-SD-1017, but the forensic evaluation identified the PAHs at these locations as having a profile similar to an ambient petroleum or ambient urban background source (Figures 4A-4E and Table 6).

Overall, potentially MGP-affected sediment is generally not present in the top 3.3 feet of sediment where it could potentially be mobilized by ebullition (Section 4.2).

3.3 EVALUATION OF SBR-SD-075

Boring SBR-SD-075 is an example of a boring with TPAH-13 concentrations that exceed the UTLs in both the surface and subsurface sediment. The surficial sample (0 to 0.5 feet btos) in SBR-SD-075 exceeds the surface sediment ambient UTL (239 mg/kg, Table 2). However, according to the results of the Principal Component Analysis (PCA) and histograms (Figures 8A and 8B) completed as part of the Forensic Evaluation (Exponent 2016), the surficial sample in boring SBR-SD-075 has an ambient urban background PAH profile (Figures 8A and 8B).

The TPAH-13 concentration in samples collected from 11.5 to 12.5 btos (478 mg/kg) and 12.5 to 13.8 feet btos (4,041 mg/kg) in boring SBR-SD-075 both exceed all of the subsurface sediment ambient UTL between 214 and 301 mg/kg (Table 5). According to the PCA plot and histogram (Figures 8A and 8B), both samples have a PAH profile consistent with an MGP source, based on the Forensic Evaluation (Exponent 2016, Table 6). SBR-SD-075 demonstrates MGP-affected sediment at the bottom of the sediment column, above the native clay layer, overlain by depositional sediment with an ambient profile.

3.4 CHEMICAL DATA EVALUATION SUMMARY

In conclusion, the following statements can be made about the TPAH-13 concentration range and distribution of surface sediment data in the Bubbly Creek investigative area:

- The TPAH-13 concentration range and distribution in surface sediment samples within the investigative area of Bubbly Creek are similar to upstream ambient samples collected in Bubbly Creek
- The TPAH-13 median surface sediment concentration values are not significantly different between the two areas (i.e., investigative and ambient) samples
- The PAH profiles of the highest TPAH-13 concentration surface sediment samples are consistent with an ambient PAH source profile and not consistent with an MGP PAH source profile
- Few observations of NAPL or sheen were observed in the surface sediment samples within the investigative area, none of which are consistent with an MGP-profile

TPAH-13 concentration range, distribution of concentrations, and visual observations in the subsurface sediment of the Bubbly Creek investigative area indicate higher PAH concentrations relative to surface sediment. Also, NAPL or sheen was observed in 68 borings in the investigative area. However, the higher PAH concentrations, visual observations of NAPL, and a PAH profile consistent with MGP source material are typically observed at depth (typically 6 feet btos or deeper) in the sediment column, closer to the native clay layer than the surficial sediment. With one exception, subsurface samples with a PAH source profile consistent with an MGP PAH source file are not located in the ebullition zone (top 3.3 feet btos, see Section 4.2 for additional information).

4 CSM AND DATA EVALUATION

4.1 UPDATED CONCEPTUAL SITE MODEL

As part of the development of the SSWP for the South Branch Site River OU a generic conceptual site model (CSM) was developed specifically for the river environment (Figure 10). The CSM was developed based on information available concerning the South Branch Chicago River and Bubbly Creek aquatic environments prior to completing the sediment investigation. As described in the CSM section of the SSWP, the potentially complete exposure pathways related to sediments that were to be considered for further evaluation in the baseline risk assessment included contact and incidental ingestion of sediment by benthic invertebrates, fish, and aquatic birds. Human receptors are not considered likely to be exposed to the sediments because the water depth to the sediment surface in the South Branch Chicago River and Bubbly Creek is greater than 6 feet. Sediments were retained in the CSM for further consideration for the three groups of ecological receptors because it was anticipated that MGP-affected sediment would be identified within the top six inches of sediments, referred to as the bioactive zone. The bioactive zone is where environmental conditions provide adequate availability of oxygen and food for benthic invertebrate colonialization, and subsequently, where fish and birds feed on these benthic invertebrates.

As described in the Multi-Site Generic CSM (WBS 2007), and the Multi-Site Risk Assessment Framework (RAF; Exponent 2007), PAHs are well known to be the primary COPC that are found in MGP- related waste streams, as such PAHs are used as the key chemical indicator group to determine whether sediments are potentially affected by past MGP related activities. Other COPCs such as metals, though evaluated in the Bubbly Creek sediment investigation, are not closely related to MGP waste streams, and thus are not good indicators of MGP-related effects. During the sediment investigation, the goal was to identify if there were spatially explicit areas of sediments that appear to be MGP-affected. This was accomplished by comparing the TPAH-13 concentrations in sediments collected in Bubbly Creek adjacent to the Former Pitney MGP site, the potential source of MGP effects, to sediments collected in Bubbly Creek upstream of the former MGP site, where sediments would not be MGP-affected.

Examination of total PAHs concentrations in sediments collected revealed no MPG-affected sediments in the bioactive zone of Bubbly Creek (i.e., 0-6-inch depth interval) where ecological receptors live and/or feed[3]. The sediment investigation showed that TPAH-13 concentrations in surface sediments adjacent to the former MGP sites (Pitney Court Station and South Station) are not elevated compared to the upstream ambient conditions. Further, DNAPL mobility testing of South Branch sediments (Exponent 2017) indicated that only small quantities of NAPL (<2% of the DNAPL content) were released during extreme testing using the centrifuge method, and no DNAPL was released from the more environmentally relevant water drive method. Therefore, the sediment exposure pathways for ecological receptors (i.e., benthic invertebrates and fish and aquatic diving birds) would not be evaluated further in the ecological risk assessment, because there were no areas identified that depart from ambient sediment conditions. For this reason, the Bubbly Creek portion of the generic South Branch Site River OU CSM was updated and refined to reflect the results of the Bubbly Creek sediment investigation.

[3] Oil-wetted/coated material was observed from 0 to 2 feet btos interval of PCS-RSB-007B and sheen was observed from 0 to 5.5 feet btos in boring SBR-SD-1017. According to the Forensic Evaluation (Exponent 2016) neither boring has a PAH profile consistent with an MGP source in the 0 to 0.5 foot btos interval.

4.2 GAS EBULLITION

4.2.1 Gas Ebullition Background

Historically, Bubbly Creek was a prairie slough that drained approximately five square miles of a pristine aquatic and interconnected terrestrial habitat. During industrialization of the area, the slough was channelized; and prior to modern day waste management practices, raw sewage and animal waste from The Union Stockyards[4] was discharged into the creek for conveyance downstream. During large storm events, the Metropolitan Water Reclamation District of Greater Chicago's RAPS, located at the upstream end of Bubbly Creek, discharges CSO effluent to the channel. These wastes created a soft, highly organic, anaerobic material along the creek bed. Biochemical reactions within the material caused by anaerobic organic decomposition produce methane and hydrogen sulfide bubbles that frequently float to the surface sometimes carrying clumps of sediment made buoyant by entrapped gas bubbles. These bubbles float to and break at the water surface, for which the name "Bubbly Creek" is colloquially given (USACE 2015).

The release of gas bubbles from sediments into overlying water is known as ebullition. Ebullition is not necessarily caused by the former MGP activities at South Station and Pitney Court Station, but gas bubbles in contact with MGP-affected sediment can cause the migration of PAHs from subsurface sediment to surface sediment or the overlying water column. Gas ebullition can also destabilize and transport NAPL present in subsurface sediment to the surface sediment or overlying water column creating a sheen on the water surface (Hughes, et. al. 2004).

4.2.2 Gas Ebullition Evaluation

Visual observations of ebullition throughout Bubbly Creek, in both the ambient and investigative areas, were documented in both the USACE FS and the 2015 field investigations. This section evaluates if there is the potential for ebullition to transport MGP-affected sediment or NAPL from the subsurface sediment to the surface sediment or overlying water column.

In order for ebullition to transport NAPL from the subsurface sediment to the surface sediment or overlying water column, the following conditions must be true:

1. The sediment must contain NAPL
2. The sediment must produce gas bubbles
3. The gas must come into contact with the NAPL

Conditions 1 and 2 are present in Bubbly Creek. Condition 3 is further evaluated below.

Numerous studies have been performed to evaluate the effect of ebullition.

- The Stryker Bay study (van Kessel et.al. 2003) states that ebullition is possible when channelization occurs, among other conditions not discussed here. Channelization is when a connected channel of gas forms between the leading edge of water displacement and the gas source. Channelization is generally inhibited below 0.3 m. Also, since NAPL is five times more viscous than porewater, NAPL transport through those channels is generally slow.
- The active ebullition zone is typically the top 1 meter (3.3 feet) (Viana 2012).
- An investigation performed on Bubbly Creek states that "both increased sediment depth and increased whole core organic carbon levels were inversely proportional to gas flux, indicating that biogenic gas

[4] Active from 1865-1971

ebullition may be localized to upper sediment layers" (Viana 2008) and the upper 1 meter of sediment (is) the most active zone with the greatest ebullition potential (Viana 2007).

- A study performed by the University of Utah states "A simple physical model of bottom currents and sediments in these lakes suggests that most methane ebullition originated from the upper 10–20 cm of the sediment column" (Joyce and Jewell 2003).

Under the most conservative scenario, ebullition could be occurring in the top 1 meter (3.3 feet) of the sediment. As described in Section 3.2, NAPL or MGP-affected sediment was generally present at depths greater than 3.3 feet btos; 82% of NAPL or sheen observations and 94 % of UTL exceedances occur in sediment deeper than 3.3 feet btos. Therefore, ebullition is occurring at a depth where it is not likely to come in contact with MGP-affected sediment or NAPL, thus Condition 3 above, is not satisfied.

Further, if ebullition were transporting MGP-related PAHs or destabilizing NAPL, one or more of the following conditions would be observed:

- NAPL migrating vertically from the sediment to the water column would cause a sheen on the surface water
- NAPL would be observed in surface sediment
- Surface sediment TPAH-13 concentrations in the investigative area would be higher than in the ambient area, especially where oil-wetted/oil-coated sediment was observed
- Forensic evaluation would identify PAHs from an MGP source in the investigative area surface sediment

As described throughout Section 3, none of these conditions are present in Bubbly Creek; further reinforcing the concept that ebullition is not transporting MGP-affected sediment or NAPL from the subsurface to the surface.

The ecosystem restoration plan accounts for the effects of gas ebullition, as summarized below (USACE 2015).

> *Gas ebullition processes are expected to continue in the underlying sediment after substrate placement. Gas ebullition is the process whereby fine particles and organic matter attach to gas bubbles and are transported through the water column. Contaminant flux from the sediment bed, however, would be reduced by the placement of a clean substrate. The clean substrate would prevent the resuspension of existing sediments into the water column by filtering sediment from the gas bubbles, by preventing scour from CSO discharges or boat prop wash and by preventing nonnative common carp and white perch from continually resuspending the existing fine-grained sediment into the water column. Substrate restoration would also significantly reduce the existing flux of dissolved contaminants because the substrate provides some minor capacity to adsorb or bind contaminants, filters sediment from the gases, as well as increases the length of the diffusion pathway.*

The USACE FS (USACE 2015) also performed a benthic flux study involving direct benthic flux measurements. The measurements were performed throughout Bubbly Creek. Sample location BC-CDM4 is located immediately downstream of Pitney Court Station (Appendix F, Attachment 5, Figure 1.2 of USACE 2015). Benthic release of PAHs was not detected at sample location BC-CDM4. The report concluded that "in general, fluxes due to gas ebullition are significantly higher than the fluxes from the benthic flux study." Therefore, benthic flux is not considered to be significant pathway for transporting MGP-affected sediment or NAPL from the subsurface sediment to the surface sediment or overlying water column and not included in the CSM.

So, while ebullition is occurring in Bubbly Creek, there is no evidence to suggest ebullition is transporting MGP-affected sediment or NAPL to surficial sediment or the water column. Ebullition is likely occurring in the top meter (3.3 feet) of sediment, above the MGP-affected sediment or NAPL. In addition, the proposed USACE project was designed to account for ebullition; restoration design provides clean substrate for the habitat by

placing a substrate that will bind contaminants, filter sediment from migrating gases, and increase the length of the gas diffusion pathway (USACE 2015).

4.4 EVALUATION OF EROSIVE FORCES IN BUBBLY CREEK

This section evaluates the potential for erosive forces to scour the sediment surface, exposing the MGP-affected sediment.

A bathymetric survey was performed as a part of the 2015 sediment investigation activities. As shown in Figure 11, the sediment surface throughout the ambient and investigative area is generally consistent, with a water depth of at least 10 feet throughout the central portion of Bubbly Creek. Water depths are slightly shallower near the sheet pile walls at the edges of Bubbly Creek. The bathymetric survey does not show any obvious signs of an area where scour is occurring.

The USACE FS (USACE 2015) describes the existing physical characteristics of Bubbly Creek as stable. According to Appendix A of the USACE FS, the underlined portion of the following passage represents the portion of Bubbly Creek between Pitney Court Station and the Turning Basin:

> *The sediment in Bubbly Creek reflects the artificial character of the water body and its historic use. The sediment bed has adapted to current conditions and is stable except for the organic matter on the surface that is resuspended by gas ebullition and RAPS discharges. The surface sediments are sands and gravels in the shallow upstream end of the creek, sandy silts in the fairly shallow reaches immediately below the upstream end and then clays in the deep downstream reach. More specifically, based on cone penetrometer testing, the sediment characteristics vary along the length of the creek based on the creek dimensions. At the RAPS discharge, the sediment consists of sands and gravels, presumably due to the energy of the RAPS discharge and the shallow water depth. Over the next 2000 ft., the sediment bed consists primarily of sandy silts. At this point, there is a constriction in the creek for about 300 ft. and the bed surface begins to contain more clay while remaining predominantly silts below the surface. At 3500 ft. from the RAPS discharge, there is a further constriction of the creek and the water depth increases from 5 ft. to 10 ft. At the constriction, the bed is predominantly clay for 500 ft. followed by a 1000 ft. of silts and clays. <u>The sediment surface of the last 2,000 ft. of the creek is predominantly clay</u>. In summary, the sediment bed shows that sands and gravels tend to fall out at the RAPS discharge but are not stable where the channel is constricted. In the constricted areas, the bed consists of erosion resistant, cohesive clays, apparently present before RAPS construction.*

A preliminary sediment discharge calculation was completed using the Lacey formula (TS14B-23) to evaluate how much sediment could potentially erode from the bottom of Bubbly Creek during maximum RAPS discharge (National Engineering Handbook 2007). The formula is:

$$Z = K * Q_d^a * W_f^b * D_{50}^c$$

Where:

- Z is the maximum scour depth at the cross section or reach in questions (ft.)
- K is a known coefficient, 0.097 for a straight reach according to the Lacey relation
- Q_d is the design discharge, 6,000 cubic feet per second (cfs) – the maximum RAPS discharge (USACE 2015)
- W_f is the flow width at design discharge, 150 feet at Pitney Court Station
- D_{50} is the median particle size, equal to 0.11 mm (USACE 2015), and
- a, b, and c are exponents equal to 1/3, 0, and -1/6 for a straight reach according to the Lacey relation

Solving the formula above:

$$Z = 0.097 * 6{,}000^{1/3} * 150^{0} * 0.11^{-1/6} = 2.5 \text{ feet}$$

A scour depth of 2.5 feet should also be considered the maximum potential gross scour anywhere in Bubbly Creek. In reality, there are areas where scour is expected to be higher or lower based on channel form. Erosive forces are greater where Bubbly Creek is more narrow or the water depth is shallow. Since discharge is the product of water velocity, channel width, and channel depth, the maximum RAPS discharge is expected to create higher velocities (directly proportional to scour potential) upstream of Pitney Court Station where Bubbly Creek is more narrow and more shallow. USACE modeled channel bottom velocities (Appendix A, Attachment 3, Figure 6 of the FS (USACE 2015)) and predicts higher channel bottom velocities (greater than 125 centimeters per second [cps]) upstream of Pitney Court Station. The average channel bottom velocities adjacent to Pitney Court station are considerably less, in the range of 75–100 cps. In addition, net scour is expected to be significantly less than gross scour. Net scour includes deposition that occurs during the discharge event where sediment scoured from upstream areas settles out in lower velocity downstream areas, and includes deposition that occurs after RAPS discharge concludes and suspended particles settle out as Bubbly Creek returns to its typical stagnant condition. Nevertheless, even under the most conservative scenario, 2.5 feet of scour would not expose the MGP-affected sediment, since it was shown in Section 3.2 that MGP-affected sediment is typically present at greater depths than 3.3 feet btos.

Finally, the USACE substrate restoration consists of placing sand and an armor layer composed of rounded river rock and quarry stone over 30.7 acres within the channel and Turning Basin. The substrate restoration was designed to be stable under the most extreme RAPS flow scenario.

Based on the evaluation of the existing bathymetry, USACE's description of erosive forces in Bubbly Creek, the conservative scour calculation, and the proposed ecological cover, the potential for scour to expose MGP-affected sediment is negligible.

4.5 GROUNDWATER-SURFACE WATER INTERFACE

Groundwater-surface water interface (GSI) was evaluated as a part of the March 28, 2017 Draft Pitney Court Station response to USEPA comments on the Combined RI/FS Report (NRT 2017). Following discussions with the USEPA, it was determined that the use of secondary contact Chicago Area Waterway Standards (CAWS) for Bubbly Creek was appropriate for Pitney Court Station. Groundwater analytical data was screened against the CAWS Secondary Contact numbers as a preliminary step to evaluate the potential for contaminated groundwater to discharge into Bubbly Creek. There were no exceedances of the secondary contact CAWS for any MGP-related compounds (Table 7), although there were exceedances for two inorganic compounds (iron and manganese). The potential for GSI involving MGP COPCs has been evaluated and determined not to present the potential for influencing surface water concentrations above secondary contact CAWS.

4.6 CSM AND DATA EVALUATION SUMMARY

Based on the refined Bubbly Creek CSM, gas ebullition evaluation, and scour evaluation, there are no MGP-related sediment exposure pathways that require further evaluation when the baseline risk assessment is performed later in the RI/FS process.

5 CONCLUSION

The evidence presented in this Bubbly Creek DSR supports a conceptual site model that MGP-affected sediment is located in the subsurface sediment. While active, the MGPs may have potentially affected sediment in Bubbly Creek, but since they ceased operations more than 50 years ago, sediment not potentially affected by the MGPs has accumulated above the potentially MGP-affected sediment, due to Bubbly Creek's depositional environment. There is no evidence to suggest that ebullition-facilitated transport of MGP-affected sediment or NAPL from subsurface sediment to surficial sediment or the overlying water column is occurring in Bubbly Creek. It is also considered unlikely that an extreme Bubbly Creek flow event will scour the surficial sediment to the extent that MGP-affected subsurface sediment will be exposed. This conceptual site model helps to explain why the TPAH-13 concentrations and composition in surface sediment in the Bubbly Creek investigative area are similar to the TPAH-13 concentrations and composition in the Bubbly Creek ambient area and why indicators of MGP-affected sediment (higher TPAH-13 concentration, oil-wetted/coated sediment, and PAH profiles consistent with an MGP profile) are typically present only at depth.

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Tables

Table 1. Bubbly Creek Ambient Area Sediment Analytical Data

Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	TPAH(13)	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH
								TPAH(13)	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
							EC20 for TPAH(13):	*80*	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	**400**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit									Result rejected during data validation					Not analyzed				
SBR-SD-121	111315840	SBR-SD-121 0-0.5	0.0	0.5	S	O	11/13/2015	23.1	<0.161 U	<0.321 U	<0.144 U	0.81	1.82	1.83	2.03 J	--	0.895	1.59 J	2.38	0.341	4.89	<0.321 U	0.854	<0.161 U	--	3.4	3.85
SBR-SD-121	111315843	SBR-SD-121 2.5-3.5	2.5	3.5	SS	O	11/13/2015	63.5	7.07	2.17	0.939	2.79	4.19	3.93	6.73	3.14	3	2	5.32 J	0.71	10	2.9	2.64	1.05	1.11	11.9	9.63
SBR-SD-121	111315845	SBR-SD-121 4.5-5.5	4.5	5.5	SS	O	11/13/2015	7.75	0.292 J	0.17 J	<0.0501 U	0.391	0.595	0.542 J	0.405 J	--	0.298	0.484 J	0.776	0.105 J	1.24	0.227 J	0.243	0.26 J	--	1.38	1.25
SBR-SD-121	111315850	SBR-SD-121 9.5-10.6	9.5	10.6	SS	O	11/13/2015	5.3	<0.0873 U	0.106 J	<0.039 U	0.3	0.449	0.422 J	0.301 J	--	0.226	0.382 J	0.481	0.0833 J	0.95	0.123 J	0.202	0.102 J	--	0.871	0.827
SBR-SD-121	111315851	SBR-SD-121 10.6-11.6	10.6	11.6	SS	O	11/13/2015	0.616	0.0426 J	0.0296 J	<0.0173 U	0.0356 J	0.0307 J	0.0314 J	0.0474 J	0.0207 J	0.0319 J	<0.0176 U	0.046 J	<0.0179 U	0.0888	0.0203 J	0.0175 J	0.0223 J	<0.0171 U	0.167	0.0797
SBR-SD-122	100715080	SBR-SD-122 0-0.5	0.0	0.5	S	O	10/7/2015	**669**	2.3	11	1.95	22.3	48.7	45.3	74.7	25.2	17.6	20.7	62.5	5.76	125	13	16.8	4.11	12.1	130	110
SBR-SD-122	100715081	SBR-SD-122 0.5-1.5	0.5	1.5	SS	A1	10/7/2015	35.846	<0.423 U	0.441 J	<0.378 U	1.13	2.83	2.88	2.81 J	--	1.85	2.72 J	3.57	0.682 J	7.59	0.485 J	1.71	<0.423 U	--	5.4	5.59
SBR-SD-122	100715082	SBR-SD-122 1.5-2.5	1.5	2.5	SS	O	10/7/2015	17	0.0708 J	0.292	0.164	0.537	1.08	1.1	1.7	0.744	0.544	0.553	1.28	0.158	4.03	0.272	0.508	0.0851	0.333	2.04	3.85
SBR-SD-122	100715083 / 100715084 (N)	SBR-SD-122 2.5-3.8 (N)	2.5	3.8	SS	O	10/7/2015	9.6	0.763	0.222	0.0869 J	0.491	0.645	0.586	0.652 J	--	0.271	0.589 J	0.93	0.104 J	1.75	0.331	0.251	0.157	--	1.7	1.44
SBR-SD-123	100615073	SBR-SD-123 0-0.5	0.0	0.5	S	O	10/6/2015	**275**	3.5	7.75	0.559	14.8	22.1	19.3	28.2	11.5	11.7	9.37	21.7 J	3.14	45.1	9.24	10.4	7.28	5.89	48.5	41.2
SBR-SD-123	100615075	SBR-SD-123 1.5-2.5	1.5	2.5	SS	O	10/6/2015	14.64	2.15	0.386	0.151 J	0.628	0.945	1.01	0.961 J	--	0.627	0.985 J	1.39	0.202	2.47	0.652	0.531	0.238	--	2.88	1.94
SBR-SD-123	100615076	SBR-SD-123 2.5-3.5	2.5	3.5	SS	A1	10/6/2015	95.45	21.8	3.57	1.93	3.46	5.8	5.3	10.9 J	5.03	3.37	3.06 J	7.99	0.909 J	14.5	4.99	2.99	1.55	1.29 J	19.1	13.3
SBR-SD-123	100615077	SBR-SD-123 3.5-4.5	3.5	4.5	SS	O	10/6/2015	1	<0.0199 U	<0.0199 U	<0.0178 U	0.0431	0.0819	0.0799	0.0848 J	--	0.0531	0.0724 J	0.121	0.0175 J	0.181	0.025 J	0.0412	0.0312 J	--	0.1	0.151
SBR-SD-123	100615079	SBR-SD-123 5.5-6.6	5.5	6.6	SS	O	10/6/2015	138	0.409 J	0.783 J	0.348 J	1.77 J	3.26 J	3.06 J	4.39 J	2.08 J	1.88 J	1.71 J	3.82 J	0.577 J	41.7 J	0.949 J	1.67 J	0.637 J	0.931 J	38.1 J	37.6 J
SBR-SD-124	111315826	SBR-SD-124 0-0.5	0.0	0.5	S	O	11/13/2015	9.64	0.128 J	0.119 J	0.172 J	0.31 J	0.811	0.865	1.24	0.593	0.637	0.513	0.924 J	0.106 J	1.89	0.149 J	0.552	0.0771 J	0.239 J	1.21	1.36
SBR-SD-124	111315830	SBR-SD-124 3.5-4.5	3.5	4.5	SS	O	11/13/2015	72.2	<0.564 U	1.13 J	<0.252 U	3.29	7.02	7	6.27 J	--	4.06	5.76 J	7.44	1.61	13.2	0.822 J	3.7	0.792 J	--	8.95	10.4
SBR-SD-124	111315834	SBR-SD-124 7.5-8.7	7.5	8.7	SS	O	11/13/2015	24.44	0.647	0.543	0.604	1.51	1.91	2.07	2.46	1.28	1.26	0.668	1.99 J	0.339 J	3.77	0.686	1.05	0.943	0.471	4.07	3.22
SBR-SD-124	111315835	SBR-SD-124 8.7-9.7	8.7	9.7	SS	O	11/13/2015	0.461	0.0739	0.0182 J	<0.0173 U	<0.0191 U	<0.017 U	<0.0191 U	0.0279 J	<0.0175 U	0.037 J	<0.0176 U	0.0459 J	<0.0178 U	0.0438 J	<0.0159 U	<0.0172 U	0.0333 J	<0.017 U	0.193	0.0459 J
SBR-SD-124	111315837 / 111315839 (N)	SBR-SD-124 10.7-11.7 (N)	10.7	11.7	SS	O	11/13/2015	0.641	0.0733 J	0.0249 J	0.0088 J	0.033	0.0326 J	0.0281 J	0.0254 J	--	0.0267	0.0239 J	0.0536 J	<0.0066 U	0.0819 J	0.0199 J	0.0132 J	0.0582 J	--	0.178	0.0731 J
SBR-SD-125	111115810	SBR-SD-125 0-0.5	0.0	0.5	S	O	11/11/2015	41.1	0.578 J	1.44	0.138 J	3.06	3.2	2.69	3.58	1.54	1.44	1.42	2.88 J	0.407	6.87	1.93	1.4	0.665	0.672	7.51	5.74
SBR-SD-125	111115817	SBR-SD-125 6.5-7.5	6.5	7.5	SS	O	11/11/2015	34.3	2.03 J	0.728	0.322 J	1.7	2.47	2.39	2.93 J	--	0.744	2.18 J	2.98	0.31 J	6.08	1.03 J	0.758	0.658	--	5.85	4.99
SBR-SD-125	111115819	SBR-SD-125 8.5-9.5	8.5	9.5	SS	O	11/11/2015	227	4.16 J	6.48	<0.934 U	14.7	15.5	13.1	11 J	--	7.15	11.4 J	16.4	2.52	41.3	7.56 J	6.26	7.63	--	49.8	32.1
SBR-SD-125	111115820	SBR-SD-125 9.5-10.9	9.5	10.9	SS	O	11/11/2015	14.36	0.753 J	0.321	0.204 J	0.682	1.03	0.965	1.06 J	--	0.617	0.769 J	1.29	0.196 J	2.59	0.442 J	0.506	0.297	--	2.52	2.19
SBR-SD-125	111115821	SBR-SD-125 10.9-11.5	10.9	11.5	SS	O	11/11/2015	0.213	<0.0653 U	<0.0148 U	<0.0167 U	<0.0184 U	<0.0165 U	<0.0184 U	<0.021 U	<0.0169 U	0.0197 J	<0.017 U	0.0165 R	<0.0172 U	<0.0185 U	<0.0153 U	<0.0167 U	<0.0114 U	<0.0165 U	0.0868 J	<0.0182 U
SBR-SD-125	111115822	SBR-SD-125 11.5-12.5	11.5	12.5	SS	O	11/11/2015	1.016	<0.0634 U	0.0316 J	0.0207 J	0.0488 J	0.0549 J	0.0614 J	0.093	0.0436 J	0.0557 J	0.0277 J	0.0816 J	<0.0167 U	0.166 J	<0.0634 U	0.0372 J	0.0241 J	0.0169 J	0.227 J	0.147 J
SBR-SD-126	111115797	SBR-SD-126 0-0.5	0.0	0.5	S	O	11/11/2015	21.8	<0.186 U	0.223	0.0968 J	0.559	1.86	1.92	3.06	1.4	1.62	1.11	2.1 J	0.428	4.02	0.266 J	1.4	0.105 J	0.574	2.65	3.85
SBR-SD-126	111115802	SBR-SD-126 4.5-5.5	4.5	5.5	SS	O	11/11/2015	9.67	0.1 J	0.171	0.0918	0.478	0.853	0.925	0.778 J	--	0.538	0.801 J	0.974	0.193	1.66	0.201 J	0.497	0.126	--	1.26	1.35
SBR-SD-126	111115804	SBR-SD-126 6.5-7.5	6.5	7.5	SS	O	11/11/2015	5	<0.0457 U	0.0699 J	0.0491 J	0.216	0.404	0.408	0.34 J	--	0.261	0.374 J	0.463	0.0777 J	0.976	<0.0913 U	0.225	0.0618 J	--	0.757	0.8
SBR-SD-126	111115805	SBR-SD-126 7.5-8.5	7.5	8.5	SS	O	11/11/2015	5.43	0.0976 J	0.115	0.0827	0.229	0.371	0.398	0.564	0.273	0.283	0.185	0.453 J	0.062 J	1.01	0.167 J	0.246	0.0913	0.0986	0.975	0.787
SBR-SD-126	111115806	SBR-SD-126 8.5-9.5	8.5	9.5	SS	O	11/11/2015	11.8	<0.328 U	0.247 J	<0.084 U	0.598	1.01	0.9	1.32	0.558	0.526	0.556	1.08 J	0.146 J	2.25	<0.328 U	0.504	0.117 J	0.232 J	1.81	1.73
SBR-SD-126.X	100615071	SBR-SD-126.X 0-0.5	0.0	0.5	S	O	10/6/2015	16.7	0.0766 J	0.3	0.0525 J	0.472	1.05	1.12	1.81	0.777	0.723	0.631	1.35 J	0.201	3.62	0.313	0.646	0.163	0.353	3.12	2.73
SBR-SD-126.X	100615072	SBR-SD-126.X 0.5-1.9	0.5	1.9	SS	O	10/6/2015	5.22	0.0395	0.0613	0.0416	0.206	0.416	0.402	0.326 J	--	0.254	0.449 J	0.518	0.0855	1.09	0.0849	0.216	0.075	--	0.717	0.836
SBR-SD-127	111015782	SBR-SD-127 0-0.5	0.0	0.5	S	O	11/10/2015	56.5	0.411	0.96	<0.0988 U	1.23	3.7	4.01	6.45	2.84	2.99	2.66	4.74 J	0.874	10.7	0.985	2.87	0.371 J	1.09	10.2	10.4
SBR-SD-127	111015785	SBR-SD-127 2.5-3.5	2.5	3.5	SS	O	11/10/2015	107	<0.577 U	1.87	<0.517 U	3.5	6.69	6.62	7.96 J	--	4.44	5.96 J	9.39	1.51	23.7	2.05	3.96	1.94	--	20.7	16.5
SBR-SD-127	111015786	SBR-SD-127 3.5-4.5	3.5	4.5	SS	O	11/10/2015	41.9	6.53	1.4	<0.114 U	1.8	2.61	2.65	4.48	2.15	2.09	1.4	3.52 J	0.513	6.81	1.94	1.92	0.566	0.753	8.35	6.21
SBR-SD-127	111015787	SBR-SD-127 4.5-5.5	4.5	5.5	SS	O	11/10/2015	88.1	14.8	3.2	1.72	4.16	5.97	5.38	9.39	4.45	4.23	2.78	7.07 J	1.06	13.3	4.35	3.78	1.48	1.54	16.5	12.8
SBR-SD-127	111015792 / 111015795 (N)	SBR-SD-127 9.5-10.5 (N)	9.5	10.5	SS	O	11/10/2015	81.3	4.44	1.48	0.797	3.85	6.59	5.8	6.06 J	--	3.65	5.73 J	7.52	1.2	15.1	2.08	3.07	0.903	--	13.1	12.3
SBR-SD-127	111015793	SBR-SD-127 10.5-11.5	10.5	11.5	SS	A1	11/10/2015	16.536	0.764	0.441	0.241 J	0.705	1.09	1.09	1.99 J	0.88	0.631	0.513 J	1.36	0.182	2.37	0.536	0.535	1.39	0.263	2.45	2.36
SBR-SD-127	111015794	SBR-SD-127 11.5-12.0	11.5	12.0	SS	O	11/10/2015	0.82	0.0715	0.0214 J	0.0188 J	0.0297 J	0.0364 J	0.0359 J	0.0599 J	0.0281 J	0.0388 J	0.0217 J	0.062 J	<0.0182 U	0.129	0.026 J	0.0232 J	0.0595 J	<0.0174 U	0.21	0.106
SBR-SD-128	110315777	SBR-SD-128 0-0.5	0.0	0.5	S	O	11/3/2015	31.2	<0.239 U	0.434 J	<0.214 U	0.936	2.44	2.42	2.39 J	--	1.68	2.32 J	3.02	0.548	6.89	0.4 J	1.52	<0.239 U	--	4.58	5.14
SBR-SD-128	110315780	SBR-SD-128 2.5-3.5	2.5	3.5	SS	O	11/3/2015	69.7	2.24	1.44	0.46 J	2.22	5.2	5.5	8.26	3.88	4.23	3.16	6.02	0.856 J	12.9	1.73	3.55	1.02 J	1.6	11.3	10.5
SBR-SD-128	110315781	SBR-SD-128 3.5-4.1	3.5	4.1	SS	O	11/3/2015	83.7	7.23	1.35 J	1.49	3.11	5.33	5.29	9.82	4.3	4.53	2.55	7.79	0.901 J	15.4	2.69	3.73	1.03 J	1.45	14.3	13.5
SBR-SD-128.X	100615068	SBR-SD-128.X 0-0.5	0.0	0.5	S	O	10/6/2015	3.67	0.0414	0.0449	0.0285 J	0.187	0.324	0.333	0.342 J	--	0.184	0.313 J	0.743	0.0625	0.482	0.0744	0.159	0.0347	--	0.38	0.387
SBR-SD-128.X	100615070	SBR-SD-128.X 1.5-2.8	1.5	2.8	SS	O	10/6/2015	13.84	1.65	0.341	0.132 J	0.655	0.847	0.81	0.802 J	--	0.526	0.874 J	1.28	0.174 J	2.51	0.567	0.431	0.217	--	2.88	1.92

Table 1. Bubbly Creek Ambient Area Sediment Analytical Data

Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	TPAH(13)	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH
								TPAH(13)	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
							EC20 for TPAH(13):	*80*	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	**400**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50					Detected below EC20				Not detected above reported limit							Result rejected during data validation					Not analyzed				
SBR-SD-129	100615065	SBR-SD-129 0-0.5	0.0	0.5	S	O	10/6/2015	5.36	0.0251 J	0.0489 J	0.0435 J	0.148	0.406	0.455	0.706	0.331	0.245	0.304	0.54	0.0765	1.18	0.0619 J	0.226	0.0302 J	0.143	0.631	0.807
SBR-SD-129	100615067	SBR-SD-129 1.5-2	1.5	2.0	SS	O	10/6/2015	12.32	0.0546 J	0.159	0.151	0.438	0.936	1.05	0.866 J	--	0.402	0.999 J	1.21	0.134	2.43	0.174	0.361	0.0797 J	--	1.56	2.27
SBR-SD-130	100515044	SBR-SD-130 0-0.5	0.0	0.5	S	O	10/5/2015	2.1	0.0328 J	0.0271 J	0.0224 J	0.0648 J	0.129	0.144	0.23	0.0984	0.0806	0.1	0.189	0.0211 J	0.472	0.0363 J	0.074	0.128	0.047 J	0.259	0.32
SBR-SD-130	100515046	SBR-SD-130 1.5-2.5	1.5	2.5	SS	O	10/5/2015	5.27	0.0525 J	0.0625 J	<0.0379 U	0.207	0.348	0.375	0.428 J	--	0.158	0.402 J	0.508	0.0558 J	1.15	0.0781 J	0.151	0.0471 J	--	0.753	0.892
SBR-SD-130	100515048	SBR-SD-130 3.5-4.5	3.5	4.5	SS	A1	10/5/2015	27.949	0.254	0.368	0.166	0.852	1.78	2	4.99 J	1.6	1.54	1.06 J	2.1	0.473	6.23	0.424	1.37	0.309	0.714	2.26	5.41
SBR-SD-130	100515049	SBR-SD-130 4.5-5.5	4.5	5.5	SS	O	10/5/2015	376	1.17	3.71	1.07	7.66	17.3	17.3	50.6	12.2	9.8	10.2	38.5	2.73	80.7	4.16	9.07	2.16	5.75	70.4	72.7
SBR-SD-130	100515050	SBR-SD-130 5.5-6.5	5.5	6.5	SS	A1	10/5/2015	758.2	<3.28 U	15.5	<2.94 U	43.2	49.8	56	65.9 J	--	35.5	30.1 J	66.2	6.74	158	15.2	30.3	6.83	--	130	120
SBR-SD-130	100515051	SBR-SD-130 6.5-7.5	6.5	7.5	SS	O	10/5/2015	140	1.49	2.94	<0.404 U	5.48	10	8.9	8.87 J	--	4.83	9.37 J	13.4	1.78	28.7	2.7	4.28	1.97	--	25.3	22.4
SBR-SD-130	100515053 / 100515054 (N)	SBR-SD-130 8.5-9.8 (N)	8.5	9.8	SS	O	10/5/2015	162	5.06	3.04 J	1.38	4.91	11.1	11.7	17.5	8.33	6.17	7.48	15.1	1.78	31.2	3.4 J	5.71	5.3	3.46	24.7	25.3
SBR-SD-131	100515055	SBR-SD-131 0-0.5	0.0	0.5	S	O	10/5/2015	2.67	0.0261 J	0.0259 J	0.0235 J	0.0716	0.168	0.183	0.363	0.132	0.0984	0.14	0.241	0.0269 J	0.641	0.036 J	0.1	0.0279 J	0.0666	0.304	0.441
SBR-SD-131	100515056	SBR-SD-131 0.5-1.5	0.5	1.5	SS	O	10/5/2015	93.5	0.428 J	1.77	<0.248 U	3.44	6.1	6.54	6.71 J	--	4.07	6.15 J	7.99	0.966	20.4	1.6	3.69	1.08	--	16.4	15.2
SBR-SD-131	100515062	SBR-SD-131 6.5-7.5	6.5	7.5	SS	O	10/5/2015	102	3.16	1.66	1.31	3.22	6	6.43	11	4.81	3.19	3.82	8.9	1.05 J	20.1	2.11	3.02	4.23	1.73	18.7	14.7
SBR-SD-131	100515063	SBR-SD-131 7.5-8.5	7.5	8.5	SS	O	10/5/2015	40.09	1.4	0.821	<0.283 U	2.02	2.76	2.57	2.58 J	--	1.34	2.53 J	3.84	0.479 J	7.81	1.04	1.24	1.13	--	6.98	5.87
SBR-SD-131.4	1217151541	SBR-SD-131.4 0-0.5	0.0	0.5	S	O	12/17/2015	17.6	0.818 J	<0.806 U	<0.806 U	<0.806 U	1.29 J	1.4 J	2.36 J	1.04 J	0.982 J	<0.806 U	1.37 J	<0.213 U	3.3 J	<0.806 U	0.833 J	<0.806 U	<0.806 U	2.55 J	2.89 J
SBR-SD-131.4	1217151542	SBR-SD-131.4 2.5-3.5	2.5	3.5	SS	O	12/17/2015	143	<1.52 U	2.14	<0.678 U	5.55 J	11.6	10.3	8.93 J	--	5.62 J	11.4 J	13.3	<1.52 U	29	2.45 J	5.19 J	1.85 J	--	23.1	23.5
SBR-SD-131.4	1217151546	SBR-SD-131.4 7.5-8.5	7.5	8.5	SS	O	12/17/2015	45.9	2.23 J	1.1	<0.21 U	1.48 J	3.01	2.9	3.59 J	--	1.13 J	2.73 J	4.15	<0.469 U	9.16	1.04 J	1.16 J	1.13 J	--	8.44	7.07
SBR-SD-131.4	1217151548	SBR-SD-131.4 9.5-10.5	9.5	10.5	SS	O	12/17/2015	17.9	2.22	0.484	0.235 J	0.675 J	1.14 J	1.1 J	1.33 J	--	0.416 J	1.21 J	1.66	<0.284 U	3.1	0.668 J	0.401 J	0.655 J	--	3.19	2.5
SBR-SD-131.4	1217151552	SBR-SD-131.4 13.5-14.5	13.5	14.5	SS	O	12/17/2015	29	5.03	0.825	0.358	1.26 J	1.7	1.52 J	2.12 J	--	0.615 J	1.48 J	2.5	<0.329 U	5.13	1.23 J	0.551 J	1.04 J	--	5.81	4.07
SBR-SD-131.4	1217151554	SBR-SD-131.4 15.5-16.5	15.5	16.5	SS	O	12/17/2015	54.4	3.6	0.947	0.389 J	2.57	3.28	2.67	3.95 J	--	0.955 J	2.56 J	4.56	0.525 J	11.8	1.76 J	0.979 J	2.72	--	9.3	7.88
SBR-SD-131.4	1217151556	SBR-SD-131.4 17.5-18.5	17.5	18.5	SS	O	12/17/2015	72	2.08 J	1.43 J	<1.06 U	3.53 J	5.64	5.82	8.82	4.03 J	3.49 J	2.75 J	6.56	0.846 J	10.4	1.89 J	2.87 J	2.97 J	1.52 J	11.1	10.6
SBR-SD-131.4	1217151557	SBR-SD-131.4 18.5-19.3	18.5	19.3	SS	O	12/17/2015	0.322	<0.322 U	<0.0727 U	<0.0824 U	<0.0908 U	<0.322 U	<0.0908 U	<0.322 U	<0.0834 U	<0.0814 U	<0.0837 U	<0.322 U	<0.085 U	<0.322 U	<0.0756 U	<0.0821 U	<0.322 U	<0.0811 U	<0.322 U	<0.322 U
SBR-SD-132	100515034	SBR-SD-132 0-0.5	0.0	0.5	S	O	10/5/2015	15.72	0.064 J	0.173	0.103 J	0.449	1.16	1.21	1.94	0.862	0.64	0.766	1.47	0.188	3.58	0.179	0.603	0.0975 J	0.389	1.98	2.61
SBR-SD-132	100515036	SBR-SD-132 1.5-2.5	1.5	2.5	SS	O	10/5/2015	26.6	0.177 J	0.399	<0.0991 U	1.07	2.01	1.91	1.8 J	--	1.12	2.09 J	2.62	0.39	5.77	0.387	0.982	0.239	--	3.88	4.36
SBR-SD-132	100515039	SBR-SD-132 4.5-5.5	4.5	5.5	SS	O	10/5/2015	60.7	0.569 J	0.875 J	0.35 J	1.73	4.68	4.74	6.93	3.25	3.29	2.3	5.76	0.937	12.7	0.971	2.86	0.639 J	1.48	9.19	9.88
SBR-SD-132	100515042	SBR-SD-132 7.5-8.5	7.5	8.5	SS	O	10/5/2015	57.8	1.51	0.981	<0.285 U	2.22	3.89	3.93	3.57 J	--	1.44	4.85 J	5.47	0.557 J	11.2	1.14	1.41	2.59	--	8.99	8.87
SBR-SD-132	100515043	SBR-SD-132 8.5-9.3	8.5	9.3	SS	O	10/5/2015	38.47	2.02	0.917 J	<0.278 U	1.17	2.68	2.92	4.78	2.23	1.77	1.73	4.06	0.448 J	7.45	0.944 J	1.52	0.702 J	0.856 J	5.27	5.71
		Total Number of Samples Analyzed:						70	70	70	70	70	70	70	70	37	70	70	70	70	70	70	70	70	37	70	70
		Number of Detections:						70	55	65	42	66	67	67	68	34	69	65	68	58	68	62	67	64	31	69	68
		Min:						0.213	0.0251	0.0182	0.0088	0.0297	0.0307	0.0281	0.0254	0.0207	0.0197	0.0217	0.0459	0.0175	0.0438	0.0199	0.0132	0.0223	0.0169	0.0868	0.0459
		Max:						758	21.8	15.5	1.95	43.2	49.8	56	74.7	25.2	35.5	30.1	66.2	6.74	158	15.2	30.3	7.63	12.1	130	120
		Mean:						67.97	2.16	1.42	0.44	2.93	4.78	4.70	6.61	3.28	2.62	3.17	6.15	0.82	13.71	1.74	2.41	1.16	1.52	12.37	11.34
		Median:						25.52	0.763	0.484	0.169	1.1	1.91	2	2.425	1.57	0.982	1.48	2.44	0.438	5.45	0.754	0.982	0.6015	0.753	3.88	4.215
		EC20 for TPAH(13):						80	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Number of Surface Samples that exceed EC20 for TPAH(13):						2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		EC50 for TPAH(13):						400	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Number of Surface Samples that exceed EC50 for TPAH(13):						1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes:
Italic = result exceeds EC20
BOLD = result exceeds EC50
< = Concentration is less than reported limit
-- = Analysis not performed
U = Not detected
J = Concentration estimated
R = Result rejected during validation
NS = No Standard
(N) = Normalized sample locations created from combining parent and field duplicate samples following USEPA protocol
SL = Screening Level
Non-detected results were not included in the calculations of the the mean and median.

Surface sediment = bottom of interval depth is less than or equal to 6 inches (0.5 feet) below top of sediment
mg/kg = milligrams per kilogram
Alk PAHs = Alkylated PAHs
BTEX = Benzene, Toluene, Ethylbenzene and Xylene
GEO = Geotechnical Property
PAH = Polycyclic Aromatic Hydrocarbon
TPAH = Total PAHs
VOC = Volatile Organic Compound
EC20 = 20% Effects Concentration
EC50 = 50% Effects Concentration
EC20 and EC50 from Hawthorne, S., Azzolina, N., Neuhauser, E., and Kreitinger, J. Predicting Bioavailability of Sediment Polycyclic Aromatic Hydrocarbons to Hyallella Azteca using Equilibrium Partitioning Supercritical Fluid Extraction, and Pore Water Concentrations. Grand Forks, North Dakota. Environmental Science Technology, 2007,

1. The following rules apply to the summation of Total PAH (13) calculated by Natural Resource Technology, Inc. (NRT):
   a. Where no detections were observed, the maximum individual reported detection limit is presented.
   b. Where detections were observed, ½ the reported detection limit for non-detects was used in the summation
   c. The list of Total PAH (13) is as follows: Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Fluoranthene, Fluorene, Naphthalene, Phenanthrene and Pyrene.
   d. R flagged results were not included in calculations.

Non-detected results were not included in the calculations of the the mean and median.
Analysis Runs…… O = Original Run (fall 2015)
A1 = 1st Archive Run (August 2016)
A2 = 2nd Archive Run (October 2016)
Depth Gradient…… S = Surface…… SS = Subsurface

Table 1. Bubbly Creek Ambient Area Sediment Analytical Data

Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Alk PAH C1-Chrysenes	Alk PAH C2-Chrysenes	Alk PAH C3-Chrysenes	Alk PAH C4-Chrysenes	Alk PAH C1-Fluoranthenes/Pyrenes	Alk PAH C2-Fluoranthenes/Pyrenes	Alk PAH C3-Fluoranthenes/Pyrenes	Alk PAH C1-Fluorenes	Alk PAH C2-Fluorenes	Alk PAH C3-Fluorenes	Alk PAH C1-Naphthalenes	Alk PAH C2-Naphthalenes	Alk PAH C3-Naphthalenes	Alk PAH C4-Naphthalenes	Alk PAH C1-Phenanthrenes/Anthracenes	Alk PAH C2-Phenanthrenes/Anthracenes	Alk PAH C3-Phenanthrenes/Anthracenes	Alk PAH C4-Phenanthrenes/Anthracenes
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
							EC20 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Value exceeds EC20 or EC50		Detected below EC20						Not detected above reported limit					Result rejected during data validation				Not analyzed						
SBR-SD-121	111315840	SBR-SD-121 0-0.5	0.0	0.5	S	O	11/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-121	111315843	SBR-SD-121 2.5-3.5	2.5	3.5	SS	O	11/13/2015	5.02	4.66	2.88	0.721	9.57	--	--	23.7	24.4	20	13.3	73.4	154	46.5	49.9	24.9	15.9	3.25
SBR-SD-121	111315845	SBR-SD-121 4.5-5.5	4.5	5.5	SS	O	11/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-121	111315850	SBR-SD-121 9.5-10.6	9.5	10.6	SS	O	11/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-121	111315851	SBR-SD-121 10.6-11.6	10.6	11.6	SS	O	11/13/2015	0.0684	0.0941	0.0576 J	<0.0339 U	0.0999	--	--	0.223	0.31	0.249	0.101	0.447	1.13	0.386	0.466	0.207	0.196	0.0783
SBR-SD-122	100715080	SBR-SD-122 0-0.5	0.0	0.5	S	O	10/7/2015	37.8	12	5.35	5.65	31	--	--	20.4	6.3	12.8	4.07	5.33	4.58	0.973	57.5	10.1	4.3	19.5
SBR-SD-122	100715081	SBR-SD-122 0.5-1.5	0.5	1.5	SS	A1	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-122	100715082	SBR-SD-122 1.5-2.5	1.5	2.5	SS	O	10/7/2015	1	0.585	0.384	0.148	1.15	--	--	0.568	0.584	0.632	0.163	0.889	1.86	0.706	2.18	0.775	0.497	0.455
SBR-SD-122	100715083 / 100715084 (N)	SBR-SD-122 2.5-3.8 (N)	2.5	3.8	SS	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-123	100615073	SBR-SD-123 0-0.5	0.0	0.5	S	O	10/6/2015	21	9.79	3.58	2.81	17.5	--	--	10.4	6.26	6.61	6.45	9.78	8.46	1.85	36.8	7.75	4.29	7.55
SBR-SD-123	100615075	SBR-SD-123 1.5-2.5	1.5	2.5	SS	O	10/6/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-123	100615076	SBR-SD-123 2.5-3.5	2.5	3.5	SS	A1	10/6/2015	9.03	7.19	4.18	1.2 J	11	37	8.7	38.3	61.4	32.7	36.9	171	362	113	111	57.9	25.6	4.04
SBR-SD-123	100615077	SBR-SD-123 3.5-4.5	3.5	4.5	SS	O	10/6/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-123	100615079	SBR-SD-123 5.5-6.6	5.5	6.6	SS	O	10/6/2015	3.2 J	1.68 J	0.958 J	0.592 J	3.71 J	--	--	1.89 J	1.31 J	1.44 J	0.831 J	1.74 J	2.16 J	0.638 J	34.1 J	2.17 J	1.24 J	1.51 J
SBR-SD-124	111315826	SBR-SD-124 0-0.5	0.0	0.5	S	O	11/13/2015	0.733	0.529	0.316 J	<0.188 U	0.939	--	--	0.938	1.04	1.12	0.263 J	1.19	3.03	1.19	2.46	1.16	0.709	0.467
SBR-SD-124	111315830	SBR-SD-124 3.5-4.5	3.5	4.5	SS	O	11/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-124	111315834	SBR-SD-124 7.5-8.7	7.5	8.7	SS	O	11/13/2015	2.2	1.42	0.807	0.251 J	3.06	--	--	1.48	1.5	1.32	1.12	1.96	2.26	0.733	5.16	1.75	1.26	1.05
SBR-SD-124	111315835	SBR-SD-124 8.7-9.7	8.7	9.7	SS	O	11/13/2015	0.081	0.163	0.115	<0.0338 U	0.14	--	--	0.455	0.746	0.581	0.149	0.781	3.13	0.862	0.734	0.387	0.416	0.135
SBR-SD-124	111315837 / 111315839 (N)	SBR-SD-124 10.7-11.7 (N)	10.7	11.7	SS	O	11/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-125	111115810	SBR-SD-125 0-0.5	0.0	0.5	S	O	11/11/2015	2.11	1.03	0.43	0.284 J	3.82	--	--	2.29	1.24	1.47	1.23	1.51	1.32	0.301 J	6.55	1.56	0.666	1.26
SBR-SD-125	111115817	SBR-SD-125 6.5-7.5	6.5	7.5	SS	O	11/11/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-125	111115819	SBR-SD-125 8.5-9.5	8.5	9.5	SS	O	11/11/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-125	111115820	SBR-SD-125 9.5-10.9	9.5	10.9	SS	O	11/11/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-125	111115821	SBR-SD-125 10.9-11.5	10.9	11.5	SS	O	11/11/2015	0.0428 J	0.0989	0.0722	<0.0326 U	0.0578 J	--	--	0.252	0.392	0.314	0.0518 J	0.277	1.04	0.454	0.337	0.205	0.23	0.0681
SBR-SD-125	111115822	SBR-SD-125 11.5-12.5	11.5	12.5	SS	O	11/11/2015	0.102	0.121	0.0806	<0.0317 U	0.158	--	--	0.314	0.408	0.327	0.0863	0.305	0.846	0.412	0.584	0.277	0.269	0.0962
SBR-SD-126	111115797	SBR-SD-126 0-0.5	0.0	0.5	S	O	11/11/2015	1.22	0.672	0.369	0.277	1.74	--	--	1.08	0.841	1.14	0.233	0.823	1.02	0.434	2.28	0.813	0.52	0.952
SBR-SD-126	111115802	SBR-SD-126 4.5-5.5	4.5	5.5	SS	O	11/11/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-126	111115804	SBR-SD-126 6.5-7.5	6.5	7.5	SS	O	11/11/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-126	111115805	SBR-SD-126 7.5-8.5	7.5	8.5	SS	O	11/11/2015	0.369	0.28	0.167	0.055 J	0.589	--	--	0.639	0.717	0.669	0.203	0.834	2.16	0.622	1.42	0.633	0.438	0.235
SBR-SD-126	111115806	SBR-SD-126 8.5-9.5	8.5	9.5	SS	O	11/11/2015	0.843	0.555	0.273 J	<0.164 U	1.22	--	--	1.04	0.984	0.914	0.275 J	1.14	3.16	1	2.48	1	0.664	0.504
SBR-SD-126.X	100615071	SBR-SD-126.X 0-0.5	0.0	0.5	S	O	10/6/2015	0.881	0.494	0.24	0.185	0.816	--	--	0.644	<0.0653 U	<0.0653 U	0.134	0.342	0.486	0.158	1.42	0.358	0.217	0.45
SBR-SD-126.X	100615072	SBR-SD-126.X 0.5-1.9	0.5	1.9	SS	O	10/6/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-127	111015782	SBR-SD-127 0-0.5	0.0	0.5	S	O	11/10/2015	2.29	1.04	0.53	0.454	2.87	--	--	3.89	1.06	2.83	0.679	0.531	0.571	0.2 J	5.29	1.09	0.551	1.94
SBR-SD-127	111015785	SBR-SD-127 2.5-3.5	2.5	3.5	SS	O	11/10/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-127	111015786	SBR-SD-127 3.5-4.5	3.5	4.5	SS	O	11/10/2015	3.43	3.12	2.13	0.76	6.1	--	--	19.3	22.8	15.5	11.3	67.9	127	40.7	40	19.6	11.1	2.15
SBR-SD-127	111015787	SBR-SD-127 4.5-5.5	4.5	5.5	SS	O	11/10/2015	7.42	6.72	4.29	1.59	14.4	--	--	52.9	54.3	39.6	32.4	165	335	99.1	98.1	48.3	28	5.33
SBR-SD-127	111015792 / 111015795 (N)	SBR-SD-127 9.5-10.5 (N)	9.5	10.5	SS	O	11/10/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-127	111015793	SBR-SD-127 10.5-11.5	10.5	11.5	SS	A1	11/10/2015	1.58	1.32	0.775	0.179	1.93	5.61	1.21	1.72	2.37	1.92	1.36	4.05	8.96	2.84	5.84	2.83	2.25	0.688
SBR-SD-127	111015794	SBR-SD-127 11.5-12.0	11.5	12.0	SS	O	11/10/2015	0.0809	0.115	0.075	<0.0344 U	0.123	--	--	0.323	0.425	0.349	0.139	0.697	1.58	0.566	0.617	0.292	0.272	0.0814
SBR-SD-128	110315777	SBR-SD-128 0-0.5	0.0	0.5	S	O	11/3/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-128	110315780	SBR-SD-128 2.5-3.5	2.5	3.5	SS	O	11/3/2015	3.99	2.84	1.51	0.695 J	5.99	--	--	9.45	10.9	9.23	4.05	18.9	52.4	15.3	20.2	9.68	6.01	2.8
SBR-SD-128	110315781	SBR-SD-128 3.5-4.1	3.5	4.1	SS	O	11/3/2015	7.12	7.01	4.75	1.24 J	12.6	--	--	28.6	36.2	28.2	12	74.2	176	64.4	63.3	32	21.4	4.53
SBR-SD-128.X	100615068	SBR-SD-128.X 0-0.5	0.0	0.5	S	O	10/6/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-128.X	100615070	SBR-SD-128.X 1.5-2.8	1.5	2.8	SS	O	10/6/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 1. Bubbly Creek Ambient Area Sediment Analytical Data

Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Alk PAH C1-Chrysenes	Alk PAH C2-Chrysenes	Alk PAH C3-Chrysenes	Alk PAH C4-Chrysenes	Alk PAH C1-Fluoranthenes/Pyrenes	Alk PAH C2-Fluoranthenes/Pyrenes	Alk PAH C3-Fluoranthenes/Pyrenes	Alk PAH C1-Fluorenes	Alk PAH C2-Fluorenes	Alk PAH C3-Fluorenes	Alk PAH C1-Naphthalenes	Alk PAH C2-Naphthalenes	Alk PAH C3-Naphthalenes	Alk PAH C4-Naphthalenes	Alk PAH C1-Phenanthrenes/Anthracenes	Alk PAH C2-Phenanthrenes/Anthracenes	Alk PAH C3-Phenanthrenes/Anthracenes	Alk PAH C4-Phenanthrenes/Anthracenes
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
							EC20 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Value exceeds EC20 or EC50		Detected below EC20						Not detected above reported limit					Result rejected during data validation				Not analyzed						
SBR-SD-129	100615065	SBR-SD-129 0-0.5	0.0	0.5	S	O	10/6/2015	0.366	0.216	<0.0351 U	0.0667 J	0.412	--	--	0.208	<0.0351 U	0.242	0.0464 J	0.189	0.249	0.108	0.623	0.22	0.154	0.215
SBR-SD-129	100615067	SBR-SD-129 1.5-2	1.5	2.0	SS	O	10/6/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-130	100515044	SBR-SD-130 0-0.5	0.0	0.5	S	O	10/5/2015	0.153	0.125	<0.0337 U	<0.0337 U	0.177	--	--	0.0713	<0.0337 U	<0.0337 U	0.0537 J	0.173	0.227	0.0718	0.299	0.137	0.102	0.0954
SBR-SD-130	100515046	SBR-SD-130 1.5-2.5	1.5	2.5	SS	O	10/5/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-130	100515048	SBR-SD-130 3.5-4.5	3.5	4.5	SS	A1	10/5/2015	1.86	0.907	0.472	0.339	2.06	7.14	0.664	1.13	<0.0388 U	1.09	0.481	0.975	1.95	0.662	<0.0388 U	1.34	0.783	0.919
SBR-SD-130	100515049	SBR-SD-130 4.5-5.5	4.5	5.5	SS	O	10/5/2015	14.1	6.72	3.42	2.63	15.6	--	--	10.3	9.15	8.29	2.11	5.16	6.17	2.06	39.3	6.21	3.78	7.8
SBR-SD-130	100515050	SBR-SD-130 5.5-6.5	5.5	6.5	SS	A1	10/5/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-130	100515051	SBR-SD-130 6.5-7.5	6.5	7.5	SS	O	10/5/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-130	100515053 / 100515054 (N)	SBR-SD-130 8.5-9.8 (N)	8.5	9.8	SS	O	10/5/2015	11.5	6.52	4.34	1.91	11.5	--	--	12.8	18.1 J	18.8 J	8.54	36.3	81.4 J	19.4	36.4	15.8	9.13	5.55
SBR-SD-131	100515055	SBR-SD-131 0-0.5	0.0	0.5	S	O	10/5/2015	0.17	0.15	<0.033 U	0.0416 J	0.208	--	--	0.109	<0.033 U	0.153	0.0508 J	0.263	0.391	0.156	0.394	0.185	0.149	0.112
SBR-SD-131	100515056	SBR-SD-131 0.5-1.5	0.5	1.5	SS	O	10/5/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-131	100515062	SBR-SD-131 6.5-7.5	6.5	7.5	SS	O	10/5/2015	7.32	4.28	2.74	1.15	8.17	--	--	10	11.1	8.54	5.57	21.3	55.4	13.2	26.6	9.88	6.54	3.66
SBR-SD-131	100515063	SBR-SD-131 7.5-8.5	7.5	8.5	SS	O	10/5/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-131.4	1217151541	SBR-SD-131.4 0-0.5	0.0	0.5	S	O	12/17/2015	1.14 J	0.894 J	0.522 J	<0.403 U	1.11 J	--	--	1.15 J	1.28 J	<0.806 U	1.36 J	2.46 J	1.99 J	<0.806 U	2.53 J	<0.806 U	<0.806 U	0.692 J
SBR-SD-131.4	1217151542	SBR-SD-131.4 2.5-3.5	2.5	3.5	SS	O	12/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-131.4	1217151546	SBR-SD-131.4 7.5-8.5	7.5	8.5	SS	O	12/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-131.4	1217151548	SBR-SD-131.4 9.5-10.5	9.5	10.5	SS	O	12/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-131.4	1217151552	SBR-SD-131.4 13.5-14.5	13.5	14.5	SS	O	12/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-131.4	1217151554	SBR-SD-131.4 15.5-16.5	15.5	16.5	SS	O	12/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-131.4	1217151556	SBR-SD-131.4 17.5-18.5	17.5	18.5	SS	O	12/17/2015	6.34	4.08 J	2.18	0.733 J	7.7	--	--	4.28 J	3.71 J	4.13 J	3.58 J	7.42	8.27	2.81 J	22.4	7.15	5.54	2.62
SBR-SD-131.4	1217151557	SBR-SD-131.4 18.5-19.3	18.5	19.3	SS	O	12/17/2015	<0.322 U	<0.322 U	<0.161 U	<0.161 U	<0.322 U	--	--	0.426 J	0.449 J	0.392 J	<0.322 U	0.88 J	1.83	0.745 J	1.03 J	0.456 J	0.421 J	0.172 J
SBR-SD-132	100515034	SBR-SD-132 0-0.5	0.0	0.5	S	O	10/5/2015	0.99	0.574	0.317	0.187	1.16	--	--	0.545	0.476	0.549	0.136	0.508	0.868	0.296	1.81	0.571	0.402	0.585
SBR-SD-132	100515036	SBR-SD-132 1.5-2.5	1.5	2.5	SS	O	10/5/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-132	100515039	SBR-SD-132 4.5-5.5	4.5	5.5	SS	O	10/5/2015	4.52	2.43	1.35	0.948	4.03	--	--	2.39	<0.438 U	<0.438 U	0.967	3.56	4.92	1.73	7.39	2.44	1.48	2.13
SBR-SD-132	100515042	SBR-SD-132 7.5-8.5	7.5	8.5	SS	O	10/5/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-132	100515043	SBR-SD-132 8.5-9.3	8.5	9.3	SS	O	10/5/2015	3.42	3.17	2.04	0.778 J	4.05	--	--	5.58	<0.544 U	<0.544 U	3.69	20.9	51	14.8	14.9	6.97	5.42	1.81
		Total Number of Samples Analyzed:						37	37	37	37	37	3	3	37	37	37	37	37	37	37	37	37	37	37
		Number of Detections:						36	36	33	27	36	3	3	37	30	32	36	37	37	36	36	36	36	37
		Min:						0.0428	0.0941	0.0576	0.0416	0.0578	5.61	0.664	0.0713	0.31	0.153	0.0464	0.173	0.227	0.0718	0.299	0.137	0.102	0.0681
		Max:						37.8	12	5.35	5.65	31	37	8.7	52.9	61.4	39.6	36.9	171	362	113	111	57.9	28	19.5
		Mean:						4.54	2.60	1.57	0.96	5.19	16.58	3.52	7.29	9.36	6.94	4.28	19.00	39.70	12.48	19.51	7.70	4.47	2.31
		Median:						1.985	1.035	0.775	0.695	2.465	7.14	1.21	1.48	1.295	1.38	0.899	1.51	2.26	0.8035	5.225	1.45	0.746	0.952
		EC20 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Number of Surface Samples that exceed EC20 for TPAH(13):						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		EC50 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Number of Surface Samples that exceed EC50 for TPAH(13):						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes:
Italic = result exceeds EC20
BOLD = result exceeds EC50
< = Concentration is less than reported limit
-- = Analysis not performed
U = Not detected
J = Concentration estimated
R = Result rejected during validation
NS = No Standard
(N) = Normalized sample locations created from combining parent and field duplicate samples following USEPA protocol
SL = Screening Level
Non-detected results were not included in the calculations of the the mean and median.

Surface sediment = bottom of interval depth is less than or equal to 6 inches (0.5 feet) below top of sediment
mg/kg = milligrams per kilogram
Alk PAHs = Alkylated PAHs
BTEX = Benzene, Toluene, Ethylbenzene and Xylene
GEO = Geotechnical Property
PAH = Polycyclic Aromatic Hydrocarbon
TPAH = Total PAHs
VOC = Volatile Organic Compound
EC20 = 20% Effects Concentration
EC50 = 50% Effects Concentration
EC20 and EC50 from Hawthorne, S., Azzolina, N., Neuhauser, E., and Kreitinger, J. Predicting Bioavailability of Sediment Polycyclic Aromatic Hydrocarbons to Hyallella Azteca using Equilibrium Partitioning Supercritical Fluid Extraction, and Pore Water Concentrations. Grand Forks, North Dakota. Environmental Science Technology, 2007, 41, 6297-6304.

1. The following rules apply to the summation of Total PAH (13) calculated by Natural Resource Technology, Inc. (NRT):
   a. Where no detections were observed, the maximum individual reported detection limit is presented.
   b. Where detections were observed, ½ the reported detection limit for non-detects was used in the summation
   c. The list of Total PAH (13) is as follows: Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Fluoranthene, Fluorene, Naphthalene, Phenanthrene and Pyrene.
   d. R flagged results were not included in calculations.

Non-detected results were not included in the calculations of the the mean and median.
Analysis Runs…… O = Original Run (fall 2015)
A1 = 1st Archive Run (August 2016)
A2 = 2nd Archive Run (October 2016)
Depth Gradient……S = Surface…… SS = Subsurface

Table 1. Bubbly Creek Ambient Area Sediment Analytical Data

Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Aluminum, Total	Antimony, Total	Arsenic, Total	Barium, Total	Cadmium, Total	Chromium, Total	Copper, Total	Iron, Total	Lead, Total	Manganese, Total	Mercury, Total	Nickel, Total	Selenium, Total	Silver, Total	Silver, Total	Vanadium, Total	Zinc, Total
							Reporting Units:	Metals mg/kg	Metals mg/kg	Metals mg/kg	Metals mg/kg	Metals mg/kg	Metals mg/kg	Metals mg/kg	Metals mg/kg	Metals mg/kg	Metals mg/kg	Metals mg/kg	Metals mg/kg	Metals mg/kg	Metals mg/kg	Metals mg/kg	Metals mg/kg	Metals mg/kg
							EC20 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Value exceeds EC20 or EC50		Detected below EC20						Not detected above reported limit					Result rejected during data validation					Not analyzed				
SBR-SD-121	111315840	SBR-SD-121 0-0.5	0.0	0.5	S	O	11/13/2015	5,690	2.2	19.2	85.9	1.6	64.3	102	26,000	189	461	1.3	23	1.1 J	1.7	--	21.5	357
SBR-SD-121	111315843	SBR-SD-121 2.5-3.5	2.5	3.5	SS	O	11/13/2015	9,840	20.2	29.3	464	19.7	327	402	41,100	2,080	402	5.4	164	3.8	20.6	--	64.4	4,350
SBR-SD-121	111315845	SBR-SD-121 4.5-5.5	4.5	5.5	SS	O	11/13/2015	7,100	1.6	9.2	123	3.6	108	225	31,400	236	505	2.5	41.9	1.2	2.2	--	29.5	3,450
SBR-SD-121	111315850	SBR-SD-121 9.5-10.6	9.5	10.6	SS	O	11/13/2015	5,940	1.8	13	282	4.4	147	176	31,100	306	377	0.74	50.6	1.5	1.7	--	33.3	1,830
SBR-SD-121	111315851	SBR-SD-121 10.6-11.6	10.6	11.6	SS	O	11/13/2015	11,700	0.26 J	15	33.7	0.24 J	24.5	33	25,800	29.3	433	0.04 J	35.1	1.6	0.089 J	--	26.1	101 J
SBR-SD-122	100715080	SBR-SD-122 0-0.5	0.0	0.5	S	O	10/7/2015	5,640	0.9 J	4.7	54.4	1	28.6	94	9,580	153	173	0.26	13.9	0.8 J	5.8	--	12.9	260
SBR-SD-122	100715081	SBR-SD-122 0.5-1.5	0.5	1.5	SS	A1	10/7/2015	14,100	2.1	10.4	143	1.9	51.8	254	19,400	229	219	0.72	28	2.5	3.5	--	21.6	621
SBR-SD-122	100715082	SBR-SD-122 1.5-2.5	1.5	2.5	SS	O	10/7/2015	7,430	1.5	5.7	102	1.7	40.2	68.5	18,100	372	313	0.3	22.8	0.97	1.9 J	--	18.9	357
SBR-SD-122	100715083 / 100715084 (N)	SBR-SD-122 2.5-3.8 (N)	2.5	3.8	SS	O	10/7/2015	13,000	18.4	26.5	504	22.1	325	354	34,200	1,730	376	7.4	162	3.3	28.8	--	65.1	3,120
SBR-SD-123	100615073	SBR-SD-123 0-0.5	0.0	0.5	S	O	10/6/2015	4,320	1.2	5.3 J	67.1	1.3	22.8	62.2	20,100	143	452	0.36	16.3	0.98	1.8	--	14.4	254
SBR-SD-123	100615075	SBR-SD-123 1.5-2.5	1.5	2.5	SS	O	10/6/2015	9,830	34.6	37.2	585	25.1	376	415	32,500	2,580	332	9.9	196	5	35	--	74.6	5,300
SBR-SD-123	100615076	SBR-SD-123 2.5-3.5	2.5	3.5	SS	A1	10/6/2015	11,600	23.7	40.4	624	29.5	477	458	30,300	2,140	276	8.8	263	6.3	57.4	--	27.5	4,670
SBR-SD-123	100615077	SBR-SD-123 3.5-4.5	3.5	4.5	SS	O	10/6/2015	9,340	20.1	31.9	527	28.1	1,430	488	34,000	1,730	245	8.4	301	5.1	21.8	--	148	5,540
SBR-SD-123	100615079	SBR-SD-123 5.5-6.6	5.5	6.6	SS	O	10/6/2015	4,030	5.6	17.6	384	5.3	97.2	231	25,500	527	302	3	104	1.8	2.7	--	23.3	2,050
SBR-SD-124	111315826	SBR-SD-124 0-0.5	0.0	0.5	S	O	11/13/2015	3,980	0.98	4.5 J	45.4	0.57 J	16.9	41.9 J	15,900	123 J	240 J	0.12 J+	15.8	0.67 J	0.51	--	12.3	186 J
SBR-SD-124	111315830	SBR-SD-124 3.5-4.5	3.5	4.5	SS	O	11/13/2015	4,120	68.9	17.2	380	6.9	93.2	609	28,400	969	863	1.8	55.1	1.3	2.8	--	20.8	9,010
SBR-SD-124	111315834	SBR-SD-124 7.5-8.7	7.5	8.7	SS	O	11/13/2015	6,740	5.7	11	144	4.3	53.4	235	38,700	507	299	1.1	28.1	1.2	0.56	--	22.7	2,360
SBR-SD-124	111315835	SBR-SD-124 8.7-9.7	8.7	9.7	SS	O	11/13/2015	12,500	0.3 J	13	33	0.21 J	21.9	31.2	24,700	24.3	417	0.071	33.3	1.6	0.025 J	--	27.6	66.9 J
SBR-SD-124	111315837 / 111315839 (N)	SBR-SD-124 10.7-11.7 (N)	10.7	11.7	SS	O	11/13/2015	12,400	0.49 J	14.1	40.8	0.27 J	22.5	37.2	25,600	25.5 J	442	0.12 J	34.7	1.6	0.034 J	--	27.8	109 J
SBR-SD-125	111115810	SBR-SD-125 0-0.5	0.0	0.5	S	O	11/11/2015	1,730 J	0.53 J	1.6 J	10.9 J	0.26 J	7.5 J	8.4 J	8,820	25.2 J	234 J	0.042 J	5.1 J	0.56 J	0.23 J	--	5.8	40.2 J
SBR-SD-125	111115817	SBR-SD-125 6.5-7.5	6.5	7.5	SS	O	11/11/2015	4,750	5	13.7	226	7.2	501	172	26,700	596	661	2.3	96.4	2	7	--	66.8	1,660
SBR-SD-125	111115819	SBR-SD-125 8.5-9.5	8.5	9.5	SS	O	11/11/2015	5,030	6	10.9	164	5.7	413	160	26,300	478	350	1.2	91.3	1.8	4.2	--	58.8	1,420
SBR-SD-125	111115820	SBR-SD-125 9.5-10.9	9.5	10.9	SS	O	11/11/2015	6,220	3.2	20.6	144	4.5	348	116	31,200	522	694	1.9	64.1	2.7	3.7	--	53.5	1,050
SBR-SD-125	111115821	SBR-SD-125 10.9-11.5	10.9	11.5	SS	O	11/11/2015	10,400	0.052 J	4.1 J	47.2	<0.089 U	20.6	10.3	14,600	6.9 J	311	<0.016 U	15.8	0.95	<0.02 U	--	23.4	34 J
SBR-SD-125	111115822	SBR-SD-125 11.5-12.5	11.5	12.5	SS	O	11/11/2015	4,290	0.25 J	12.5 J	14.7	0.38 J	15	24.7	18,400	20.1	429	0.08	18.1	1.1	0.069 J	--	13.4	95.9 J
SBR-SD-126	111115797	SBR-SD-126 0-0.5	0.0	0.5	S	O	11/11/2015	4,940	4.7	4.7 J	98.3	1.2	34.8	88.6	15,700	167	251	0.34	21.4	1.3	3.1 J	--	15.2	316
SBR-SD-126	111115802	SBR-SD-126 4.5-5.5	4.5	5.5	SS	O	11/11/2015	4,140	7.5	13.3	76.9	1.7	293	110	39,600	493	558	0.71	48	1.6	1 J	--	52	662
SBR-SD-126	111115804	SBR-SD-126 6.5-7.5	6.5	7.5	SS	O	11/11/2015	4,360	1.8	10.3	98.9	1.6	332	90.1	36,400	233	797	0.45	46.1	1.4	1.1 J	--	56.9	785
SBR-SD-126	111115805	SBR-SD-126 7.5-8.5	7.5	8.5	SS	O	11/11/2015	4,370	1.9	12.3	120	1.5	248	142	45,600	374	1,090	0.44	40.8	1.5	0.71 J	--	47.7	673
SBR-SD-126	111115806	SBR-SD-126 8.5-9.5	8.5	9.5	SS	O	11/11/2015	9,940	0.55 J	15.3	47.1	0.6 J	65.1	55.7	33,600	60.6	502	0.029	39.6	1.9	<0.37 U	--	30	198
SBR-SD-126.X	100615071	SBR-SD-126.X 0-0.5	0.0	0.5	S	O	10/6/2015	3,320	0.42 J	2.6	30.5	0.43 J	14.8	31.1	11,500	55.9	248	0.19	10.9	0.93	0.43	--	10.2	107
SBR-SD-126.X	100615072	SBR-SD-126.X 0.5-1.9	0.5	1.9	SS	O	10/6/2015	4,890	0.33 J	2 J	22	0.16 J	11.7	106 J	10,700	26.9	752	0.052	10	0.6 J	0.18 J	--	16.2	59.9 J
SBR-SD-127	111015782	SBR-SD-127 0-0.5	0.0	0.5	S	O	11/10/2015	3,310	6.5 J	2.5	20.6	0.39 J	9.8	33.2	8,170	29.3	211	0.074	8.5	0.91	<0.44 U	--	9.2	73.9
SBR-SD-127	111015785	SBR-SD-127 2.5-3.5	2.5	3.5	SS	O	11/10/2015	4,580	2.2 J	4.2	110	1.5	40.1	63.4	11,100	180	206	0.25	20.2	0.93	3.2 J	--	14.8	269
SBR-SD-127	111015786	SBR-SD-127 3.5-4.5	3.5	4.5	SS	O	11/10/2015	6,350	10.1	14.1	254	9.6	174	148	24,400	993	1,900	2.8	67.9	2.5	10.6	--	64.1	2,290
SBR-SD-127	111015787	SBR-SD-127 4.5-5.5	4.5	5.5	SS	O	11/10/2015	12,000	13.6	24.7	438	16.6	289	253	32,300	4,360	1,820	5.2	161	4.3	27.5	--	74.2	4,520
SBR-SD-127	111015792 / 111015795 (N)	SBR-SD-127 9.5-10.5 (N)	9.5	10.5	SS	O	11/10/2015	7,200	11.7	22.7	416	15.2	875 J	317	35,100	1,240	981 J	3.9	200	3.7	19.9	--	137 J	3,380
SBR-SD-127	111015793	SBR-SD-127 10.5-11.5	10.5	11.5	SS	A1	11/10/2015	14,100	0.91 J	22.9	211	1.4	38.7	96.6	33,800	224	533	3.6	42.6	3.7	1.5 J	--	30.7	452
SBR-SD-127	111015794	SBR-SD-127 11.5-12.0	11.5	12.0	SS	O	11/10/2015	6,860	<0.76 U	15.1	20	0.69 J	14.2	34.4	22,200	19.1	441	0.035 J	25.2	1.6	<0.38 U	--	18.9	151
SBR-SD-128	110315777	SBR-SD-128 0-0.5	0.0	0.5	S	O	11/3/2015	3,520	2 J	3.4 J	167	1.2 J	29.2	74.8	9,140	153	167	3.5	17.3	0.42 J	2.1 J	--	10.9	314
SBR-SD-128	110315780	SBR-SD-128 2.5-3.5	2.5	3.5	SS	O	11/3/2015	9,020	2 J	6.4 J	180	2.2 J	49.2	43.5	12,500	215	240	1.1	21.8	0.58 J	3.7 J	--	20.7	363
SBR-SD-128	110315781	SBR-SD-128 3.5-4.1	3.5	4.1	SS	O	11/3/2015	10,900	33.6	39	627	28.6	342	413	29,000	3,060	280	10.3	211	4.5	34.9	--	67.4	6,460
SBR-SD-128.X	100615068	SBR-SD-128.X 0-0.5	0.0	0.5	S	O	10/6/2015	10,400	14.3	9.4	253	4.5	106	170	17,300	509	261	2.2	54	2	10.9	--	31	802
SBR-SD-128.X	100615070	SBR-SD-128.X 1.5-2.8	1.5	2.8	SS	O	10/6/2015	11,300	20.6	32.7	501	19.4	286	331	40,900	1,950	595	6.1	181	4	37.2	--	59.7	3,860

Table 1. Bubbly Creek Ambient Area Sediment Analytical Data

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Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Aluminum, Total	Antimony, Total	Arsenic, Total	Barium, Total	Cadmium, Total	Chromium, Total	Copper, Total	Iron, Total	Lead, Total	Manganese, Total	Mercury, Total	Nickel, Total	Selenium, Total	Silver, Total	Silver, Total	Vanadium, Total	Zinc, Total
								Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
							EC20 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Value exceeds EC20 or EC50		Detected below EC20						Not detected above reported limit					Result rejected during data validation					Not analyzed					
SBR-SD-129	100615065	SBR-SD-129 0-0.5	0.0	0.5	S	O	10/6/2015	2,840	1	2.4	46.4	0.77 J	22.5	74	7,150	120	191	0.32	9.9	0.64 J	1.4	--	8.9	248
SBR-SD-129	100615067	SBR-SD-129 1.5-2	1.5	2.0	SS	O	10/6/2015	6,740	3.3	5.5	147	2.8	45.1	109	14,300	217	246	1	24.8	1.4	3.9	--	17.7	519
SBR-SD-130	100515044	SBR-SD-130 0-0.5	0.0	0.5	S	O	10/5/2015	2,290	0.62 J	3.1	28.1	0.8 J	19.6	84.5	4,580	74.9	142	0.29	7.9	0.35 J	3.8	--	6.9	199
SBR-SD-130	100515046	SBR-SD-130 1.5-2.5	1.5	2.5	SS	O	10/5/2015	2,930	0.73 J	2.8	50.1	1.1	26.2	75.3	6,340	116	153	0.38	10.5	0.52 J	5.4	--	8.6	265
SBR-SD-130	100515048	SBR-SD-130 3.5-4.5	3.5	4.5	SS	A1	10/5/2015	3,680	1.9	3.9	142	1.6	25.9	107	9,050	244	164	0.35	14.6	1.3	4.3	--	8.5	419
SBR-SD-130	100515049	SBR-SD-130 4.5-5.5	4.5	5.5	SS	O	10/5/2015	12,500	34.1	9.8	290	2.5	97.3	264	24,100	441	238	0.88	37.8	2.2	3.3	--	27.4	855
SBR-SD-130	100515050	SBR-SD-130 5.5-6.5	5.5	6.5	SS	A1	10/5/2015	7,460	3.5	7.8	183	2.4	55.1	154	17,200	304	193	3	35.6	2.7	2.9 J	--	15.2 J	744
SBR-SD-130	100515051	SBR-SD-130 6.5-7.5	6.5	7.5	SS	O	10/5/2015	10,600	14.8	8.6	234	2.9	94.4	199	19,100	434	248	1.5	45	1.8	4.6	--	27.6	819
SBR-SD-130	100515053 / 100515054 (N)	SBR-SD-130 8.5-9.8 (N)	8.5	9.8	SS	O	10/5/2015	9,160	25.2	14.2	408	9.1 J	291 J	315	22,000	1,670	280	1.9	101	2.9	31.7	--	56.7	1,490
SBR-SD-131	100515055	SBR-SD-131 0-0.5	0.0	0.5	S	O	10/5/2015	2,350	11.3 J	2.5	42.6 J	0.95	29.7	48.3 J	5,540	91.2	141	0.64 J-	9.9	0.51 J	1.6	--	8.4	227 J
SBR-SD-131	100515056	SBR-SD-131 0.5-1.5	0.5	1.5	SS	O	10/5/2015	3,120	0.72 J	2.9	43.6	0.86	21.4	51.8	6,790	104	152	0.35	10.7	0.71 J	1.8	--	8.3	255
SBR-SD-131	100515062	SBR-SD-131 6.5-7.5	6.5	7.5	SS	O	10/5/2015	10,100	7	10	287	5.2	148	232	20,700	696	296	2	68.7	1.9	17.1	--	37.8	1,080
SBR-SD-131	100515063	SBR-SD-131 7.5-8.5	7.5	8.5	SS	O	10/5/2015	11,200	10.1	11.5	372	8.5	224	249	18,700	1,100	287	2.3	100	2.6	14.4	--	43.1	1,170
SBR-SD-131.4	1217151541	SBR-SD-131.4 0-0.5	0.0	0.5	S	O	12/17/2015	3,650	<0.89 U	2.8 J	56.8	<0.89 U	20.6	56.5	6,510	99.3	145	0.33	17.8	<0.89 U	1.2 J	--	8.2 J	222
SBR-SD-131.4	1217151542	SBR-SD-131.4 2.5-3.5	2.5	3.5	SS	O	12/17/2015	5,170	3.4 J	5.3 J	334	2 J	72.1	98.4	12,300	599	149	0.58	34.8	<1.1 U	2.5 J	--	16.2	762
SBR-SD-131.4	1217151546	SBR-SD-131.4 7.5-8.5	7.5	8.5	SS	O	12/17/2015	10,200	49.3	14.4	437	10 J	247	336	21,900	1,680	306	11.4	114	3.1	39.6	--	41	1,510
SBR-SD-131.4	1217151548	SBR-SD-131.4 9.5-10.5	9.5	10.5	SS	O	12/17/2015	11,700	54.2	15.7	439	9 J	230	301	20,800	1,870	330	2.9	79.4	2.9	73.5	--	40.8	1,380
SBR-SD-131.4	1217151552	SBR-SD-131.4 13.5-14.5	13.5	14.5	SS	O	12/17/2015	10,700	19.2	35.8	787	36.6	1,190	577	29,900	2,080	211	10.6	327	5.8	37	--	83.6	7,440
SBR-SD-131.4	1217151554	SBR-SD-131.4 15.5-16.5	15.5	16.5	SS	O	12/17/2015	9,070	14 J	37.7	752	26.8	2,260	491	32,400	1,540	226	13.7	280	6.3	15.9	--	109	9,440
SBR-SD-131.4	1217151556	SBR-SD-131.4 17.5-18.5	17.5	18.5	SS	O	12/17/2015	10,000	2.6 J	23.7	468	2.6 J	69	203	22,900	752	301	7.7	37.6	2.6	5.7 J	--	26.6	1,030
SBR-SD-131.4	1217151557	SBR-SD-131.4 18.5-19.3	18.5	19.3	SS	O	12/17/2015	8,310	<0.66 U	12.2	23.8	<0.66 U	15.1	29.6	20,100	17.4	477	0.016	26.6	1.4	<0.33 U	--	20.3	63.2 J
SBR-SD-132	100515034	SBR-SD-132 0-0.5	0.0	0.5	S	O	10/5/2015	1,940	4	2.3	34.7	1.1	23.3	63.7	4,830	107	106	0.36 J+	9.2	0.5 J	2.5	--	7.4	272
SBR-SD-132	100515036	SBR-SD-132 1.5-2.5	1.5	2.5	SS	O	10/5/2015	5,440	3.6	5	124	1.8	38.6	74.3	12,300	485	215	0.53	21.9	1.2	5.8	--	15.2	438
SBR-SD-132	100515039	SBR-SD-132 4.5-5.5	4.5	5.5	SS	O	10/5/2015	8,550	4.3	7.6	217	7.5	157	162	20,300	726	384	1.1	47.7	1.8	6.3	--	34	818
SBR-SD-132	100515042	SBR-SD-132 7.5-8.5	7.5	8.5	SS	O	10/5/2015	8,820	7.3	8.1	233	4	144	220	21,700	584	293	10.8	70.7	1.9	9.7	--	30.7	856
SBR-SD-132	100515043	SBR-SD-132 8.5-9.3	8.5	9.3	SS	O	10/5/2015	12,800	9.8	13.5	391	8.4	250	268	21,700	1,230	326	3.9	102	3	18.5	--	50.2	1,290
		Total Number of Samples Analyzed:						70	70	70	70	70	70	70	70	70	70	70	70	70	70	0	70	70
		Number of Detections:						70	67	70	70	67	70	70	70	70	70	69	70	68	65	0	70	70
		Min:						1,730	0.052	1.6	10.9	0.16	7.5	8.4	4,580	6.9	106	0.016	5.1	0.35	0.025	0	5.8	34
		Max:						14,100	68.9	40.4	787	36.6	2,260	609	45,600	4,360	1,900	13.7	327	6.3	73.5	0	148	9,440
		Mean:						7,408	9.65	13.08	221	6.47	201	175	21,866	678	398	2.58	67.88	2.06	10.41	n/a	34.84	1,541
		Median:						6,980	3.6	10.95	145.5	2.4	67.05	113	21,700	339	300	1.1	37.7	1.6	3.7	n/a	27	708.5
		EC20 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Number of Surface Samples that exceed EC20 for TPAH(13):						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		EC50 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Number of Surface Samples that exceed EC50 for TPAH(13):						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes:
Italic = result exceeds EC20
BOLD = result exceeds EC50
< = Concentration is less than reported limit
-- = Analysis not performed
U = Not detected
J = Concentration estimated
R = Result rejected during validation
NS = No Standard
(N) = Normalized sample locations created from combining parent and field duplicate samples following USEPA protocol
SL = Screening Level
Non-detected results were not included in the calculations of the the mean and median.

Surface sediment = bottom of interval depth is less than or equal to 6 inches (0.5 feet) below top of sediment
mg/kg = milligrams per kilogram
Alk PAHs = Alkylated PAHs
BTEX = Benzene, Toluene, Ethylbenzene and Xylene
GEO = Geotechnical Property
PAH = Polycyclic Aromatic Hydrocarbon
TPAH = Total PAHs
VOC = Volatile Organic Compound
EC20 = 20% Effects Concentration
EC50 = 50% Effects Concentration
EC20 and EC50 from Hawthorne, S., Azzolina, N., Neuhauser, E., and Kreitinger, J. Predicting Bioavailability of Sediment Polycyclic Aromatic Hydrocarbons to Hyallella Azteca using Equilibrium Partitioning Supercritical Fluid Extraction, and Pore Water Concentrations. Grand Forks, North Dakota. Environmental Science Technology, 2007, 41, 6297-6304.

1. The following rules apply to the summation of Total PAH (13) calculated by Natural Resource Technology, Inc. (NRT):
   a. Where no detections were observed, the maximum individual reported detection limit is presented.
   b. Where detections were observed, ½ the reported detection limit for non-detects was used in the summation
   c. The list of Total PAH (13) is as follows: Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Fluoranthene, Fluorene, Naphthalene, Phenanthrene and Pyrene.
   d. R flagged results were not included in calculations.

Non-detected results were not included in the calculations of the the mean and median.
Analysis Runs…… O = Original Run (fall 2015)
A1 = 1st Archive Run (August 2016)
A2 = 2nd Archive Run (October 2016)
Depth Gradient…… S = Surface…… SS = Subsurface

Table 1. Bubbly Creek Ambient Area Sediment Analytical Data

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								Inorganic-Cyanide	Phenol	Phenol	Phenol	Phenol	BTEX	BTEX	BTEX	BTEX	VOC	VOC	Organics	Organics	GEO
Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Cyanide, Total	2,4-Dimethylphenol	2-Methylphenol	3 & 4-Methylphenol	Phenol	Benzene	Ethylbenzene	Toluene	Xylenes, Total	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Carbon, Black	Carbon, Total Organic	Percent Moisture
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%
							EC20 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Value exceeds EC20 or EC50		Detected below EC20						Not detected above reported limit					Result rejected during data validation						Not analyzed		
SBR-SD-121	111315840	SBR-SD-121 0-0.5	0.0	0.5	S	O	11/13/2015	1.7	<7.63 U	<7.01 U	<7.07 U	<9.16 U	<0.0178 U	<0.0239 U	0.0337 J	<0.0933 U	<0.0235 U	<0.0279 U	--	--	48.1
SBR-SD-121	111315843	SBR-SD-121 2.5-3.5	2.5	3.5	SS	O	11/13/2015	1.5 J	<7.68 U	<7.06 U	<7.12 U	<9.22 U	0.0328 J	<0.0241 U	0.0479 J	0.209 J	0.342	0.0939 J	--	132,000	48.4
SBR-SD-121	111315845	SBR-SD-121 4.5-5.5	4.5	5.5	SS	O	11/13/2015	2.5	<5.32 U	<4.89 U	<4.93 U	<6.38 U	<0.0124 U	<0.0167 U	0.0323 J	<0.065 U	0.0399 J	<0.0194 U	--	--	25.5
SBR-SD-121	111315850	SBR-SD-121 9.5-10.6	9.5	10.6	SS	O	11/13/2015	0.38 J	<5.18 U	<4.76 U	<4.8 U	<6.22 U	<0.0121 U	0.0166 J	0.0325 J	<0.0634 U	0.0422 J	<0.0189 U	--	--	23.6
SBR-SD-121	111315851	SBR-SD-121 10.6-11.6	10.6	11.6	SS	O	11/13/2015	<0.1 U	<4.56 U	<4.19 U	<4.23 U	<5.47 U	<0.0106 U	<0.0143 U	<0.0129 U	<0.0558 U	<0.0141 U	<0.0167 U	--	24,900	13.2
SBR-SD-122	100715080	SBR-SD-122 0-0.5	0.0	0.5	S	O	10/7/2015	<0.076 U	<0.568 U	<0.522 U	<0.526 U	<0.682 U	<0.0144 U	<0.0194 U	0.0217 J	<0.0758 U	<0.0191 U	<0.0226 U	--	22,800	36.1
SBR-SD-122	100715081	SBR-SD-122 0.5-1.5	0.5	1.5	SS	A1	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	60.6
SBR-SD-122	100715082	SBR-SD-122 1.5-2.5	1.5	2.5	SS	O	10/7/2015	0.42 J	<0.197 U	<0.181 U	0.412 J	<0.236 U	0.0256 J	<0.0185 U	0.104	<0.0721 U	0.0222 J	<0.0215 U	--	--	32.8
SBR-SD-122	100715083 / 100715084 (N)	SBR-SD-122 2.5-3.8 (N)	2.5	3.8	SS	O	10/7/2015	3.3	<0.318 U	<0.292 U	<0.295 U	<0.382 U	0.0293 J	<0.024 U	0.0314 J	0.31	0.456	0.265	--	151,000	49
SBR-SD-123	100615073	SBR-SD-123 0-0.5	0.0	0.5	S	O	10/6/2015	<0.075 U	<0.248 U	<0.228 U	1.06	<0.298 U	<0.0139 U	<0.0187 U	0.13	<0.0728 U	<0.0184 U	<0.0217 U	18,200	38,600	33.5
SBR-SD-123	100615075	SBR-SD-123 1.5-2.5	1.5	2.5	SS	O	10/6/2015	1.6	<0.285 U	<0.262 U	<0.264 U	<0.342 U	0.0205 J	<0.0268 U	0.0345 J	0.188 J	0.351	0.0987 J	--	168,000	53.6
SBR-SD-123	100615076	SBR-SD-123 2.5-3.5	2.5	3.5	SS	A1	10/6/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	53.9
SBR-SD-123	100615077	SBR-SD-123 3.5-4.5	3.5	4.5	SS	O	10/6/2015	1.1 J	<0.393 U	<0.361 U	<0.365 U	<0.472 U	0.0304 J	<0.0296 U	0.0636 J	0.442	1.54	0.526	--	--	58.1
SBR-SD-123	100615079	SBR-SD-123 5.5-6.6	5.5	6.6	SS	O	10/6/2015	0.83	<1.16 U	<1.07 U	<1.07 U	<1.39 U	<0.0162 U	<0.0218 U	0.0993	<0.0851 U	0.028 J	<0.0254 U	--	104,000	43.1
SBR-SD-124	111315826	SBR-SD-124 0-0.5	0.0	0.5	S	O	11/13/2015	0.16 R	<5.16 U	<4.74 U	<4.78 U	<6.19 U	<0.012 U	<0.0162 U	0.03 J	<0.0631 U	<0.0159 U	<0.0188 U	--	28,700 J	23.2
SBR-SD-124	111315830	SBR-SD-124 3.5-4.5	3.5	4.5	SS	O	11/13/2015	<0.81 U	<5.36 U	<4.93 U	<4.97 U	<6.43 U	<0.0125 U	<0.0168 U	0.0833	<0.0655 U	0.0181 J	<0.0196 U	--	--	26.1
SBR-SD-124	111315834	SBR-SD-124 7.5-8.7	7.5	8.7	SS	O	11/13/2015	0.25 J	<5.51 U	<5.06 U	<5.11 U	<6.61 U	0.0181 J	<0.0173 U	0.0663 J	<0.0674 U	0.0339 J	<0.0201 U	--	97,200	28.1
SBR-SD-124	111315835	SBR-SD-124 8.7-9.7	8.7	9.7	SS	O	11/13/2015	<0.15 U	<4.46 U	<4.1 U	<4.14 U	<5.36 U	<0.0104 U	0.0222 J	<0.0126 U	0.261	0.113	0.0415 J	--	25,200	11.2
SBR-SD-124	111315837 / 111315839 (N)	SBR-SD-124 10.7-11.7 (N)	10.7	11.7	SS	O	11/13/2015	<0.1 U	<4.29 U	<3.94 U	<3.97 U	<5.14 U	<0.01 U	<0.0134 U	<0.0121 U	<0.0524 U	<0.0132 U	<0.0156 U	--	--	10
SBR-SD-125	111115810	SBR-SD-125 0-0.5	0.0	0.5	S	O	11/11/2015	0.11 R	<4.77 U	<4.38 U	<4.42 U	<5.73 U	<0.0111 U	<0.015 U	0.073	<0.0583 U	0.0214 J	<0.0174 U	--	28,000	17
SBR-SD-125	111115817	SBR-SD-125 6.5-7.5	6.5	7.5	SS	O	11/11/2015	<0.96 U	<6.64 U	<6.1 U	<6.16 U	<7.97 U	0.0364	0.0266 J	0.139	0.208 J	0.465	0.163	--	--	40.4
SBR-SD-125	111115819	SBR-SD-125 8.5-9.5	8.5	9.5	SS	O	11/11/2015	<1.3 U	<6.2 U	<5.7 U	<5.75 U	<7.44 U	0.0178 J	0.0233 J	0.0712 J	0.133 J	0.296	0.118	--	--	36.1
SBR-SD-125	111115820	SBR-SD-125 9.5-10.9	9.5	10.9	SS	O	11/11/2015	1.4 J	<6.34 U	<5.83 U	<5.88 U	<7.61 U	0.0216 J	<0.0199 U	0.0797 J	0.119 J	0.179	0.0655 J	--	--	37.6
SBR-SD-125	111115821	SBR-SD-125 10.9-11.5	10.9	11.5	SS	O	11/11/2015	<0.1 U	<4.4 U	<4.04 U	<4.07 U	<5.28 U	<0.0102 U	<0.0138 U	<0.0125 U	<0.0538 U	<0.0136 U	<0.0161 U	--	34,100	9.9
SBR-SD-125	111115822	SBR-SD-125 11.5-12.5	11.5	12.5	SS	O	11/11/2015	<0.083 U	<4.35 U	<4 U	<4.03 U	<5.22 U	<0.0101 U	<0.0137 U	<0.0123 U	<0.0532 U	0.0135 J	<0.0159 U	--	41,700	9
SBR-SD-126	111115797	SBR-SD-126 0-0.5	0.0	0.5	S	O	11/11/2015	<0.95 U	<6.26 U	<5.75 U	<5.8 U	<7.51 U	<0.0146 U	<0.0196 U	0.105	<0.0765 U	0.0484 J	<0.0228 U	25,600	46,000	36.7
SBR-SD-126	111115802	SBR-SD-126 4.5-5.5	4.5	5.5	SS	O	11/11/2015	<0.65 U	<5.4 U	<4.96 U	<5 U	<6.48 U	<0.0126 U	<0.0169 U	0.0262 J	<0.066 U	0.0201 J	<0.0197 U	--	--	26.7
SBR-SD-126	111115804	SBR-SD-126 6.5-7.5	6.5	7.5	SS	O	11/11/2015	0.88 J	<5.43 U	<4.99 U	<5.03 U	<6.51 U	<0.0126 U	<0.017 U	0.0514 J	<0.0664 U	0.0237 J	<0.0198 U	--	--	27
SBR-SD-126	111115805	SBR-SD-126 7.5-8.5	7.5	8.5	SS	O	11/11/2015	<1.1 U	<5.67 U	<5.21 U	<5.26 U	<6.81 U	<0.0132 U	<0.0178 U	0.0268 J	<0.0694 U	0.0224 J	<0.0207 U	--	142,000	30.2
SBR-SD-126	111115806	SBR-SD-126 8.5-9.5	8.5	9.5	SS	O	11/11/2015	<0.63 U	<4.76 U	<4.38 U	<4.42 U	<5.72 U	<0.0111 U	<0.0149 U	<0.0135 U	<0.0583 U	<0.0147 U	<0.0174 U	--	47,100	16.9
SBR-SD-126.X	100615071	SBR-SD-126.X 0-0.5	0.0	0.5	S	O	10/6/2015	<0.046 U	<0.871 U	<0.8 U	<0.807 U	<1.05 U	<0.0122 U	<0.0164 U	0.173	<0.0639 U	0.0376 J	<0.0191 U	14,100	22,700	24.2
SBR-SD-126.X	100615072	SBR-SD-126.X 0.5-1.9	0.5	1.9	SS	O	10/6/2015	<0.043 U	<0.182 U	<0.168 U	<0.169 UJ	<0.219 U	<0.0102 U	<0.0137 U	0.112	<0.0535 U	0.0281 J	<0.016 U	--	--	9.5
SBR-SD-127	111015782	SBR-SD-127 0-0.5	0.0	0.5	S	O	11/10/2015	<0.12 U	<5.2 U	<4.77 U	<4.82 U	<6.24 U	<0.0121 U	<0.0163 U	0.413	<0.0635 U	0.0233 J	<0.019 U	--	15,900	23.8
SBR-SD-127	111015785	SBR-SD-127 2.5-3.5	2.5	3.5	SS	O	11/10/2015	<0.089 U	<5.49 U	<5.04 U	<5.08 U	<6.58 U	<0.0128 U	<0.0172 U	0.142	<0.0671 U	0.0327 J	<0.02 U	--	--	27.8
SBR-SD-127	111015786	SBR-SD-127 3.5-4.5	3.5	4.5	SS	O	11/10/2015	1.3 J	<6.1 U	<5.6 U	<5.65 U	<7.32 U	0.0174 J	<0.0191 U	0.0875	0.287	0.738	0.282	--	72,300	35
SBR-SD-127	111015787	SBR-SD-127 4.5-5.5	4.5	5.5	SS	O	11/10/2015	3.1 J	<8.2 U	<7.53 U	<7.6 U	<9.84 U	0.0205 J	<0.0257 U	0.0342 J	0.377	0.917	0.36	--	160,000	51.7
SBR-SD-127	111015792 / 111015795 (N)	SBR-SD-127 9.5-10.5 (N)	9.5	10.5	SS	O	11/10/2015	2.6 J	<7.56 U	<6.94 U	<7.01 U	<9.07 U	0.0245 J	<0.0237 U	0.0467 J	0.279 J	0.816	0.265	--	--	52
SBR-SD-127	111015793	SBR-SD-127 10.5-11.5	10.5	11.5	SS	A1	11/10/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	43.7
SBR-SD-127	111015794	SBR-SD-127 11.5-12.0	11.5	12.0	SS	O	11/10/2015	<0.12 U	<4.55 U	<4.18 U	<4.21 U	<5.46 U	<0.0106 U	<0.0143 U	0.0132 J	<0.0556 U	0.0395 J	0.0201 J	--	38,700	12.9
SBR-SD-128	110315777	SBR-SD-128 0-0.5	0.0	0.5	S	O	11/3/2015	0.66 J	<5.69 U	<5.23 U	<5.27 U	<6.83 U	<0.0132 U	0.0268 J	0.21	0.0792 J	0.0994	0.0392 J	--	34,600	30.4
SBR-SD-128	110315780	SBR-SD-128 2.5-3.5	2.5	3.5	SS	O	11/3/2015	1.7	<7.46 UJ	<6.86 UJ	<6.92 UJ	<8.96 UJ	0.0292 J	0.031 J	0.292	0.255 J	0.38	0.149	--	154,000	46.9
SBR-SD-128	110315781	SBR-SD-128 3.5-4.1	3.5	4.1	SS	O	11/3/2015	4.7	<9.32 U	<8.56 U	<8.63 U	<11.2 U	0.0489	<0.0292 U	0.0849 J	0.428	0.535	0.207	--	39,000	57.5
SBR-SD-128.X	100615068	SBR-SD-128.X 0-0.5	0.0	0.5	S	O	10/6/2015	0.66	<0.257 U	<0.236 U	<0.238 UJ	<0.309 U	<0.018 U	<0.0242 U	0.0608 J	<0.0944 U	0.111	0.0465 J	--	62,400	48.7
SBR-SD-128.X	100615070	SBR-SD-128.X 1.5-2.8	1.5	2.8	SS	O	10/6/2015	3.1 J-	<0.369 U	<0.339 U	<0.342 UJ	<0.443 U	0.0275 J	<0.0284 U	0.0509 J	0.365	0.535	0.19	--	--	55.3

Table 1. Bubbly Creek Ambient Area Sediment Analytical Data

Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Inorganic-Cyanide	Phenol	Phenol	Phenol	Phenol	BTEX	BTEX	BTEX	BTEX	VOC	VOC	Organics	Organics	GEO
								Cyanide, Total	2,4-Dimethylphenol	2-Methylphenol	3 & 4-Methylphenol	Phenol	Benzene	Ethylbenzene	Toluene	Xylenes, Total	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Carbon, Black	Carbon, Total Organic	Percent Moisture
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%
							EC20 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Value exceeds EC20 or EC50		Detected below EC20						Not detected above reported limit					Result rejected during data validation						Not analyzed	
SBR-SD-129	100615065	SBR-SD-129 0-0.5	0.0	0.5	S	O	10/6/2015	0.22 J	<0.187 U	<0.172 U	<0.173 U	<0.224 U	<0.013 U	<0.0176 U	0.212	<0.0685 U	0.0385 J	<0.0205 U	19,900	24,800	29.3
SBR-SD-129	100615067	SBR-SD-129 1.5-2	1.5	2.0	SS	O	10/6/2015	0.26 J	<0.0981 U	<0.0901 UJ	0.124 J	<0.118 UJ	<0.0137 U	<0.0185 U	0.22	<0.072 U	0.0406 J	<0.0215 U	--	47,000	32.7
SBR-SD-130	100515044	SBR-SD-130 0-0.5	0.0	0.5	S	O	10/5/2015	0.098 J	<0.0446 U	<0.041 U	<0.0414 U	<0.0536 U	<0.0125 U	<0.0168 U	<0.0152 U	<0.0655 U	<0.0165 U	<0.0196 U	12,000	17,600	26.1
SBR-SD-130	100515046	SBR-SD-130 1.5-2.5	1.5	2.5	SS	O	10/5/2015	<0.11 U	<0.0419 U	<0.0385 U	<0.0388 U	<0.0503 U	<0.0117 U	<0.0158 U	<0.0142 U	<0.0615 U	<0.0155 U	<0.0184 U	--	--	21.2
SBR-SD-130	100515048	SBR-SD-130 3.5-4.5	3.5	4.5	SS	A1	10/5/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	22.6
SBR-SD-130	100515049	SBR-SD-130 4.5-5.5	4.5	5.5	SS	O	10/5/2015	0.45 J	<3.1 U	<2.84 U	<2.87 UJ	<3.71 U	0.0373 J	<0.0291 U	0.228	<0.114 U	0.0712 J	<0.0339 U	--	79,900	57.3
SBR-SD-130	100515050	SBR-SD-130 5.5-6.5	5.5	6.5	SS	A1	10/5/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	49.3
SBR-SD-130	100515051	SBR-SD-130 6.5-7.5	6.5	7.5	SS	O	10/5/2015	0.61 J	<5.37 U	<4.93 U	<4.98 U	<6.44 U	<0.02 U	<0.027 U	0.445	<0.105 U	0.1 J	0.048 J	--	120,000	53.9
SBR-SD-130	100515053 / 100515054 (N)	SBR-SD-130 8.5-9.8 (N)	8.5	9.8	SS	O	10/5/2015	1.9 J	<0.762 U	<0.7 U	1.64 J	<0.915 U	0.0309 J	0.11 J	0.252	0.841	1.15	0.442	--	144,000	56.7
SBR-SD-131	100515055	SBR-SD-131 0-0.5	0.0	0.5	S	O	10/5/2015	0.2 J	<0.0438 U	<0.0402 U	<0.0406 U	<0.0525 U	<0.0122 U	<0.0165 U	0.0542 J	<0.0642 U	0.0202 J	<0.0192 U	--	10,800	24.6
SBR-SD-131	100515056	SBR-SD-131 0.5-1.5	0.5	1.5	SS	O	10/5/2015	0.19 J	<0.439 U	<0.403 U	<0.407 U	<0.527 U	<0.0123 U	<0.0165 U	0.141	<0.0644 U	0.0559 J	0.0222 J	--	--	24.8
SBR-SD-131	100515062	SBR-SD-131 6.5-7.5	6.5	7.5	SS	O	10/5/2015	1.3	<0.719 U	<0.66 U	<0.666 U	<0.863 U	<0.0201 U	0.0365 J	0.202	0.381	0.773	0.351	--	155,000	54.1
SBR-SD-131	100515063	SBR-SD-131 7.5-8.5	7.5	8.5	SS	O	10/5/2015	0.83 J	<0.313 U	<0.288 UJ	1.04 J	<0.376 UJ	<0.0175 U	0.0398 J	0.261	0.413	0.92	0.4	--	--	47.3
SBR-SD-131.4	1217151541	SBR-SD-131.4 0-0.5	0.0	0.5	S	O	12/17/2015	0.35 J	<5.54 U	<5.09 U	<5.13 U	<6.64 U	<0.0129 U	<0.0174 U	0.0569 J	<0.0677 U	0.0942	<0.0699 U	--	18,000	28.4
SBR-SD-131.4	1217151542	SBR-SD-131.4 2.5-3.5	2.5	3.5	SS	O	12/17/2015	0.78 J	<7.21 U	<6.62 U	<6.68 U	<8.65 U	<0.0168 U	<0.0226 U	0.126	<0.0881 U	0.12	<0.091 U	--	--	45
SBR-SD-131.4	1217151546	SBR-SD-131.4 7.5-8.5	7.5	8.5	SS	O	12/17/2015	1.5 J	<8.92 U	<8.2 U	<8.27 U	<10.7 U	0.0256 J	0.0498 J	0.26	0.556	1.03	0.5	--	--	55.6
SBR-SD-131.4	1217151548	SBR-SD-131.4 9.5-10.5	9.5	10.5	SS	O	12/17/2015	4	<8.43 U	<7.75 U	<7.82 U	<10.1 U	0.0255 J	0.176	0.331	1.01	1.72	0.699	--	--	53
SBR-SD-131.4	1217151552	SBR-SD-131.4 13.5-14.5	13.5	14.5	SS	O	12/17/2015	7.8	<9.78 U	<8.99 U	<9.06 U	<11.7 U	0.0393 J	0.1 J	0.212	0.67	1.43	0.592	--	--	59.5
SBR-SD-131.4	1217151554	SBR-SD-131.4 15.5-16.5	15.5	16.5	SS	O	12/17/2015	3	<9.47 U	<8.7 U	<8.78 U	<11.4 U	0.0919	0.0551 J	0.275	0.278 J	0.588	0.283	--	--	58.2
SBR-SD-131.4	1217151556	SBR-SD-131.4 17.5-18.5	17.5	18.5	SS	O	12/17/2015	0.65 J	<7.31 U	<6.71 U	<6.77 U	<8.77 U	<0.017 U	<0.0229 U	0.0873 J	<0.0893 U	0.171	0.115	--	125,000	45.8
SBR-SD-131.4	1217151557	SBR-SD-131.4 18.5-19.3	18.5	19.3	SS	O	12/17/2015	<0.13 U	<4.42 U	<4.06 U	<4.1 U	<5.3 U	<0.0103 U	<0.0139 U	<0.0125 U	<0.054 U	<0.0136 U	<0.0161 U	--	21,200	10.4
SBR-SD-132	100515034	SBR-SD-132 0-0.5	0.0	0.5	S	O	10/5/2015	0.072 J	<0.0851 U	<0.0782 U	<0.0788 U	<0.102 U	<0.0119 U	<0.016 U	0.0155 J	<0.0624 U	<0.0157 UJ	<0.0186 UJ	--	4,040	22.4
SBR-SD-132	100515036	SBR-SD-132 1.5-2.5	1.5	2.5	SS	O	10/5/2015	0.12 J	<0.219 U	<0.202 U	<0.203 U	<0.263 U	<0.0123 U	<0.0165 U	<0.0149 U	<0.0644 U	<0.0162 UJ	<0.0192 UJ	--	--	24.8
SBR-SD-132	100515039	SBR-SD-132 4.5-5.5	4.5	5.5	SS	O	10/5/2015	0.43 J	<0.295 U	<0.271 U	0.488 J	<0.354 U	<0.0165 U	<0.0222 U	0.0906	<0.0866 U	0.169 J	0.0759 J	--	71,500	44.1
SBR-SD-132	100515042	SBR-SD-132 7.5-8.5	7.5	8.5	SS	O	10/5/2015	1.3	<2.52 U	<2.32 UJ	<2.34 UJ	<3.03 UJ	0.0189 J	0.0323 J	0.131	0.373	0.906 J	0.378 J	--	--	47.7
SBR-SD-132	100515043	SBR-SD-132 8.5-9.3	8.5	9.3	SS	O	10/5/2015	1.8	<1.47 U	<1.35 U	1.79 J	<1.76 U	<0.0205 U	0.0519 J	0.216	0.401	0.964 J	0.439 J	--	179,000	55.1
Total Number of Samples Analyzed:								65	65	65	65	65	65	65	65	65	65	65	5	39	70
Number of Detections:								42	0	0	7	0	22	15	55	24	52	30	5	39	70
Min:								0.072	0	0	0.124	0	0.0174	0.0166	0.0132	0.0792	0.0135	0.0201	12,000	4,040	9
Max:								7.8	0	0	1.79	0	0.0919	0.176	0.445	1.01	1.72	0.699	25,600	179,000	60.6
Mean:								1.47	n/a	n/a	0.94	n/a	0.03	0.05	0.13	0.37	0.36	0.24	17,960	70,481	36.21
Median:								0.99	n/a	n/a	1.04	n/a	0.02655	0.0365	0.0875	0.3375	0.112	0.1985	18,200	46,000	35.55
EC20 for TPAH(13):								NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Number of Surface Samples that exceed EC20 for TPAH(13):								0	0	0	0	0	0	0	0	0	0	0	0	0	0
EC50 for TPAH(13):								NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Number of Surface Samples that exceed EC50 for TPAH(13):								0	0	0	0	0	0	0	0	0	0	0	0	0	0

[O:ECK 1/4/17][U:ECK 1/5/17][U:ECK 1/9/17]

Notes:
Italic = result exceeds EC20
BOLD = result exceeds EC50
< = Concentration is less than reported limit
-- = Analysis not performed
U = Not detected
J = Concentration estimated
R = Result rejected during validation
NS = No Standard
(N) = Normalized sample locations created from combining parent and field duplicate samples following USEPA protocol
SL = Screening Level
Non-detected results were not included in the calculations of the the mean and median.

Surface sediment = bottom of interval depth is less than or equal to 6 inches (0.5 feet) below top of sediment
mg/kg = milligrams per kilogram
Alk PAHs = Alkylated PAHs
BTEX = Benzene, Toluene, Ethylbenzene and Xylene
GEO = Geotechnical Property
PAH = Polycyclic Aromatic Hydrocarbon
TPAH = Total PAHs
VOC = Volatile Organic Compound
EC20 = 20% Effects Concentration
EC50 = 50% Effects Concentration
EC20 and EC50 from Hawthorne, S., Azzolina, N., Neuhauser, E., and Kreitinger, J. Predicting Bioavailability of Sediment Polycyclic Aromatic Hydrocarbons to Hyallella Azteca using Equilibrium Partitioning Supercritical Fluid Extraction, and Pore Water Concentrations. Grand Forks, North Dakota. Environmental Science Technology, 2007, 41, 6297-6304.

1. The following rules apply to the summation of Total PAH (13) calculated by Natural Resource Technology, Inc. (NRT):
   a. Where no detections were observed, the maximum individual reported detection limit is presented.
   b. Where detections were observed, ½ the reported detection limit for non-detects was used in the summation
   c. The list of Total PAH (13) is as follows: Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Fluoranthene, Fluorene, Naphthalene, Phenanthrene and Pyrene.
   d. R flagged results were not included in calculations.
Non-detected results were not included in the calculations of the the mean and median.
Analysis Runs…… O = Original Run (fall 2015)
A1 = 1st Archive Run (August 2016)
A2 = 2nd Archive Run (October 2016)
Depth Gradient…… S = Surface…… SS = Subsurface

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	TPAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH
								TPAH(13) [1]	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene
		Reporting Units:						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		EC20 for TPAH(13):						*80*	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		EC50 for TPAH(13):						**400**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50					Detected below EC20				Not detected above reported limit					Result rejected during data validation					Not analyzed							
PCS-RSB-005B	111814025 (N)	PCS-RSB-005B-001 (N)	3.5	4.0	SS	O	7/13/2006	1,076	108	223	227	2.38	16.5	20.6	11.4	12.2	8.76	6.02	--	16.7	1.61	86.5	101	6.47	370	2.56	148	63.3
PCS-RSB-005B	111814027	PCS-RSB-005B-002	8.0	9.3	SS	O	7/13/2006	3,087	465	728	461	32.5	264	91.3	75.4	29.8	37.6	23.1	--	83.8	8.35	190	216	24.2	687	9.8	643	313
PCS-RSB-007B	111814023	PCS-RSB-007B-001	0.0	2.0	SS	O	7/12/2006	345	61	95.2	38.3	4.75	19.8	15.7	12.1	9.15	8.96	5.96	--	17.7	1.68	28	18.4	5.82	78.8	2.13	67	35.1
PCS-RSB-008B	111814024	PCS-RSB-008B-001	7.3	8.0	SS	O	7/12/2006	2,333	406	654	283	30.6	146	76.6	52.4	23.4	30.3	15.8	--	79.4	6.09	107	129	15.9	849	7.5	383	174
PCS-RSB-017	111814008	PCS-RSB-017-001	2.0	4.0	SS	O	6/29/2006	135	5.87	10.5	1.9	2.14	5.12	10.2	9.85	10.4	8.42	6.55	--	13.8	1.71	26.7	4.09	7.3	3.3	2.44	23.4	24.3
PCS-RSB-021	111814009	PCS-RSB-021-001	2.0	4.0	SS	O	6/30/2006	89.1	8.13	13.5	1.91	0.808	2.97	6.19	6.13	6.46	5.19	4.08	--	8.2	0.949	17.3	3.42	4.47	3.61	1.7	17.1	15
PCS-RSB-025	111814012 (N)	PCS-RSB-025-001 (N)	3.0	4.0	SS	O	7/6/2006	29.4	3.5	5.37	0.722	0.319	1.06	2.2	2.26	2.23	1.85	1.48	--	2.91	0.358	5.03	1.19	1.56	1.15	0.555	5.48	4.83
PCS-RSB-027B	111814016 (N)	PCS-RSB-027B-001 (N)	8.5	9.5	SS	O	7/7/2006	2,090	378	618	251	25.1	126	64.6	43.1	19.7	24.7	13.2	--	66.8	5.02	91.8	113	13.4	810	6.15	330	149
PCS-RSB-032	111814019	PCS-RSB-032-001	5.0	6.0	SS	O	7/11/2006	134	10	16.8	2.5	1.37	4.36	10.2	10.3	10.8	8.78	6.6	--	13.2	1.59	26.8	4.62	7.05	1.22	2.38	25.8	22.9
PCS-RSB-032	111814020	PCS-RSB-032-002	13.0	14.0	SS	O	7/11/2006	5,746	1,180	1,790	799	115	350	212	142	60.3	79.3	41.6	--	225	17.6	273	361	42.8	1,770	20.8	988	451
PCS-RSB-035	111814021	PCS-RSB-035-001	8.0	9.0	SS	O	7/11/2006	1,291	213	310	175	22.3	83.4	47.5	34.5	18.1	19.5	11.9	--	48.6	4.36	74.9	76.9	12.8	386	5.56	220	104
PCS-RSB-037B	111814018	PCS-RSB-037B-001	5.0	6.0	SS	O	7/7/2006	535	28.8	40.5	25	2.16	34.6	38.9	35	24.3	20.6	16.1	--	37	3.96	83.6	15.7	17.6	66.7	7.34	91.2	80.5
PCS-RSB-040B	111814028	PCS-RSB-040B-001	10.0	10.5	SS	O	7/13/2006	69.1	5.56	9.33	1.23	1.48	2.63	4.99	4.62	4.87	4.05	3.23	--	6.55	0.826	13.1	2.62	3.41	1.74	0.918	13.3	12
PCS-RSB-042B	111814029	PCS-RSB-042B-001	7.5	8.0	SS	O	7/14/2006	87	2.75	4.19	1.63	0.968	3.56	6.19	5.54	5.41	4.47	3.38	--	8	0.99	18.4	3.12	3.8	2.9	1.15	15.7	15.6
PCS-RSB-046	111814010	PCS-RSB-046-001	6.0	6.5	SS	O	6/30/2006	155	11.8	21	3.12	2.74	6.7	11.3	10.8	10.7	8.8	6.86	--	14.5	1.76	28.1	6.21	7.6	3.91	2.64	31.4	26
PCS-RSB-047	111814011	PCS-RSB-047-001	5.0	6.0	SS	O	7/5/2006	85.6	6.13	10.5	1.41	1.38	3.31	6.16	5.74	6.01	5.01	3.87	--	8.07	0.971	16.7	2.93	4.13	2.6	1.26	16	15.3
PCS-RSB-048	111814014	PCS-RSB-048-001	5.0	6.0	SS	O	7/6/2006	127	9.99	18.3	1.79	1.92	4.75	9.49	9.07	9.54	7.65	5.92	--	12.5	1.49	24.9	4.66	6.52	3.7	2.01	22.8	21.9
PCS-RSB-048	111814015	PCS-RSB-048-002	8.0	9.0	SS	O	7/6/2006	19,266	3,510	4,950	2,780	379	1,340	690	484	209	251	144	--	704	58.9	1,010	1,210	148	5,520	70.9	3,430	1,510
PCS-RSB-050	111814022	PCS-RSB-050-001	7.0	8.0	SS	O	7/12/2006	205	8.61	13.1	3.58	3.49	9.64	16.2	14.5	13.3	11	7.99	--	18.3	2.11	39.8	6.57	8.8	3.37	2.9	40.7	35.7
PCS-RSB-051	111814030	PCS-RSB-051-001	8.0	8.3	SS	O	10/4/2006	946	216	317	105	12.5	58.7	29.5	23.2	13.4	14.2	10	--	33.3	3.65	50.2	50.7	10.2	317	4.27	186	66.8
PCS-RSB-052	111814031	PCS-RSB-052-001	6.0	7.0	SS	O	10/5/2006	239	19.2	25.5	11.1	2.51	10.8	14.6	16.1	11.8	10.6	9.23	--	15.8	2.64	26.2	6.95	9.37	69.4	3.86	28.4	25.1
PCS-RSB-054	111814033	PCS-RSB-054-001	12.0	13.0	SS	O	10/5/2006	2,715	583	860	386	39	160	77.9	55.8	26	31.7	18.3	--	87.6	8.11	114	155	18	949	8.8	489	176
PCS-RSB-055	111814034	PCS-RSB-055-001	1.0	2.0	SS	O	10/5/2006	17.16	0.691	0.972	0.314	0.185	0.525	1.38	1.44	1.45	1.14	0.978	--	1.76	0.275	3.57	0.456	1	0.322	0.372	2.78	2.98
PCS-RSB-055	111814032	PCS-RSB-055-002	5.0	6.0	SS	O	10/5/2006	763	149	211	78.5	4.82	31.6	13.5	10.6	8	7.4	5.08	--	15.6	1.66	30.7	24.6	5.07	392	1.89	118	35.4
PCS-RSB-056	111814036 (N)	PCS-RSB-056-001 (N)	4.5	5.5	SS	O	10/6/2006	267	15.1	21.4	8.8	1.67	10.6	19.2	18.2	18.7	13.6	9.94	--	22.9	3.87	40	6.83	11.6	53.4	5.11	35.4	30.8
PCS-RSB-056	111814035	PCS-RSB-056-002	6.0	7.0	SS	O	10/6/2006	8,368	1,320	2,100	988	96.2	452	185	145	61.1	76.3	44.8	--	208	18.5	334	448	44.8	3,560	21.4	1,340	551
PCS-RSB-058	111814038	PCS-RSB-058-001	4.0	5.0	SS	O	10/9/2006	252	17.4	29.5	24.3	2.09	13	10.6	8.8	8.87	6.88	5.62	--	13.6	1.61	39.3	21	4.81	14.9	2.14	63.6	32.4
PCS-RSB-059	111814041	PCS-RSB-059-001	10.0	11.0	SS	O	10/10/2006	3,710	722	1,070	491	43.5	226	98.9	72.3	34.4	40.6	24.4	--	106	10.1	160	202	20.6	1,390	11.4	653	233
PCS-RSB-060	111814045	PCS-RSB-060-001	3.0	4.0	SS	O	10/10/2006	135	9.2	14.2	5.65	2.52	6.24	9.22	8.29	8.28	6.82	5.5	--	12.4	1.6	23.5	5.23	4.54	3.9	1.74	26.6	23.4
PCS-RSB-060	111814046	PCS-RSB-060-002	8.0	8.5	SS	O	10/10/2006	1,100	206	309	141	14.7	67	36.2	26.2	14.6	15.7	10	--	42.2	3.86	63.3	61.3	8.37	340	4.42	202	91.9
PCS-RSB-061	111814047	PCS-RSB-061-001	6.0	7.0	SS	O	10/10/2006	172	17.5	28.4	4.89	2.96	7.11	10.8	9.66	10.4	8.38	6.67	--	15.5	1.9	32.2	7.11	5.67	8.48	2.35	33.4	29.6
PCS-RSB-061	111814048	PCS-RSB-061-002	10.0	10.5	SS	O	10/10/2006	3,161	670	977	456	42.6	197	90.2	58.8	28.5	33.3	19.8	--	106	8.84	150	188	16.2	1,020	9.55	588	236
PCS-RSB-062	111814039 (N)	PCS-RSB-062-001 (N)	2.0	3.0	SS	O	10/10/2006	201	16.4	27.8	4.07	4.34	7.3	13	11.9	12.8	10.4	8.46	--	18.2	2.68	37.6	7.72	6.8	7.11	2.54	40.9	35.8
PCS-RSB-062	111814042	PCS-RSB-062-002	6.5	7.5	SS	O	10/10/2006	2,334	353	521	266	19.7	175	70.9	54.4	24.7	29	18.4	--	72.6	6.8	123	137	15.2	767	7.57	444	180
PCS-RSB-063	111814043	PCS-RSB-063-001	2.0	3.0	SS	O	10/10/2006	227	9.91	15.6	3.89	3.24	8.43	17.3	16.1	16.5	12.8	10.5	--	22.6	3.06	46.4	6.87	9.14	5.44	3.54	39.5	40.4
PCS-RSB-063	111814044	PCS-RSB-063-002	6.0	7.0	SS	O	10/10/2006	1,144	198	295	169	6.38	64.5	28.6	18.3	11	10.6	6.66	--	33.6	2.33	62	71.9	5.65	410	2.82	182	87
SBR-SD-072	1120151046 / 1120151061 (N)	SBR-SD-072 0-0.5 (N)	0.0	0.5	S	O	11/20/2015	18.6	--	<0.0838 U	0.174 J	0.784 J	0.662 J	1.61	1.82	1.57 J	--	1.86 J	1.62 J	1.96	0.409 J	3.3	0.183 J	1.25 J	<0.0838 U	--	1.88 J	2.96
SBR-SD-072	1120151050	SBR-SD-072 3.5-4.5	3.5	4.5	SS	O	11/20/2015	21.7	--	6.43	1.61	0.79 J	1.68	1.09 J	1.18 J	0.59 J	--	0.687 J	0.684 J	1.12 J	<0.248 U	1.98	1.1 J	0.464 J	1.22 J	--	5.09	3.54
SBR-SD-072	1120151053	SBR-SD-072 6.5-7.5	6.5	7.5	SS	A1	11/20/2015	45.78	--	8.15	2.58	2.09	2.87	3.03	3.35	3.07 J	--	1.41	1.1 J	3.02	0.411 J	4.89	1.8	1.12	1.76	--	9.19	7.03
SBR-SD-072	1120151054	SBR-SD-072 7.5-8.5	7.5	8.5	SS	O	11/20/2015	390	--	58.4	22.3	8.97	19.8	21.9	16.6	19.2	9.76	9.26	6.74	17	3.02	27.7	17.5	8.27	112	3.64	59.4	40.7
SBR-SD-072	1120151055	SBR-SD-072 8.5-9.5	8.5	9.5	SS	A1	11/20/2015	36.662	--	6.56	2.31	1.07	2.15	1.87	2.08	1.85 J	--	0.853	0.782 J	2.12	0.259 J	3.45	1.6	0.69	4.94	--	7.53	4.91
SBR-SD-072	1120151056	SBR-SD-072 9.5-10.5	9.5	10.5	SS	O	11/20/2015	292	--	27.4	20.4	<3.11 U	25.3	12.6 J	10.2 J	5.41 J	--	5.15 J	7.38 J	13.4 J	<3.11 U	25.4	14.5 J	4.12 J	67.6	--	59.4	28.7
SBR-SD-072	1120151057	SBR-SD-072 10.5-11.3	10.5	11.3	SS	O	11/20/2015	814	--	97.7	54.2	8.18	54.3	37.6	38.4	45.6	20.5	23	13.6	29.6	6.99	67.6	39.4	21	205	9.25	126	94.8
SBR-SD-072	1120151058	SBR-SD-072 11.3-12.5	11.3	12.5	SS	O	11/20/2015	5	--	0.337	0.224 J	0.139 J	0.231 J	0.112 J	0.101 J	<0.108 U	<0.0867 U	0.0858 J	<0.087 U	0.126 J	<0.0884 U	0.3 J	0.129 J	<0.0853 U	2.43	<0.0843 U	0.73	0.341

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	TPAH(13) [1]	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
							EC20 for TPAH(13):	*80*	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	**400**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit						Result rejected during data validation						Not analyzed							
SBR-SD-073	1120151025	SBR-SD-073 0-0.5	0.0	0.5	S	O	11/20/2015	52.3	--	0.472 J	0.52 J	1.46	2.01	4.08	5.41	8.4	3.96	4.35	2.63	5.2	0.815 J	9.37	0.555 J	3.76	0.556 J	1.45	4.33	7.73
SBR-SD-073	1120151028	SBR-SD-073 2.5-3.5	2.5	3.5	SS	O	11/20/2015	2.29	--	<0.0398 U	<0.0398 U	<0.0398 U	0.0661 J	0.194 J	0.22	0.223 J	--	0.163 J	0.208 J	0.26	0.0487 J	0.455	<0.0398 U	0.136 J	<0.0398 U	--	0.212	0.376
SBR-SD-073	1120151031	SBR-SD-073 5.5-6.5	5.5	6.5	SS	O	11/20/2015	8.3	--	0.528	0.155 J	0.137 J	0.313 J	0.622	0.654	0.729 J	--	0.501	0.576 J	0.937	0.144 J	1.44	0.222 J	0.366	0.18 J	--	1.1	1.2
SBR-SD-073	1120151034	SBR-SD-073 8.5-9.5	8.5	9.5	SS	O	11/20/2015	88.2	--	6.49	1.68	2.06	3.59	6.22	6.25	10.1	4.93	4.98	3.51	7.86	0.947 J	15.5	2.41	4.06	1.52	1.73	13.4	14.1
SBR-SD-073	1120151038	SBR-SD-073 12.5-13.5	12.5	13.5	SS	A1	11/20/2015	89.87	--	8.1	3.35	2.42 J	4.17	6.2	6.63	11.1 J	5.31	4.27	2.38 J	7.66	0.98	11.6	3.1	3.23	5.96	1.6	12.2	13.1
SBR-SD-073	1120151039	SBR-SD-073 13.5-14.5	13.5	14.5	SS	O	11/20/2015	410	--	65.5	29.2 J	<2.83 U	27.4 J	9.92 J	6.82 J	<6.33 U	--	<6.33 U	<6.33 U	9.98 J	<2.32 U	21.2 J	20 J	<2.4 U	181	--	69.4	27.6 J
SBR-SD-073	1120151040	SBR-SD-073 14.5-16.1	14.5	16.1	SS	O	11/20/2015	2,900	--	392	185	24.7	200	97.5	83.4	73.3	29.5	30.5	18.5	82.6	9.58	178	135	24.6	1,010	11.5	505	307
SBR-SD-073	1120151041	SBR-SD-073 16.1-16.5	16.1	16.5	SS	O	11/20/2015	210	--	26.7	7.86	0.263 J	0.947	0.116 J	<0.0967 U	<0.11 U	<0.0888 U	<0.0867 U	<0.0891 U	0.139 J	<0.0905 U	0.353	3.74	<0.0874 U	192	<0.0864 U	3.73	0.393
SBR-SD-073	1120151042	SBR-SD-073 16.5-17.5	16.5	17.5	SS	A2	11/20/2015	2,977	--	0.506	0.194	0.0201 J	0.114	0.0581 J	0.0462 J	0.0553 J	0.0301 J	0.0317 J	0.0143 J	0.0767	0.0052 J	0.131	0.115	0.0128 J	1.6	0.0106 J	0.358	0.194
SBR-SD-073.4 MOB	1217151520	SBR-SD-073.4 MOB 0-0.5	0.0	0.5	S	O	12/17/2015	55.1	--	<1.55 U	<1.55 U	<1.55 U	2.08 J	4.47 J	5.26 J	8.8	3.98 J	3.82 J	2.51 J	5.5 J	0.797 J	8.76	<1.55 U	3.05 J	<1.55 U	<1.55 U	6.18 J	8.41
SBR-SD-073.4 MOB	1217151523	SBR-SD-073.4 MOB 2.5-3.5	2.5	3.5	SS	O	12/17/2015	14.2	--	<0.085 U	0.126 J	0.446	0.51 J	1.27	1.49	1.25 J	--	0.527 J	1.2 J	1.49	0.188 J	2.47	<0.17 U	0.469 J	<0.17 U	--	1.3	2.5
SBR-SD-073.4 MOB	1217151529	SBR-SD-073.4 MOB 8.5-9.5	8.5	9.5	SS	O	12/17/2015	10.1	--	0.882	0.313	0.424	0.594 J	0.719	0.82	0.619 J	--	0.503 J	0.6 J	0.87	0.145 J	1.17	0.411 J	0.382 J	0.212 J	--	1.88	1.44
SBR-SD-073.4 MOB	1217151531	SBR-SD-073.4 MOB 10.5-11.5	10.5	11.5	SS	A1	12/17/2015	7.773	--	0.803	0.282	0.286	0.348	0.504	0.694	0.427 J	--	0.469	0.457 J	0.635	0.139	0.958	0.263	0.338	0.499	--	1.33	1.09
SBR-SD-073.4 MOB	1217151532 / 1217151539 (N)	SBR-SD-073.4 MOB 11.5-12.5 (N)	11.5	12.5	SS	O	12/17/2015	534	--	152	69.8	11.9	18.2	13.8	15.1	16.7	9.69	10.8	4.64 J	13.6	1.86	42.1 J	31.9 J	6.44	111	3.55 J	114	71.2
SBR-SD-073.4 MOB	1217151533	SBR-SD-073.4 MOB 12.5-13.5	12.5	13.5	SS	O	12/17/2015	20.88	--	1.04 J	0.645	0.324 J	1.78	1.56 J	1.43 J	0.823 J	--	0.434 J	1.04 J	1.63 J	<0.329 U	2.39	0.881 J	0.337 J	<0.329 U	--	4.56	3.65
SBR-SD-073.4 MOB	1217151534	SBR-SD-073.4 MOB 13.5-14.5	13.5	14.5	SS	O	12/17/2015	188	--	28	13.5	3.97 J	7.74	7.38	7.74	10.7	5.61	4.85 J	2.99 J	9.11	1.12	20.9 J	8.16	3.52 J	40.3	1.81 J	38.4	17.4
SBR-SD-073.4 MOB	1217151535	SBR-SD-073.4 MOB 14.5-16.5	14.5	16.5	SS	O	12/17/2015	707	--	98.1	57.3	8.18 J	55.7	33.4 J	24.3 J	24.4 J	14.3 J	11.5 J	7.49 J	27.5 J	3.17 J	57.6	31.6 J	9.13 J	176	4.99 J	123	80.6
SBR-SD-073.4 MOB	1217151536	SBR-SD-073.4 MOB 16.5-17.5	16.5	17.5	SS	O	12/17/2015	2.665	--	<0.316 U	<0.316 U	<0.081 U	<0.316 U	<0.316 U	<0.316 U	<0.316 U	<0.0819 U	<0.08 U	<0.0822 U	<0.316 U	<0.0835 U	<0.316 U	<0.316 U	<0.0807 U	0.409 J	<0.0797 U	0.562 J	0.348 J
SBR-SD-074	101315350	SBR-SD-074 0-0.5	0.0	0.5	S	O	10/13/2015	35.9	--	0.163 J	0.444	0.407	1.18	3.2	3.72	5.93	2.78	2.52	1.9	3.52	0.737	6.04	0.449	2.3	0.225 J	1.39	3.53	5.39
SBR-SD-074	101315352	SBR-SD-074 1.5-2.5	1.5	2.5	SS	O	10/13/2015	2.3	--	0.0241 J	0.0205 J	0.0237 J	0.0692	0.199	0.234	0.197 J	--	0.138	0.277 J	0.282	0.0488	0.459	0.0221 J	0.123	<0.0198 U	--	0.2	0.334
SBR-SD-074	101315355	SBR-SD-074 4.5-5.5	4.5	5.5	SS	O	10/13/2015	6.1	--	0.25	0.104 J	0.122 J	0.178 J	0.479	0.479	0.906	0.422	0.343	0.231 J	0.597	0.084 J	1.08	0.129 J	0.275	0.0681 J	0.152 J	0.689	1.04
SBR-SD-074	101315359	SBR-SD-074 8.5-9.3	8.5	9.3	SS	O	10/13/2015	2.6	--	0.256	0.0942	0.115	0.14	0.175	0.225	0.183 J	--	0.163	0.17 J	0.248	0.041	0.374	0.0924	0.107	0.0452	--	0.4	0.37
SBR-SD-075	111915982	SBR-SD-075 0-0.5	0.0	0.5	S	O	11/19/2015	748	--	5.37 J	15	8.97	31.4	56.7	62.3	74.5	31.3	41.7	21.6	60	12.5	126	20.7	36	7.57	15.7	123	140
SBR-SD-075	111915983	SBR-SD-075 1.5-2.5	1.5	2.5	SS	A1	11/19/2015	59.286	--	<0.308 U	0.601 J	<0.275 U	1.86	4.39	4.96 J	7.48 J	--	1.62 J	2.95 J	5.85	0.508 J	11.8	0.623	1.55 J	0.314 J	--	7.82	10.5
SBR-SD-075	111915985	SBR-SD-075 3.5-4.5	3.5	4.5	SS	O	11/19/2015	92.4	--	5.5 J	2.08 J	1.55 J	3.2 J	6.3 J	7.1	11	5.15 J	5.24 J	3.61 J	8.28	<1.37 U	16.7	2.34 J	4.5	1.41 J	1.8 J	14.3	14.5
SBR-SD-075	111915989	SBR-SD-075 7.5-8.5	7.5	8.5	SS	O	11/19/2015	13.7	--	1.27	0.641 J	0.26 J	0.715 J	0.768 J	0.692 J	0.632 J	--	0.507 J	0.648 J	1.05	<0.16 U	2.12	0.502 J	0.351 J	1.18	--	2.29	2.2
SBR-SD-075	111915991	SBR-SD-075 9.5-10.5	9.5	10.5	SS	O	11/19/2015	18.9	--	1.34	0.439 J	0.245 J	1.06	1.2	1.03	1.1 J	--	0.68	0.987 J	1.71	0.234 J	3.36	0.629	0.52	0.942	--	3.11	3.08
SBR-SD-075	111915992	SBR-SD-075 10.5-11.5	10.5	11.5	SS	A1	11/19/2015	73.94	--	6.59	2.43	1.98 J	3.17	5.08	4.97	8.68 J	4.2	3.39	2.26 J	6.51	0.765	10.6	2.68	2.51	2.18	1.18	11.3	12.1
SBR-SD-075	111915993	SBR-SD-075 11.5-12.5	11.5	12.5	SS	O	11/19/2015	478	--	17.2	14.7	5.87 J	26.8	37.3	27.7	34	16.7	16.9	13.3	27	4.94 J	78.1	19.9	16.5	31.5 J	7.09	90.5	70.9
SBR-SD-075	111915994	SBR-SD-075 12.5-13.8	12.5	13.8	SS	O	11/19/2015	4,041	--	260	202	54.7 J	245	192	171	169	95.4	93.7	33.6	165	23.7	295	167	83.5	939	28.1	798	610
SBR-SD-075	111915995	SBR-SD-075 13.8-14.5	13.8	14.5	SS	O	11/19/2015	57	--	1.66 J	0.883 J	<0.334 U	<0.334 U	<0.334 U	<0.334 U	<0.334 U	<0.334 U	<0.334 U	<0.0868 U	<0.334 U	<0.0882 U	0.464 J	0.349 J	<0.0852 U	52.9	<0.0842 U	0.829 J	0.488 J
SBR-SD-075	111915997	SBR-SD-075 15.5-16.5	15.5	16.5	SS	O	11/19/2015	1.522	--	0.124	0.0766 J	<0.0193 U	0.095 J	0.0838 J	0.0716 J	0.0415 J	--	0.0441 J	0.0571 J	0.101	<0.0193 U	0.165	0.0607 J	0.0284 J	0.249	--	0.316	0.195

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	TPAH(13) [1]	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
							EC20 for TPAH(13):	*80*	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	**400**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit						Result rejected during data validation					Not analyzed								
SBR-SD-078	1123151066	SBR-SD-078 0-0.5	0.0	0.5	S	O	11/23/2015	56.4	--	<1.51 U	<1.51 U	<1.51 U	2.05 J	4.39 J	5.34 J	7.97	3.87 J	4.08 J	3.01 J	5.55 J	<1.51 U	10.7	<1.51 U	3.53 J	<1.51 U	<1.51 U	5.54 J	8.87
SBR-SD-078	1123151071	SBR-SD-078 5.5-6.5	5.5	6.5	SS	O	11/23/2015	16.35	--	3.78	0.899 J	0.461	1.12 J	1.04	1.01 J	0.751 J	--	0.574 J	0.621 J	1.16 J	0.165 J	2.11	0.633 J	0.425	0.571 J	--	3.41	2.56
SBR-SD-078	1123151073	SBR-SD-078 7.5-8.5	7.5	8.5	SS	O	11/23/2015	19.83	--	4.51	1.16 J	0.789	1.33 J	1.31	1.28 J	0.836 J	--	0.775 J	0.879 J	1.61	0.218 J	2.38	0.824 J	0.549	0.586 J	--	3.73	3.12
SBR-SD-078	1123151074	SBR-SD-078 8.5-9.5	8.5	9.5	SS	A1	11/23/2015	17.825	--	3.32	1.07	0.81	1	1.09	1.4	1.21 J	--	0.978	0.449 J	1.24	0.175 J	2.08	0.6	0.617	0.336	--	3.53	3.01
SBR-SD-078	1123151075 / 1123151082 (N)	SBR-SD-078 9.5-10.5 (N)	9.5	10.5	SS	O	11/23/2015	635	--	102	69.8	4.64 J	46.9	18.1	13.2 J	<6.81 U	--	<6.81 U	8.21 J	18.3 J	<2.5 U	37.4	38.6	3.9 J	186	--	136	54.9
SBR-SD-078	1123151076	SBR-SD-078 10.5-12.1	10.5	12.1	SS	O	11/23/2015	1,240	--	146	86.5	11.2	87.6	57	30.5	42.4 J	17.8	17.7	10.6	28.3	5.03 J	109	59.8	14.1	323	6.43	257	137
SBR-SD-078	1123151077	SBR-SD-078 12.1-12.5	12.1	12.5	SS	O	11/23/2015	54.2	--	4.26	1.75	<0.328 U	1.65	0.913 J	0.835 J	0.809 J	0.467 J	0.425 J	<0.328 U	0.883 J	<0.0866 U	1.91	1.01 J	<0.328 U	37.7	<0.328 U	4.09	2.31
SBR-SD-079	101315313	SBR-SD-079 0-0.5	0.0	0.5	S	O	10/13/2015	10.29	--	0.0444 J	0.0835 J	0.0372 J	0.414 J	0.73 J	0.87 J	0.933 J	--	0.402 J	1.07 J	1.33 J	0.138 J	1.97 J	0.0908 J	0.368 J	0.0542 J	--	1 J	1.71 J
SBR-SD-079	101315315	SBR-SD-079 1.5-2.5	1.5	2.5	SS	O	10/13/2015	8.16	--	<0.181 U	<0.189 U	<0.215 U	<0.236 U	0.574 J	0.759 J	1.32	0.645 J	0.567 J	0.416 J	0.821 J	<0.221 U	1.59	<0.197 U	0.455 J	<0.146 U	0.237 J	0.761 J	1.35
SBR-SD-079	101315317	SBR-SD-079 3.5-4.5	3.5	4.5	SS	O	10/13/2015	2.43	--	<0.0222 U	<0.0222 U	0.0271 J	0.0771	0.196	0.238	0.275 J	--	0.0824	0.244 J	0.274	0.0316 J	0.46	0.0231 J	0.0796	<0.0222 U	--	0.215	0.387
SBR-SD-079	101315321	SBR-SD-079 7.5-8.5	7.5	8.5	SS	O	10/13/2015	10.8	--	0.522	0.19	<0.0722 U	0.359	0.745	0.758	0.86 J	--	0.346	0.853 J	1.25	0.109 J	2.06	0.3	0.279	0.134 J	--	1.66	1.55
SBR-SD-079	101315324	SBR-SD-079 10.5-11.9	10.5	11.9	SS	O	10/13/2015	10.51	--	0.833	0.24 J	0.437 J	0.407 J	0.718	0.817	1.19	0.649	0.597	0.382 J	0.903	<0.139 U	1.67	0.273 J	0.434 J	0.251 J	0.222 J	1.46	1.76
SBR-SD-080	111915998	SBR-SD-080 0-0.5	0.0	0.5	S	O	11/19/2015	17.36	--	<2.15 U	<2.15 U	<2.15 U	<0.606 U	<2.15 U	<2.15 U	<2.15 U	<2.15 U	<2.15 U	<2.15 U	<2.15 U	<0.568 U	3.49 J	<0.505 U	0.849 J	<0.374 U	<0.542 U	2.73 J	2.69 J
SBR-SD-080	111915999	SBR-SD-080 0.5-1.5	0.5	1.5	SS	A1	11/19/2015	55.624	--	<0.286 U	0.425 J	0.352 J	1.32	4.8	5.33	7.42 J	--	3.84	3.02 J	5.93	0.944	11.5	0.481 J	3.31	0.386 J	--	5.97	8.69
SBR-SD-080	1119151000	SBR-SD-080 1.5-2.5	1.5	2.5	SS	O	11/19/2015	560	--	47.2	37.2	9.97	45.5	41.9	31.2	31.6	17.1	17.3	11.6	30.7	4.13 J	54	30.5	14.3	127	6.38 J	109	<0.469 U
SBR-SD-080	1119151001	SBR-SD-080 2.5-3.5	2.5	3.5	SS	A1	11/19/2015	8.214	--	<0.041 U	0.0606 J	0.0986	0.196	0.71	0.861	1.12 J	--	0.583	0.451 J	0.902	0.158	1.59	0.0671 J	0.515	0.0583 J	--	0.799	1.3
SBR-SD-080	1119151003	SBR-SD-080 4.5-5.5	4.5	5.5	SS	O	11/19/2015	7.65	--	<0.0448 U	0.0681 J	0.0958 J	0.226	0.669	0.763	0.816 J	--	0.41	0.65 J	0.883	0.144 J	1.52	0.0658 J	0.378	<0.0448 U	--	0.711	1.16
SBR-SD-080	1119151007	SBR-SD-080 8.5-9.5	8.5	9.5	SS	O	11/19/2015	4.506	--	0.271	0.0818 J	0.041 J	0.154 J	0.333	0.351	0.388 J	--	0.211	0.352 J	0.497	0.0676 J	0.842	0.115 J	0.171 J	0.0888 J	--	0.617	0.645
SBR-SD-080	1119151011	SBR-SD-080 12.5-13.5	12.5	13.5	SS	O	11/19/2015	117	--	19.6	8.23 J	2.54 J	5.12 J	5.03 J	4.78 J	7.48	3.94 J	3.93 J	2.23 J	7.05 J	<1.48 U	15.6	4.75 J	3.01	17.9	<1.48 U	19.3	16.9
SBR-SD-080	1119151013	SBR-SD-080 14.5-15.5	14.5	15.5	SS	O	11/19/2015	6.72	--	0.931	0.458	0.0942 J	0.384	0.312	0.284	0.277 J	--	0.206 J	0.277 J	0.43	0.0537 J	0.913	0.291	0.144 J	0.892	--	1.16	0.952
SBR-SD-080	1119151015	SBR-SD-080 16.5-17.5	16.5	17.5	SS	A1	11/19/2015	169.52	--	22.3	12.3	1.51 J	14.2	7.41	6.39	4.82 J	--	2.53 J	1.92 J	7.73	<0.982 U	13	7.84	1.9 J	34.9	--	37.3	20.2
SBR-SD-080	1119151016	SBR-SD-080 17.5-18.5	17.5	18.5	SS	O	11/19/2015	1,524	--	216	108	14	132	75.2	54.9	49.7 J	21.6	19.5	14.3	33.6	5.88	133	78.1	16.1	300	7.76	329	202
SBR-SD-080	1119151017	SBR-SD-080 18.5-19.3	18.5	19.3	SS	O	11/19/2015	654	--	90.3	49.6 J	7.49 J	67.1 J	40	33.2	30.6	11.7	11.2	6.87	38.6	3.32	76.2 J	38.8 J	8.83	73.6 J	4.26	116 J	75.7
SBR-SD-080	1119151018	SBR-SD-080 19.3-20.5	19.3	20.5	SS	O	11/19/2015	19.6	--	3.56	1.03 J	<0.084 U	<0.328 U	<0.0827 U	<0.0925 U	<0.106 U	<0.085 U	<0.083 U	<0.0853 U	<0.328 U	<0.0866 U	<0.328 U	<0.328 U	<0.0837 U	16.9	<0.0827 U	0.615 J	<0.328 U
SBR-SD-081	111815964 / 111815981 (N)	SBR-SD-081 0-0.5 (N)	0.0	0.5	S	O	11/18/2015	44.26	--	2.32 J	<0.364 U	<1.58 U	<1.58 U	3.05 J	3.51 J	6.43 J	2.86 J	3.18 J	2.27 J	4.13 J	<0.425 U	9.69 J	<0.378 U	2.67 J	<1.58 U	<1.58 U	5.62 J	6.82 J
SBR-SD-081	111815966	SBR-SD-081 1.5-2.5	1.5	2.5	SS	O	11/18/2015	11.3	--	0.63	0.235 J	0.141	0.489	0.821	0.792	1.03 J	--	0.501	0.546 J	1.24	0.163	1.98	0.377	0.407	0.162 J	--	1.91	1.6
SBR-SD-081	111815968	SBR-SD-081 3.5-4.5	3.5	4.5	SS	O	11/18/2015	14.54	--	1.25	0.34 J	0.304	0.705 J	0.996	0.996	1.09 J	--	0.698	0.789 J	1.43	0.209	2.32	0.514 J	0.53	0.35 J	--	2.48	2.23
SBR-SD-081	111815972	SBR-SD-081 7.5-8.5	7.5	8.5	SS	O	11/18/2015	15.13	--	0.954	0.346 J	0.211	0.767 J	0.973	0.843 J	0.797 J	--	0.633	0.926 J	1.37	0.179 J	2.77	0.474 J	0.454	0.642 J	--	2.43	2.58
SBR-SD-081	111815974	SBR-SD-081 9.5-10.5	9.5	10.5	SS	A2	11/18/2015	225.93	--	14.4	7.02	4.27 J	9.69	14.8	11.1	22.5 J	9.35	7.05	6.24 J	16.3	2.2	41.8	6.81	6.6	13.6	2.95	43.9	27.9
SBR-SD-081	111815976	SBR-SD-081 11.5-12.5	11.5	12.5	SS	O	11/18/2015	59.8	--	8.52	4.62	0.413 J	4.6	1.97 J	1.57 J	0.745 J	--	0.64 J	0.914 J	2.1 J	<0.255 U	3.74	2.8 J	0.481 J	19.9	--	11	5.43
SBR-SD-081	111815977	SBR-SD-081 12.5-13.7	12.5	13.7	SS	O	11/18/2015	868	--	137	75.6	9.17	72.8	33.5	26.1	25.3	14.5	13.1	8.35	25	3.61 J	62.9	46.8	10.8	240	4.86 J	142	100
SBR-SD-081	111815978	SBR-SD-081 13.7-14.5	13.7	14.5	SS	O	11/18/2015	7.32	--	0.456 J	<0.317 U	<0.081 U	<0.317 U	<0.317 U	<0.317 U	<0.317 U	<0.082 U	<0.317 U	<0.0823 U	<0.317 U	<0.0836 U	<0.317 U	<0.317 U	<0.0807 U	5.01	<0.0798 U	0.618 J	0.346 J

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	TPAH(13) [1]	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
							EC20 for TPAH(13):	*80*	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	**400**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50					Detected below EC20		Not detected above reported limit						Result rejected during data validation				Not analyzed									
SBR-SD-084	1123151083	SBR-SD-084 0-0.5	0.0	0.5	S	O	11/23/2015	**83.3**	--	1.33 J	1.3 J	<0.995 U	2.65 J	6.09	7.56	11.2	5.55	6.24	4.8 J	7.94	1.2 J	15.2	1.44 J	5.31	<0.995 U	2.12 J	10.6	13.5
SBR-SD-084	1123151086	SBR-SD-084 2.5-3.5	2.5	3.5	SS	O	11/23/2015	10.23	--	0.591 J	0.206 J	0.13 J	0.384 J	0.764	0.787	0.677 J	--	0.536 J	0.819 J	1.13	0.164	1.84	0.263 J	0.427	0.221 J	--	1.49	1.52
SBR-SD-084	1123151091	SBR-SD-084 7.5-8.5	7.5	8.5	SS	O	11/23/2015	5.87	--	0.74	0.231 J	0.165	0.368	0.354	0.356	0.267 J	--	0.226 J	0.323 J	0.474	0.0679	0.828	0.241 J	0.175	0.239 J	--	1.12	0.903
SBR-SD-084	1123151093	SBR-SD-084 9.5-10.5	9.5	10.5	SS	O	11/23/2015	22.65	--	2.48	0.653 J	1.18	1.57	1.98	1.85	0.927 J	--	0.858	1.38 J	2.27	0.31	2.28	0.685 J	0.671	2.06	--	2.93	2.88
SBR-SD-084	1123151095	SBR-SD-084 11.5-12.5	11.5	12.5	SS	O	11/23/2015	227	--	31.5	17.6	1.98 J	21.3	8.7	6.36 J	3.49 J	--	<3.03 U	3.91 J	9.83 J	<1.11 U	15.8	12.5 J	2.07 J	52.3	--	49.6	23.4
SBR-SD-084	1123151096	SBR-SD-084 12.5-13.5	12.5	13.5	SS	A1	11/23/2015	596.32	--	92.2	50.6	5.4	50.5	18.7	16.6	24.9 J	10.6	7.55	4.92 J	19	2.28	54	36.9	6.29	110	3.17	122	82.8
SBR-SD-084	1123151097	SBR-SD-084 13.5-14.2	13.5	14.2	SS	O	11/23/2015	615	--	81.4	41.5	6.93	50.8	31.3	27	28.8	11.3	12.2	6.32	16.9	3.56	62.9	32.9	9.78	106	4.51	144	59.4
SBR-SD-084	1123151098	SBR-SD-084 14.2-15.5	14.2	15.5	SS	O	11/23/2015	15.3	--	3.49	1.7	<0.337 U	1.32 J	<0.337 U	<0.337 U	<0.337 U	<0.337 U	<0.337 U	<0.0877 U	<0.337 U	<0.0891 U	0.916 J	1.06 J	<0.086 U	4.95	<0.085 U	3.37	1.11 J
SBR-SD-085	101315301	SBR-SD-085 0-0.5	0.0	0.5	S	O	10/13/2015	11.68	--	<0.123 U	<0.129 U	0.218 J	0.326 J	0.951	1.17	1.74	0.885	0.815	0.603	1.18	0.188 J	2.19	<0.134 U	0.677	<0.0992 U	0.346 J	1.08	1.99
SBR-SD-085	101315306	SBR-SD-085 4.5-5.5	4.5	5.5	SS	O	10/13/2015	16.5	--	0.422	0.595	0.451	1.13	1.17	1.14	0.664 J	--	0.502	1.03 J	1.4	0.153 J	2.57	0.514	0.396	0.209	--	2.84	2.78
SBR-SD-085	101315308	SBR-SD-085 6.5-7.5	6.5	7.5	SS	O	10/13/2015	138	--	2.44	6.02	2.79	7.77	9.2	7.96	9.23	5.25	4.33	2.93	10.6	1.37	15.2	5.82	3.54	1.95	1.96	34	24.2
SBR-SD-085	101315311	SBR-SD-085 9.5-10.5	9.5	10.5	SS	O	10/13/2015	60.8	--	4.5	2.42	0.657	3.79	3.86	3.5	2.43 J	--	1.46	3.55 J	4.59	0.565 J	8.38	2.01	1.33	6.94	--	10.4	8.26
SBR-SD-085	101315312	SBR-SD-085 10.5-11.7	10.5	11.7	SS	O	10/13/2015	26.87	--	7.15	2.64	1.02	1.91	1.81	1.57	1.82	1.06	0.901	0.635	2.28	0.295	3.58	1.72	0.754	7.86	0.393	<0.021 U	<0.0254 U
SBR-SD-086	101315325	SBR-SD-086 0-0.5	0.0	0.5	S	O	10/13/2015	11.15	--	<0.108 U	<0.113 U	0.145 J	0.317 J	0.882	1.02	1.54	0.736	0.658	0.539	1.02	0.174 J	2.23	0.119 J	0.563	<0.0871 U	0.321 J	1.27	1.92
SBR-SD-086	101315328	SBR-SD-086 2.5-3.5	2.5	3.5	SS	O	10/13/2015	4.61	--	0.139	0.0622	0.028 J	0.154	0.347	0.372	0.39 J	--	0.128	0.48 J	0.559	0.05	0.878	0.0927	0.121	0.0594	--	0.531	0.656
SBR-SD-086	101315332	SBR-SD-086 6.5-7.5	6.5	7.5	SS	O	10/13/2015	3.22	--	0.3	0.0732 J	0.0935 J	0.138	0.205	0.209	0.336	0.182	0.157	0.108	0.272	0.0362 J	0.481	0.107	0.117	0.0459 J	0.059 J	0.609	0.542
SBR-SD-086	101315335	SBR-SD-086 9.5-10.5	9.5	10.5	SS	O	10/13/2015	6.45	--	0.757	0.252	0.176	0.374	0.415	0.452	0.293 J	--	0.209	0.501 J	0.566	0.0719	0.945	0.251	0.18	0.196	--	1.07	0.954
SBR-SD-086	101315336 / 101315337 (N)	SBR-SD-086 10.5-11.8 (N)	10.5	11.8	SS	O	10/13/2015	9.51	--	0.657 J	0.248 J	0.409 J	0.452 J	0.628 J	0.678 J	1.06 J	0.533 J	0.464 J	0.304 J	0.782 J	0.0394 J	1.47 J	0.261 J	0.352 J	0.189 J	0.191 J	1.36 J	1.67 J
SBR-SD-087	101215266	SBR-SD-087 0-0.5	0.0	0.5	S	O	10/12/2015	12.93	--	<0.174 U	0.197 J	0.215 J	0.401 J	1.02	1.12	1.97	0.885	0.711 J	0.662 J	1.37	<0.212 U	2.29	<0.189 U	0.602 J	<0.14 U	0.313 J	1.21	2.24
SBR-SD-087	101215267	SBR-SD-087 0.5-1.5	0.5	1.5	SS	O	10/12/2015	9.8	--	0.0567 J	0.105 J	0.322 J	0.423 J	0.812 J	1.1 J	0.854 J	--	0.317 J	0.979 J	1.38 J	0.105 J	1.49 J	0.143 J	0.263 J	<0.0494 UJ	--	0.831 J	1.35 J
SBR-SD-087	101215269 / 101215270 (N)	SBR-SD-087 2.5-3.9 (N)	2.5	3.9	SS	O	10/12/2015	7.77	--	0.134	0.242 J	0.207	0.393	0.537	0.49	0.778	0.414	0.294	0.299 J	0.676 J	0.0864 J	1.22 J	0.207 J	0.238	0.0886 J	0.132	1.19 J	1.44 J
SBR-SD-097	101215264	SBR-SD-097 0-0.5	0.0	0.5	S	O	10/12/2015	7.99	--	<0.156 U	<0.163 U	<0.184 U	0.258 J	0.626 J	0.728 J	1.16 J	0.536 J	0.465 J	0.367 J	0.722 J	<0.19 U	1.45 J	<0.169 U	0.399 J	<0.125 U	0.235 J	0.831 J	1.21 J
SBR-SD-097	101215265	SBR-SD-097 0.5-1.4	0.5	1.4	SS	O	10/12/2015	7.81	--	<0.151 U	<0.158 U	<0.179 U	0.212 J	0.585 J	0.746 J	1.22 J	0.579 J	0.542 J	0.414 J	0.715 J	<0.184 U	1.43 J	<0.164 U	0.454 J	<0.122 U	0.248 J	0.637 J	1.23 J
SBR-SD-098	101215271	SBR-SD-098 0-0.5	0.0	0.5	S	O	10/12/2015	35.2	--	<0.172 U	0.288 J	0.27 J	0.937	2.9	2.96	4.84	2.11	1.77	1.83	3.45	0.494 J	7.03	0.365 J	1.59	0.145 J	0.929	3.97	6.2
SBR-SD-098	101215274	SBR-SD-098 2.5-3.5	2.5	3.5	SS	O	10/12/2015	7.5	--	0.0512 J	0.0975 J	0.036 J	0.25 J	0.577 J	0.652 J	0.709 J	--	0.207 J	0.697 J	0.861 J	0.0876 J	1.5 J	0.108 J	0.208 J	<0.0402 UJ	--	0.869 J	1.12 J
SBR-SD-098	101215275	SBR-SD-098 3.5-4.5	3.5	4.5	SS	O	10/12/2015	8.1	--	0.443	0.206	0.0894 J	0.264	0.557	0.603	1.1	0.469	0.385	0.361	0.807	0.0937 J	1.43	0.152	0.291	0.0852 J	0.167	1.12	1.31
SBR-SD-098	101215278	SBR-SD-098 6.5-7.8	6.5	7.8	SS	O	10/12/2015	12.2	--	1.16	0.274	0.0967 J	0.469	0.794	0.822	0.629 J	--	0.422	1.18 J	1.39	0.158	2.2	0.39	0.408	0.432	--	1.83	1.65
SBR-SD-099	111815945	SBR-SD-099 0-0.5	0.0	0.5	S	O	11/18/2015	**206**	--	1.75 J	2.73 J	1.53 J	7.06	17.6	18.6	27	13	14.8	9.44	18.3	3.25 J	33.6	3.28 J	13.5	2.33 J	5.76 J	25.5	38.6
SBR-SD-099	111815946	SBR-SD-099 2.5-3.5	2.5	3.5	SS	O	11/18/2015	141	--	<1.05 U	<2.11 U	<0.943 U	5.83 J	11.1	10.8	9.46 J	--	6.96	10.4 J	13.1	2.37	29	2.64 J	6.04	<2.11 U	--	24.3	21.5
SBR-SD-099	111815950	SBR-SD-099 6.5-7.5	6.5	7.5	SS	O	11/18/2015	47.9	--	<0.664 U	0.725 J	0.435 J	2.1 J	3.84	3.67	3.78 J	--	2.37	3.06 J	4.43	0.788	10.1	0.803 J	2.03	<0.332 U	--	7.18	7.59
SBR-SD-099	111815953 / 111815961 (N)	SBR-SD-099 9.5-10.5 (N)	9.5	10.5	SS	O	11/18/2015	107	--	6.74 J	1.99 J	1.87 J	4.28 J	6.93 J	6.48 J	11.1 J	5.06 J	4.83 J	3.65 J	9.29 J	<0.219 U	19.5 J	3.34 J	4.2 J	3.83 J	<0.829 U	17.4 J	17.5 J
SBR-SD-099	111815956	SBR-SD-099 12.5-13.5	12.5	13.5	SS	O	11/18/2015	14.57	--	0.769 J	0.317 J	0.174 J	0.676 J	1.01	0.891 J	0.841 J	--	0.588	0.883 J	1.41	0.191	2.77	0.426 J	0.456	0.617 J	--	2.27	2.28
SBR-SD-099	111815957	SBR-SD-099 13.5-14.5	13.5	14.5	SS	O	11/18/2015	94.5	--	6.14 J	2.53 J	1.65 J	4.69 J	6.26 J	5.69 J	8.72	4.21 J	4.08 J	3.08 J	7.69	<1.48 U	15.6	3.11 J	3.41 J	5.68 J	<1.48 U	15.4	14.4
SBR-SD-099	111815958	SBR-SD-099	17.0	18.0	SS	O	11/18/2015	0.581	--	0.134 J	<0.0657 U	<0.0168 U	<0.0657 U	<0.0657 U	<0.0185 U	<0.0657 U	<0.017 U	<0.0657 U	<0.0171 U	<0.0657 U	<0.0173 U	<0.0657 U	<0.0657 U	<0.0168 U	0.118 J	<0.0166 U	0.174 J	<0.0657 U

Natural Resource Technology

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	TPAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH
								TPAH(13) [1]	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
							EC20 for TPAH(13):	*80*	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	**400**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Value exceeds EC20 or EC50		Detected below EC20						Not detected above reported limit						Result rejected during data validation				Not analyzed								
SBR-SD-100	101215279	SBR-SD-100 0-0.5	0.0	0.5	S	O	10/12/2015	11.61	--	<0.135 U	0.168 J	0.224 J	0.344 J	0.961	0.971	1.63	0.714	0.687	0.492 J	1.03	0.182 J	2.27	0.155 J	0.601 J	0.109 J	0.336 J	1.33	1.93
SBR-SD-100	101215283	SBR-SD-100 3.5-4.5	3.5	4.5	SS	O	10/12/2015	9.23	--	1.24	0.293	0.12 J	0.498	0.533	0.498	0.568 J	--	0.276	0.542 J	0.816	0.0924 J	1.49	0.451	0.25	0.225	--	1.94	1.26
SBR-SD-100	101215285	SBR-SD-100 5.5-6.5	5.5	6.5	SS	O	10/12/2015	27.8	--	1.45 J	0.441 J	0.355 J	1.46 J	1.86 J	1.7 J	1.66 J	--	<0.0763 UJ	2.28 J	2.63 J	<0.0735 UJ	5.3 J	0.805 J	0.533 J	0.889 J	--	4.14 J	4.3 J
SBR-SD-100	101215287	SBR-SD-100 7.5-8.2	7.5	8.2	SS	O	10/12/2015	24.6	--	0.704	0.471	0.425	1.03	1.64	1.76	2.88	1.16	0.825	1.1	2.18	0.324	4.6	0.604	0.862	0.713	0.382	3.7	3.52
SBR-SD-101	101215253	SBR-SD-101 0-0.5	0.0	0.5	S	O	10/12/2015	13.83	--	0.294 J	<0.27 U	<0.306 U	0.438 J	0.974 J	1.13 J	1.84 J	0.896 J	0.782 J	0.623 J	1.23 J	<0.315 U	2.64 J	<0.281 U	0.654 J	<0.208 U	0.359 J	1.67 J	2.22 J
SBR-SD-101	101215255	SBR-SD-101 1.5-2.5	1.5	2.5	SS	O	10/12/2015	10.05	--	0.7	0.199	0.0743 J	0.403	0.69	0.724	0.73 J	--	0.325	0.82 J	1.12	0.126 J	1.87	0.296	0.324	0.163	--	1.53	1.43
SBR-SD-101	101215256	SBR-SD-101 2.5-3.5	2.5	3.5	SS	O	10/12/2015	13.8	--	1.13 J	0.268 J	0.276 J	0.503 J	0.954 J	1.01 J	1.68 J	0.802 J	0.695 J	0.578 J	1.31 J	<0.283 U	2.39 J	0.381 J	0.57 J	0.198 J	0.298 J	2.09 J	2.16 J
SBR-SD-101	101215262	SBR-SD-101 8.5-9.5	8.5	9.5	SS	O	10/12/2015	21.5	--	0.385	0.309	0.145 J	1.13	1.78	1.6	1.37 J	--	0.778	1.51 J	2.11	0.276	4.24	0.428	0.719	0.418	--	3.07	3.37
SBR-SD-101	101215263	SBR-SD-101 9.5-10.4	9.5	10.4	SS	O	10/12/2015	101	--	32.6 J	13.9 J	2.51 J	10.4 J	8.03 J	6.58 J	6.87 J	4.16 J	3.2 J	2.74 J	8.61 J	1.03 J	14.3 J	9.16 J	2.6 J	17.2 J	1.58 J	<0.105 U	<0.127 U
SBR-SD-102	101215242	SBR-SD-102 0-0.5	0.0	0.5	S	O	10/12/2015	36.6	--	0.273	0.393	<0.119 U	1.8	2.79	2.65	2.8 J	--	0.842	2.64 J	3.56	0.389	7.6	0.55	0.879	0.458	--	5.69	5.56
SBR-SD-102	101215244	SBR-SD-102 1.5-2.5	1.5	2.5	SS	O	10/12/2015	13.1	--	0.207 J	0.147 J	<0.16 U	0.354 J	1.05 J	1.11 J	1.85 J	0.819 J	0.741 J	0.58 J	1.21 J	0.209 J	2.67 J	0.155 J	0.65 J	0.152 J	0.369 J	1.48 J	2.18 J
SBR-SD-102	101215247 / 101215252 (N)	SBR-SD-102 4.5-5.5 (N)	4.5	5.5	SS	O	10/12/2015	27.4	--	2.36 J	0.668 J	0.353 J	0.884 J	1.91 J	1.74	3.27 J	1.57 J	1.26 J	1.03 J	2.48 J	0.34 J	5.07 J	0.76 J	1.06 J	0.481 J	0.569 J	4.32 J	4.43 J
SBR-SD-102	101215249	SBR-SD-102 6.5-7.5	6.5	7.5	SS	O	10/12/2015	8	--	0.29	0.111	0.0898	0.473	0.538	0.505	0.457 J	--	0.264	0.594 J	0.747	0.101	1.82	0.177	0.242	0.198	--	1.07	1.22
SBR-SD-102	101215251	SBR-SD-102 8.5-9.5	8.5	9.5	SS	O	10/12/2015	7.05	--	0.157	0.0963	0.0894	0.365	0.532	0.501	0.427 J	--	0.201	0.582 J	0.71	0.083	1.35	0.159	0.188	0.178	--	0.995	1.07
SBR-SD-103	100915209 / 100915218 (N)	SBR-SD-103 0-0.5 (N)	0.0	0.5	S	O	10/9/2015	27.35	--	0.212 J	0.317	0.324	0.785	2.41	2.59	4.27 J	2.01 J	1.4	1.42 J	2.83	0.482	4.23	0.336 J	1.46	0.187 J	0.887	3.34 J	4.31
SBR-SD-103	100915210	SBR-SD-103 0.5-1.5	0.5	1.5	SS	O	10/9/2015	12.7	--	0.103 J	0.14 J	0.179 J	0.332	1.05	1.08	1.75	0.814	0.783	0.55	1.22	0.207 J	2.51	0.153 J	0.65	0.0882 J	0.36	1.5	2.12
SBR-SD-103	100915213	SBR-SD-103 3.5-4.5	3.5	4.5	SS	O	10/9/2015	22.2	--	2.65	0.594	0.307 J	1.22	1.36	1.24	1.14 J	--	0.593	1.74 J	2.1	0.208 J	3.66	0.968	0.573	0.553	--	4.27	3.09
SBR-SD-103	100915215	SBR-SD-103 5.5-6.5	5.5	6.5	SS	O	10/9/2015	11.4	--	0.647	0.188	0.134	0.758	0.757	0.688	0.595 J	--	0.394	0.817 J	1.06	0.14	2.34	0.315	0.344	0.392	--	1.64	1.7
SBR-SD-103	100915217	SBR-SD-103 7.5-8.5	7.5	8.5	SS	O	10/9/2015	10.8	--	0.318	0.183 J	0.25 J	0.447	0.726	0.698	1.1	0.559	0.468	0.366	0.971	0.121 J	1.95	0.281 J	0.373	0.381	0.193 J	1.69	1.77
SBR-SD-104	101215230	SBR-SD-104 0-0.5	0.0	0.5	S	O	10/12/2015	10.47	--	0.0866	0.118	0.0618 J	0.37	0.831	0.881	0.892 J	--	0.308	1 J	1.06	0.135	2.26	0.122	0.312	0.0984	--	1.27	1.51
SBR-SD-104	101215233	SBR-SD-104 2.5-3.5	2.5	3.5	SS	O	10/12/2015	12	--	0.498 J	0.214 J	0.17 J	0.335 J	0.827 J	0.891 J	1.57 J	0.771 J	0.666 J	0.507 J	1.13 J	<0.166 U	2.24 J	0.263 J	0.522 J	0.176 J	0.287 J	1.6 J	2.03 J
SBR-SD-104	101215235	SBR-SD-104 4.5-5.5	4.5	5.5	SS	O	10/12/2015	7.2	--	0.966 J	0.194 J	<0.127 U	0.239 J	<0.125 U	<0.14 U	0.993 J	<0.129 U	0.374 J	<0.129 U	0.719 J	<0.131 U	1.47 J	0.253 J	<0.127 U	0.193 J	0.172 J	1.3 J	1.27 J
SBR-SD-104	101215237	SBR-SD-104 6.5-7.5	6.5	7.5	SS	A1	10/12/2015	6.616	--	0.432	0.109	0.0617 J	0.259	0.488	0.519	0.555 J	--	0.25	0.518 J	0.658	0.0934	1.14	0.15	0.242	0.164	--	0.894	1.1
SBR-SD-104	101215238	SBR-SD-104 7.5-8.5	7.5	8.5	SS	O	10/12/2015	9.9	--	0.636	0.175	0.0802 J	0.429	0.738	0.732	0.645 J	--	0.367	0.756 J	0.988	0.143	1.8	0.278	0.342	0.246	--	1.53	1.48
SBR-SD-104	101215239	SBR-SD-104 8.5-9.5	8.5	9.5	SS	A1	10/12/2015	73.926	--	11.8	1.06	0.866	3.16	5.22	4.91	10 J	3.86	3.38	2.46 J	7.02	1.01	12.7	1.45	0.305	1.58	1.23	12	11.5
SBR-SD-104	101215241	SBR-SD-104 10.5-11.9	10.5	11.9	SS	O	10/12/2015	6.3	--	0.378 J	0.0916 J	0.0576 J	0.301 J	0.42	0.378 J	0.392 J	--	0.151 J	0.479 J	0.63	0.0552 J	1.2 J	0.168 J	0.146 J	0.279 J	--	0.884 J	1.03
SBR-SD-105	111715934	SBR-SD-105 0-0.5	0.0	0.5	S	O	11/17/2015	4.5	--	<0.0908 U	<0.42 U	<0.108 U	<0.42 U	<0.42 U	<0.42 U	0.476 J	<0.42 U	<0.42 U	<0.42 U	<0.42 U	<0.111 U	0.909 J	<0.42 U	<0.42 U	<0.0731 U	<0.106 U	0.835 J	0.7 J
SBR-SD-105	111715937	SBR-SD-105 2.5-3.5	2.5	3.5	SS	O	11/17/2015	1.9	--	0.0967	0.0622 J	0.0104 J	0.102 J	0.148	0.115 J	0.067 J	--	0.0596	0.1 J	0.175	0.0215 J	0.272	0.0509	0.0475	0.098 J	--	0.328	0.343
SBR-SD-105	111715938	SBR-SD-105 3.5-4.5	3.5	4.5	SS	O	11/17/2015	0.2114	--	0.0428	<0.0098 U	<0.0087 U	<0.0101 U	<0.0195 U	<0.0195 U	0.0104 J	--	0.0106 J	<0.0108 U	0.0213 J	<0.0072 U	0.0292 J	<0.0098 U	<0.0074 U	0.0237 J	--	0.0569 J	0.0258 J
SBR-SD-106	100915219	SBR-SD-106 0-0.5	0.0	0.5	S	O	10/9/2015	24.83	--	0.15 J	0.272	0.395	0.877	2.16	2.19	3.46	1.66	1.54	1.09	2.52	0.435	4.73	0.292	1.35	0.203 J	0.75	2.77	3.87
SBR-SD-106	100915221	SBR-SD-106 1.5-2.5	1.5	2.5	SS	O	10/9/2015	18.81	--	0.117 J	0.229 J	0.0925 J	0.685 J	1.43 J	1.55 J	1.71 J	--	0.547 J	1.45 J	2.01 J	0.247 J	3.86 J	0.268 J	0.55 J	0.116 J	--	2.55 J	2.86 J
SBR-SD-106	100915225	SBR-SD-106 5.5-6.5	5.5	6.5	SS	O	10/9/2015	13.73	--	2.81	0.955	0.259	0.59	0.859	0.822	1.36	0.699	0.545	0.433	1.16	0.151 J	1.98	0.611	0.456	0.345	0.236	2.35	2.01
SBR-SD-106	100915228	SBR-SD-106 8.5-9.5	8.5	9.5	SS	O	10/9/2015	18.7	--	0.662 J	0.312 J	0.241 J	1.46 J	1.32 J	1.2 J	1.26 J	--	0.408 J	1.14 J	1.8 J	0.191 J	3.37 J	0.517 J	0.422 J	0.532 J	--	2.9 J	2.63 J

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	TPAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH
								TPAH(13) [1]	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene
		Reporting Units:						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		EC20 for TPAH(13):						*80*	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		EC50 for TPAH(13):						**400**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50						Detected below EC20			Not detected above reported limit					Result rejected during data validation				Not analyzed								
SBR-SD-107	111715917	SBR-SD-107 0-0.5	0.0	0.5	S	O	11/17/2015	4.8	--	0.0598 J	<0.0876 U	<0.0392 U	0.135 J	0.394 J	0.436 J	0.481 J	--	0.316	0.385 J	0.518	0.104	0.994	0.0468 J	0.264	<0.0876 U	--	0.517	0.786
SBR-SD-107	111715920	SBR-SD-107 2.5-3.5	2.5	3.5	SS	O	11/17/2015	14.02	--	0.843	0.596 J	0.0913 J	0.777 J	1.06	1.01	0.859 J	--	0.612	0.886 J	1.26	0.216	2.36	0.405	0.533	0.29 J	--	2.34	2.09
SBR-SD-107	111715923	SBR-SD-107 5.5-6.5	5.5	6.5	SS	O	11/17/2015	114	--	21.2 J	9.95	1.43 J	8.76	5.6	4.82	5.55	2.87	2.51 J	4.43	5.45	0.664	9.6	6.71	2.1 J	19.1 J	0.989	16.7	16.3
SBR-SD-107	111715926	SBR-SD-107 8.5-9.5	8.5	9.5	SS	O	11/17/2015	11.75	--	1.09	0.488 J	0.0846 J	0.713 J	0.745 J	0.571 J	0.606 J	--	0.352	0.545 J	0.98	0.126 J	2.03	0.453	0.298	0.709 J	--	2.17	1.66
SBR-SD-107	111715928	SBR-SD-107 10.5-11.5	10.5	11.5	SS	O	11/17/2015	133	--	10.7	5.05	1.13 J	6.51	8.07	6.23	8.35	4.53	4.11	3 J	7.43	1.31	14	5.23	3.41	7.6	1.41	19.3	40.6
SBR-SD-107	111715929	SBR-SD-107 11.5-12.5	11.5	12.5	SS	O	11/17/2015	0.598	--	0.15 J	<0.0662 U	<0.017 U	<0.0662 U	<0.0167 U	<0.0187 U	<0.0213 U	<0.0171 U	<0.0662 U	<0.0172 U	<0.0662 U	<0.0175 U	<0.0662 U	<0.0662 U	<0.0169 U	0.149 J	<0.0167 U	0.194 J	<0.0662 U
SBR-SD-107	111715931	SBR-SD-107 13.5-14.5	13.5	14.5	SS	O	11/17/2015	0.639	--	0.136	0.0496 J	0.0095 J	0.0404 J	0.0224 J	<0.0189 U	0.0168 J	--	0.0168 J	0.0149 J	0.0376 J	<0.0069 U	0.0531 J	0.0301	0.0077 J	0.129	--	0.173	0.0535 J
SBR-SD-108	100915198	SBR-SD-108 0-0.5	0.0	0.5	S	O	10/9/2015	12.56	--	<0.18 U	<0.189 U	<0.214 U	0.35 J	1.08	1.15	1.84	0.841	0.807 J	0.645 J	1.21	0.224 J	2.43	<0.196 U	0.663 J	<0.145 U	0.374 J	1.18	2.23
SBR-SD-108	100915200	SBR-SD-108 1.5-2.5	1.5	2.5	SS	O	10/9/2015	5.39	--	0.087 J	0.125	0.0661 J	0.191	0.372	0.388	0.718	0.302	0.261	0.203	0.506	0.0742 J	0.948	0.0986 J	0.228	0.0549 J	0.122	0.714	1.01
SBR-SD-108	100915202	SBR-SD-108 3.5-4.5	3.5	4.5	SS	O	10/9/2015	0.941	--	0.022	0.0306	<0.0098 U	0.0728	0.0721	0.0594	0.041 J	--	0.0319	0.0668 J	0.0841	0.0118 J	0.159	0.0339	0.027	0.0125 J	--	0.169	0.135
SBR-SD-108	100915205	SBR-SD-108 6.5-7.5	6.5	7.5	SS	O	10/9/2015	33.1	--	2.64	1.65	0.435	1.98	1.99	1.74	2.51	1.24	0.716	3.17	2.24	0.237	4.9	1.37	0.685	0.479	0.367	6.1	4.52
SBR-SD-108	100915208	SBR-SD-108 9.5-10	9.5	10.0	SS	O	10/9/2015	7.55	--	0.873 J	0.166 J	0.0727 J	0.306 J	0.502 J	0.456 J	0.476 J	--	0.305 J	0.528 J	0.776 J	0.102 J	1.35 J	0.282 J	0.262 J	0.216 J	--	1.26 J	1.16 J
SBR-SD-109	111615902	SBR-SD-109 0-0.5	0.0	0.5	S	O	11/16/2015	11.7	--	0.15 J	0.132 J	<0.101 U	0.363 J	1.06	1.04	1.11 J	--	0.615	1.02 J	1.68	0.231	2.2	0.122 J	0.563	0.113 J	--	1.2	1.58
SBR-SD-109	111615904	SBR-SD-109 1.5-2.5	1.5	2.5	SS	O	11/16/2015	9.3	--	1.35	0.461	0.0711 J	0.352 J	0.539	0.533	0.571 J	--	0.406	0.534 J	0.819	0.118	1.38	0.353 J	0.298 J	1.2	--	1.4	1.08
SBR-SD-109	111615909 / 111615915 (N)	SBR-SD-109 6.5-7.5 (N)	6.5	7.5	SS	O	11/16/2015	45.9	--	12	3.15 J	<0.077 U	1.39 J	2.03 J	1.88 J	1.47 J	--	1.3 J	1.59 J	2.52 J	0.401 J	4.75	1.35 J	0.899 J	16.3	--	5.23	4.17 J
SBR-SD-109	111615910	SBR-SD-109 7.5-8.3	7.5	8.3	SS	O	11/16/2015	1,236	--	451	153	17.3	89.8	40.3 J	19.4	19.1	11.7	8.39	6.65	23.5	3.58 J	62.3	83.1	7.08	417	3.81	206	98.8
SBR-SD-109	111615911	SBR-SD-109 8.3-9.5	8.3	9.5	SS	O	11/16/2015	701	--	184	70.5	5.61	22.7	15	9.63	8.73	5.21	3.33 J	2.45 J	12.5	1.22 J	17.9	34.3 J	2.78	359	1.55	101	41.4
SBR-SD-109	111615912	SBR-SD-109 9.5-10.5	9.5	10.5	SS	A1	11/16/2015	34.715	--	7.23	2.93	0.382	1.31	1.1	1.02	0.881 J	0.597	0.371	0.332 J	1.06	0.123	1.25	1.07	0.284	17.8	0.171	3.68	1.9
SBR-SD-109	111615913	SBR-SD-109 10.5-11.5	10.5	11.5	SS	A2	11/16/2015	21.896	--	2.13	1.11	<0.153 U	1.24	0.71	0.516	0.346 J	--	0.176 J	0.19 J	0.739	<0.104 U	1.05	0.659	0.13 J	10.1	--	3.39	1.77
SBR-SD-109	111615914	SBR-SD-109 11.5-12.5	11.5	12.5	SS	A2	11/16/2015	188.75	--	39.9	16.8	2.01 J	13.8	6.24	4.21	4.42 J	2.34	1.6	1.31 J	5.03	0.557	9.52	8.61	1.3	55	0.801	37.5	24.3
SBR-SD-110	100915186	SBR-SD-110 0-0.5	0.0	0.5	S	O	10/9/2015	63.8	--	0.21	0.752	0.256	1.9	5.21	5.34	8.16	3.17	3	2.39	6.32	0.891	13.3	0.832	2.7	0.275	1.51	9.06	10
SBR-SD-110	100915187	SBR-SD-110 0.5-1.5	0.5	1.5	SS	O	10/9/2015	54.3	--	0.301 J	0.671	0.417 J	1.91	4.56	4.33	6.56	2.83	2.74	2.32	4.94	0.817	10.5	0.761	2.46	0.44 J	1.39	7.51	9.34
SBR-SD-110	100915192	SBR-SD-110 5.5-6.5	5.5	6.5	SS	O	10/9/2015	31.37	--	3.39	1.42	0.376	1.37	2.13	2.03	1.39	1.48	0.94	1.19	3.32	0.309	5.59	1.29	0.898	0.751	0.591	5.97	4.54
SBR-SD-110	100915193	SBR-SD-110 6.5-7.5	6.5	7.5	SS	O	10/9/2015	7.31	--	0.733	0.246	0.0822	0.352	0.459	0.428	0.424 J	--	0.201	0.532 J	0.712	0.0739	1.22	0.307	0.187	0.167	--	1.33	1.05
SBR-SD-110	100915196	SBR-SD-110 9.5-10.3	9.5	10.3	SS	O	10/9/2015	27.3	--	1.05	0.743	0.191	1.12	1.7 J	1.45	2.07	1.19	0.725	0.797	2.21	0.221	4.62 J	0.691	0.575	1.1	0.338	5.01	5.57 J
SBR-SD-111	100815158	SBR-SD-111 0-0.5	0.0	0.5	S	O	10/8/2015	15.5	--	0.0497 J	0.141 J	0.126 J	0.418	1.2	1.35	2.15	1.02	0.746	0.699	1.55 J	0.205 J	3.21	0.127 J	0.694	0.0594 J	0.41	1.68	2.76
SBR-SD-111	100815160	SBR-SD-111 1.5-2.5	1.5	2.5	SS	O	10/8/2015	23	--	0.302	0.359	0.231 J	0.693	1.68	1.91	2.87	1.31	1.41	1.1	2.05 J	0.408	4.28	0.445	1.22	0.898	0.619	3.17	3.35
SBR-SD-111	100815162	SBR-SD-111 3.5-4.5	3.5	4.5	SS	O	10/8/2015	6.27	--	0.287	0.176	0.114 J	0.241	0.423	0.444	0.768	0.38	0.366	0.236	0.592 J	0.0869 J	1.12	0.168	0.282	0.0847 J	0.135	0.958	0.943
SBR-SD-111	100815165	SBR-SD-111 6.5-7	6.5	7.0	SS	O	10/8/2015	36.44	--	1.04	0.746	0.268 J	1.71	3.35	3.15	2.99 J	--	1.41	3.06 J	4.43	0.602	6.29	0.976	1.35	0.535	--	4.08	4.85
SBR-SD-112	100815178	SBR-SD-112 0-0.5	0.0	0.5	S	O	10/8/2015	11.55	--	<0.0955 U	0.161 J	<0.0854 U	0.468	0.878	0.931	0.837 J	--	0.511	1.07 J	1.23	0.168 J	2.44	0.156 J	0.467	<0.0955 U	--	1.53	1.81
SBR-SD-112	100815180	SBR-SD-112 1.5-2.5	1.5	2.5	SS	O	10/8/2015	6.63	--	0.497	0.187	0.0666 J	0.201	0.443	0.44	0.712	0.334	0.343	0.254	0.594	0.0843 J	1.16	0.179	0.279	0.0648 J	0.138	1.11	1.22
SBR-SD-112	100815184	SBR-SD-112 5.5-6.5	5.5	6.5	SS	O	10/8/2015	15.8	--	0.699	0.366	0.195	0.6	1	0.95	1.45	0.673	0.651	0.573	1.3	0.179	3.24	0.41	0.533	0.274	0.273	2.6	2.89
SBR-SD-112	100815185	SBR-SD-112 6.5-7.6	6.5	7.6	SS	O	10/8/2015	25.85	--	1.71	0.641	0.183 J	1.37	1.65	1.51	1.31 J	--	0.679	1.96 J	2.36	0.259	4.82	0.702	0.671	1.69	--	3.84	3.81

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Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	TPAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH
								TPAH(13) [1]	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
							EC20 for TPAH(13):	*80*	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	**400**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50					Detected below EC20			Not detected above reported limit					Result rejected during data validation					Not analyzed								
SBR-SD-113	100815166	SBR-SD-113 0-0.5	0.0	0.5	S	O	10/8/2015	**140**	--	1.27	2.07	0.58 J	4.22	11	10.4	15.3	6.88	7.65	6.21	13	2.15	27.6	2.24	6.51	1.22	3.35	21.3	24.4
SBR-SD-113	100815170 / 100815177 (N)	SBR-SD-113 3.5-4.5 (N)	3.5	4.5	SS	O	10/8/2015	62.5	--	4.34 J	1.26 J	<0.108 U	2.54 J	4.46 J	4.21 J	3.71 J	--	2.14 J	5.1 J	6.28 J	0.805 J	12.2 J	1.57 J	2.02 J	1.63 J	--	10.2 J	9.33 J
SBR-SD-113	100815172	SBR-SD-113 5.5-6.5	5.5	6.5	SS	O	10/8/2015	7.4	--	0.837	0.185	0.0752 J	0.33	0.492	0.468	0.467 J	--	0.198	0.529 J	0.754	0.0775 J	1.3	0.265	0.192	0.207	--	1.26	1.09
SBR-SD-113	100815174	SBR-SD-113 7.5-8.5	7.5	8.5	SS	O	10/8/2015	21.64	--	0.205 J	0.332 J	0.095 J	0.674 J	1.67 J	1.64 J	2.49 J	1.1 J	1.2 J	0.863 J	1.94 J	0.332 J	4.64 J	0.361 J	1.03 J	0.192 J	0.532 J	3.37 J	3.37 J
SBR-SD-113	100815176	SBR-SD-113 9.5-10	9.5	10.0	SS	O	10/8/2015	18.2	--	0.81	0.351	0.196	0.662	1.15	0.959	1.7	0.737	0.686	0.472	1.47	0.189	3.88	0.454	0.585	0.538	0.302	2.7	3.7
SBR-SD-114	100815147	SBR-SD-114 0-0.5	0.0	0.5	S	O	10/8/2015	12.2	--	<0.0761 U	0.0966 J	<0.0902 U	0.281 J	0.9	1.05	1.89	0.826	0.599	0.606	1.32 J	0.173 J	2.59	0.105 J	0.583	<0.0613 U	0.33 J	1.28 J	2.01
SBR-SD-114	100815148	SBR-SD-114 0.5-1.5	0.5	1.5	SS	O	10/8/2015	14.9	--	<0.0852 U	0.163 J	<0.0762 U	0.482	1.13	1.12	1.31 J	--	0.714	0.983 J	1.55	0.237	3.33	0.185	0.612	<0.0852 U	--	2.2	2.43
SBR-SD-114	100815155	SBR-SD-114 7.5-8.5	7.5	8.5	SS	O	10/8/2015	16.18	--	0.905	0.415	0.224 J	0.719	1.09	0.996	1.65	0.77	0.514	0.535	1.39 J	0.168 J	2.96	0.445	0.475	0.285	0.288	2.61	2.86
SBR-SD-114	100815156	SBR-SD-114 8.5-9.5	8.5	9.5	SS	O	10/8/2015	17.9	--	0.578	0.329	0.239 J	0.807	1.19	1.2	1.83	0.898	0.61	0.745	1.62 J	0.198 J	3.36	0.371	0.544	0.468	0.349	2.6	3.17
SBR-SD-114	100815157	SBR-SD-114 9.5-10.4	9.5	10.4	SS	O	10/8/2015	24.39	--	1.54	1.02	0.392	1.58	1.63	1.26	1 J	--	0.539	1.48 J	1.91	0.231 J	4.14	1.14	0.511	1.34	--	4.47	3.03
SBR-SD-115	111615867	SBR-SD-115 0-0.5	0.0	0.5	S	O	11/16/2015	28.4	--	<0.809 U	<0.809 U	<0.809 U	<0.809 U	1.99 J	2.48 J	4.06	1.93 J	2.19 J	1.39 J	2.7 J	<0.809 U	5.85	<0.809 U	1.74	<0.809 U	0.656 J	3.47 J	4.39
SBR-SD-115	111615871	SBR-SD-115 3.5-4.5	3.5	4.5	SS	O	11/16/2015	32.01	--	<0.16 U	0.515 J	<0.143 U	1.69	2.64	2.47	2.18 J	--	1.58 J	2.23 J	2.88	0.559	6.57	0.588 J	1.4 J	<0.16 U	--	5.16	4.94
SBR-SD-115	111615875	SBR-SD-115 7.5-8.5	7.5	8.5	SS	O	11/16/2015	9.7	--	0.255 J	0.176 J	<0.0579 U	0.534 J	0.78	0.721	0.644 J	--	0.46 J	0.714 J	0.904	0.158	1.85	0.2 J	0.386 J	0.151 J	--	1.61	1.38
SBR-SD-115	111615878	SBR-SD-115 10.5-11.5	10.5	11.5	SS	O	11/16/2015	28.12	--	2.35 J	0.564 J	0.573 J	1.27 J	1.82 J	1.67 J	2.38 J	--	0.544 J	1.74 J	2.57	0.212 J	5.16	0.937 J	0.516 J	0.898 J	--	4.39	4.15
SBR-SD-115	111615879	SBR-SD-115 11.5-12.5	11.5	12.5	SS	O	11/16/2015	94.7	--	13.4	2.44 J	1.89 J	4.08 J	5.57 J	5.3 J	9.33	4.15 J	3.97 J	2.35 J	7.56	<1.42 U	16.7	3.67 J	3.58	3.16 J	1.35 J	18.3	14.3
SBR-SD-115	111615882	SBR-SD-115 14.5-15.5	14.5	15.5	SS	O	11/16/2015	13.4	--	1.12	0.264 J	0.178 J	0.547 J	0.894	0.836	1.13 J	--	0.659 J	0.679 J	1.3	0.196	2.54	0.433 J	0.476 J	0.382 J	--	2.18	2.01
SBR-SD-115	111615883	SBR-SD-115 15.5-16.5	15.5	16.5	SS	O	11/16/2015	282	--	18.6	8.07	3.78 J	12.9	19.7	18.4	25.7	12	12.7	9.3	18.2	3.13 J	35.8	7.77	11.2	22.2	4.98	54.2	45.5
SBR-SD-115	111615884	SBR-SD-115 16.5-17.5	16.5	17.5	SS	O	11/16/2015	2.204	--	0.829	0.236 J	<0.0665 U	0.119 J	<0.0665 U	<0.0665 U	<0.0665 U	<0.0665 U	<0.0665 U	<0.0173 U	0.0777 J	<0.0176 U	0.102 J	0.0938 J	<0.017 U	0.867	<0.0168 U	0.435	0.132 J
SBR-SD-115	111615885	SBR-SD-115 17.5-18.5	17.5	18.5	SS	O	11/16/2015	2.29	--	0.609	0.225	<0.0366 U	0.132 J	0.0763 J	0.0558 J	0.0385 J	--	0.0371 J	0.0452 J	0.112 J	<0.0134 U	0.14 J	0.106 J	<0.0366 U	0.716	--	0.447	0.176 J
SBR-SD-115.X	100715110	SBR-SD-115.X 0-0.5	0.0	0.5	S	O	10/7/2015	22.15	--	1.3	0.481	0.379	0.877	1.27	1.24	2.23	1.11	0.927	0.876	1.95 J	0.249 J	4.79	0.627	0.736	0.598	0.357 J	3.17	3.66
SBR-SD-115.X	100715113	SBR-SD-115.X 2.5-3.5	2.5	3.5	SS	O	10/7/2015	9.6	--	0.187 J	0.18 J	0.0819 J	0.337 J	0.724 J	0.735 J	1.19 J	0.516 J	0.473 J	0.352 J	0.922 J	0.133 J	1.97 J	0.139 J	0.426 J	0.225 J	0.239 J	1.3 J	1.45 J
SBR-SD-115.X	100715114	SBR-SD-115.X 3.5-4.5	3.5	4.5	SS	O	10/7/2015	4.21	--	<0.0404 U	0.0448 J	<0.0362 U	0.13	0.354	0.393	0.383 J	--	0.146	0.48 J	0.488	0.0608 J	0.852	<0.0404 U	0.148	<0.0404 U	--	0.373	0.671
SBR-SD-115.X	100715116	SBR-SD-115.X 5.5-6.5	5.5	6.5	SS	O	10/7/2015	10.24	--	0.915	0.223	<0.0631 U	0.408	0.672	0.666	0.611 J	--	0.439	0.828 J	1.15	0.134 J	1.95	0.325	0.375	0.267	--	1.64	1.47
SBR-SD-115.X	100715118	SBR-SD-115.X 7.5-8.6	7.5	8.6	SS	O	10/7/2015	6.99	--	0.427	0.12	0.0397 J	0.294	0.509	0.526	0.511 J	--	0.344	0.519 J	0.72	0.102	1.32	0.187	0.285	0.0798	--	1.11	1.05
SBR-SD-116	100815119 / 100815130 (N)	SBR-SD-116 0-0.5 (N)	0.0	0.5	S	O	10/8/2015	15.2	--	0.0527 J	0.153 J	0.0996 J	0.423	1.2	1.29	2.1	0.954	0.843	0.704	1.52 J	0.225	3.13	0.166 J	0.739	0.0633 J	0.413	1.82	2.54
SBR-SD-116	100815122	SBR-SD-116 2.5-3.5	2.5	3.5	SS	O	10/8/2015	15.3	--	<0.392 U	<0.392 U	<0.35 U	<0.406 U	0.291 J	0.314 J	<0.392 U	--	<0.298 U	0.517 J	0.588 J	<0.287 U	0.995	<0.392 U	<0.298 U	10.2	--	0.619 J	0.786
SBR-SD-116	100815126	SBR-SD-116 6.5-7.5	6.5	7.5	SS	O	10/8/2015	6.09	--	0.946	0.212	0.0719	0.345	0.366	0.34	0.371 J	--	0.209	0.357 J	0.58	0.0698	0.96	0.312	0.179	0.144	--	1.22	0.807
SBR-SD-116	100815127	SBR-SD-116 7.5-8.5	7.5	8.5	SS	O	10/8/2015	28.6	--	1.61	0.827	0.565	0.956	1.6	1.56	2.63	1.27	1.04	0.983	2.24 J	0.266	5.88	0.982	0.869	0.637	0.445	5.08	4.64
SBR-SD-116	100815129	SBR-SD-116 9.5-10.4	9.5	10.4	SS	O	10/8/2015	10.68	--	<0.0569 U	0.11 J	<0.0675 U	0.292	0.843	0.955	1.53	0.706	0.641	0.515	1.05 J	0.166 J	2.24	0.114 J	0.579	<0.0459 U	0.292	1.21 J	1.71
SBR-SD-117	111315856	SBR-SD-117 0-0.5	0.0	0.5	S	O	11/13/2015	4.774	--	0.132	0.156	0.0771	0.222	0.323	0.287	0.453	0.189	0.191	0.147	0.369	0.0505 J	0.859	0.206	0.172	0.0586 J	0.0776	0.879	0.737
SBR-SD-117	111315859	SBR-SD-117 2.5-3.6	2.5	3.6	SS	O	11/13/2015	5.93	--	0.159 J	0.16 J	0.0588 J	0.313	0.44	0.431	0.345 J	--	0.28	0.442 J	0.506	0.0957	1.05	0.169 J	0.253	0.156 J	--	1.02	0.838
SBR-SD-117	111315860	SBR-SD-117 3.6-4.6	3.6	4.6	SS	O	11/13/2015	13.4	--	0.219	0.621	0.248	0.691	1.05	0.984	1.3	0.596	0.612	1.03	0.953	0.174	1.65	0.524	0.563	0.258	0.258	1.89	2.25
SBR-SD-117	111315861 / 111315866 (N)	SBR-SD-117 4.6-5.6 (N)	4.6	5.6	SS	O	11/13/2015	17.01	--	0.0651 J	0.288 J	0.28	1.25 J	1.28 J	1.31 J	0.856 J	--	0.8 J	0.846 J	1.44 J	0.194 J	2.59 J	0.263 J	0.549	0.0514 J	--	3.03 J	3.53 J
SBR-SD-117	111315863	SBR-SD-117 6.6-7.6	6.6	7.6	SS	O	11/13/2015	0.425	--	0.183	0.0161 J	<0.017 U	<0.0187 U	0.0316 J	<0.0187 U	<0.0214 U	<0.0172 U	0.036 J	<0.0173 U	0.034 J	<0.0175 U	<0.0189 U	<0.0156 U	<0.0169 U	0.0395 J	<0.0167 U	0.202	0.0274 J
SBR-SD-118	100715091	SBR-SD-118 0-0.5	0.0	0.5	S	O	10/7/2015	11.1	--	0.0537 J	0.173	<0.0343 U	0.403	0.807	0.86	0.761 J	--	0.54	1.03 J	1.12	0.18	2.3	0.166	0.482	0.0795	--	1.67	1.7
SBR-SD-118	100715094	SBR-SD-118 2.5-3.5	2.5	3.5	SS	O	10/7/2015	13.4	--	0.11 J	0.171 J	0.127 J	0.385 J	1.03	1.1	1.8	0.802	0.557	0.711	1.32	0.159 J	2.9	0.179 J	0.537	0.15 J	0.364 J	1.61	1.95
SBR-SD-118	100715096	SBR-SD-118 4.5-5.5	4.5	5.5	SS	O	10/7/2015	13.15	--	0.777	0.377	0.106	0.381	0.75	0.766	1.44	0.595	0.401	0.444	1.09	0.111	2.69	0.364	0.362	0.193	0.235	2.41	2.14
SBR-SD-118	100715097	SBR-SD-118 5.5-6.8	5.5	6.8	SS	O	10/7/2015	9.61	--	0.349	0.333	0.161	0.378	0.607	0.61	1.07	0.497	0.337	0.358	0.817	0.103	1.75	0.288	0.298	0.0827 J	0.174	1.63	1.53

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	TPAH(13) [1]	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
							EC20 for TPAH(13):	*80*	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	**400**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Value exceeds EC20 or EC50		Detected below EC20						Not detected above reported limit						Result rejected during data validation						Not analyzed						
SBR-SD-118.4	1218151561	SBR-SD-118.4 0-0.5	0.0	0.5	S	O	12/18/2015	56.7	--	<1.47 U	<1.47 U	<0.377 U	<1.47 U	4.07 J	4.57 J	7.1 J	3.64 J	3.31 J	2.95 J	5.37 J	<1.47 U	12.1	<1.47 U	2.82 J	<1.47 U	<1.47 U	7.98	9.48
SBR-SD-118.4	1218151565	SBR-SD-118.4 5.5-6.5	5.5	6.5	SS	O	12/18/2015	7.98	--	0.898	0.243 J	0.14	0.358	0.539	0.496	0.606 J	--	0.193 J	0.421 J	0.788	0.0773 J	1.38	0.294 J	0.181 J	0.234 J	--	1.39	1.09
SBR-SD-118.4	1218151567	SBR-SD-118.4 7.5-8.5	7.5	8.5	SS	O	12/18/2015	10.1	--	0.961	0.249 J	0.111 J	0.529 J	0.642	0.57 J	0.716 J	--	0.315 J	0.508 J	0.922	<0.127 U	1.75	0.382 J	0.274 J	0.2 J	--	2.02	1.51
SBR-SD-118.4	1218151570	SBR-SD-118.4 10.5-11.5	10.5	11.5	SS	O	12/18/2015	141	--	23.3	4.64 J	3.07 J	5.45 J	8.56	7.68	13.8	6.92	5.76 J	5.14 J	12	<1.37 U	24.9	5.8 J	4.36 J	2.86 J	2.16 J	26.7	20.4
SBR-SD-118.4	1218151571	SBR-SD-118.4 11.5-12.5	11.5	12.5	SS	O	12/18/2015	120	--	7.63	2.7 J	1.85 J	5.67	8.82	7.97	12.1	6.2	5.4 J	4.1 J	10.9	1.46 J	21.4	3.41 J	4.46 J	3.36 J	2.41 J	18.5	19.6
SBR-SD-118.4	1218151572	SBR-SD-118.4 12.5-13.5	12.5	13.5	SS	O	12/18/2015	5.5	--	0.825	0.129 J	0.133	0.224	0.374	0.324	0.364 J	--	0.145 J	0.344 J	0.492	0.0517 J	0.9	0.184	0.126 J	0.444	--	0.869	0.755
SBR-SD-118.4	1218151575	SBR-SD-118.4 15.5-16.5	15.5	16.5	SS	O	12/18/2015	1.33	--	<0.0855 U	<0.0427 U	<0.0383 U	<0.0443 U	<0.0296 U	<0.0306 U	<0.0427 U	--	<0.0326 U	<0.0473 U	<0.0395 U	<0.0314 U	<0.0427 U	<0.0427 U	<0.0325 U	1.07	--	<0.0855 U	<0.0427 U
SBR-SD-119	100715088	SBR-SD-119 0-0.5	0.0	0.5	S	O	10/7/2015	39.8	--	<0.281 U	0.377 J	<0.251 U	1.16	2.62	2.67	2.84 J	--	1.18	3.01 J	3.8	0.464 J	9.36	0.37 J	1.18	<0.281 U	--	6.81	6.69
SBR-SD-119	100715090	SBR-SD-119 1.5-2.9	1.5	2.9	SS	O	10/7/2015	21.4	--	<0.166 U	0.269 J	<0.148 U	0.897	1.7	1.64	1.61 J	--	0.996	1.63 J	2.33	0.342	4.52	0.298 J	0.87	<0.166 U	--	3.03	3.45
SBR-SD-120	100715085	SBR-SD-120 0-0.5	0.0	0.5	S	O	10/7/2015	0.544	--	0.0116 J	0.026	0.0164	0.0318	0.0367	0.0456	0.0442	0.0269	0.0302	0.0194	0.0437	0.0079 J	0.0713	0.019	0.0219	0.0279	0.0106 J	0.0915	0.0701
SBR-SD-120	100715086	SBR-SD-120 0.5-1.4	0.5	1.4	SS	O	10/7/2015	1.087	--	0.0129 J	0.0359	0.0336	0.0554	0.0943	0.127	0.0662 J	--	0.0664	0.0912 J	0.112	0.0178 J	0.134	0.0263	0.051	0.0309	--	0.112	0.168
SBR-SD-1014	101315338	SBR-SD-1014 0-0.5	0.0	0.5	S	O	10/13/2015	29.1	--	0.241 J	0.423	0.464	0.971	2.51	2.79	4.68	2.21	2	1.4	2.86	0.57	4.9	0.418	1.74	0.266 J	0.948	2.94	4.47
SBR-SD-1014	101315339	SBR-SD-1014 0.5-1.5	0.5	1.5	SS	O	10/13/2015	7.9	--	0.0355 J	0.0713 J	0.0873 J	0.249 J	0.648 J	0.756 J	0.792 J	--	0.206 J	0.773 J	0.916 J	0.0937 J	1.55 J	0.0688 J	0.212 J	0.0353 J	--	0.727 J	1.23 J
SBR-SD-1014	101315344	SBR-SD-1014 5.5-6.5	5.5	6.5	SS	O	10/13/2015	5.17	--	0.382	0.0947	0.0454	0.192	0.357	0.404	0.546 J	--	0.111	0.401 J	0.601	0.0497	0.903	0.132	0.125	0.111	--	0.712	0.671
SBR-SD-1014	101315347	SBR-SD-1014 8.5-9.5	8.5	9.5	SS	O	10/13/2015	49.51	--	1.26	0.535	4.32	2.28	5.11	7.31	7.38	4.94	4.32	2.19	5.43	1.06	4.42	0.549	3.06	0.282 J	1.66	2.53	7.17
SBR-SD-1014	101315348 / 101315349 (N)	SBR-SD-1014 9.5-10.5 (N)	9.5	10.5	SS	O	10/13/2015	28.54	--	0.68	0.815	0.341	1.55 J	2.35 J	2.28 J	3.46 J	1.68 J	1.43 J	1.14 J	2.44 J	0.43	4.41 J	0.963 J	1.24 J	0.245	0.798	4.46 J	4.09 J
SBR-SD-1015	101315289	SBR-SD-1015 0-0.5	0.0	0.5	S	O	10/13/2015	26.7	--	0.179 J	0.294 J	0.165 J	0.659	2.07	2.39	3.4	1.59	1.55	1.17	2.43	0.364 J	5.58	0.26 J	1.29	<0.101 U	0.812	3.33	4.88
SBR-SD-1015	101315291	SBR-SD-1015 1.5-2.5	1.5	2.5	SS	O	10/13/2015	13.57	--	0.265 J	0.173 J	0.184 J	0.382 J	1.05	1.12	1.81	0.872	0.753	0.579	1.31	0.204 J	2.61	0.192 J	0.634	0.148 J	0.359 J	1.64	2.37
SBR-SD-1015	101315293	SBR-SD-1015 3.5-4.5	3.5	4.5	SS	O	10/13/2015	6.54	--	0.347 J	<0.111 U	0.126 J	0.176 J	0.452 J	0.544	0.936	0.457 J	0.393 J	0.259 J	0.638	<0.13 U	1.18	0.142 J	0.304 J	0.101 J	0.164 J	0.861	1.07
SBR-SD-1015	101315295	SBR-SD-1015 5.5-6.5	5.5	6.5	SS	O	10/13/2015	6.82	--	0.575	0.142 J	0.13 J	0.185 J	0.447 J	0.48 J	0.837	0.437 J	0.358 J	0.292 J	0.642	<0.129 U	1.23	0.166 J	0.276 J	0.139 J	0.153 J	0.965	1.16
SBR-SD-1015	101315297	SBR-SD-1015 7.5-8.5	7.5	8.5	SS	O	10/13/2015	17.64	--	1.93	0.399	0.184	0.728	1.13	1.22	0.938 J	--	0.551	1.58 J	1.84	0.208	3.03	0.63	0.558	0.54	--	3.01	2.41
SBR-SD-1015	101315300	SBR-SD-1015 10.5-11.3	10.5	11.3	SS	O	10/13/2015	16.6	--	0.914	0.349 J	0.575 J	0.737	1.1	0.993	1.61	0.862	0.701	0.465 J	1.39	<0.181 U	2.79	0.434 J	0.503 J	0.886	0.276 J	2.27	3.02
SBR-SD-1016	100815140	SBR-SD-1016 0-0.5	0.0	0.5	S	O	10/8/2015	29.1	--	1.78	0.782	0.362	0.89	1.94	1.98	3.5	1.67	1.07	1.43	2.53 J	0.289	6.02	0.741	0.921	0.563	0.538	4.18	4.15
SBR-SD-1016	100815142	SBR-SD-1016 1.5-2.5	1.5	2.5	SS	O	10/8/2015	17.4	--	1.77	0.587	0.221 J	0.62	1.07	1.04	2.01	0.88	0.61	0.612	1.41 J	0.174 J	3.3	0.557	0.519	0.422	0.334	2.89	2.66
SBR-SD-1016	100815143	SBR-SD-1016 2.5-3.5	2.5	3.5	SS	O	10/8/2015	20.3	--	4.05	0.765	<0.223 U	1.07	1.17	0.92	0.91 J	--	0.482 J	1.2 J	1.74	0.187 J	3.41	0.961	0.439 J	1.06	--	4.4	2.59
SBR-SD-1016	100815144	SBR-SD-1016 3.5-4.5	3.5	4.5	SS	A1	10/8/2015	76.507	--	8.18	2.21	0.897 J	2.34	5.49	5.11	10.6 J	4.61	3.18	2.57 J	7.05	0.924 J	12.4	2.52	2.82	1.72	1.4	12.4	11.2
SBR-SD-1016	100815146	SBR-SD-1016 5.5-6.9	5.5	6.9	SS	O	10/8/2015	17.4	--	3.83	1.32	0.221 J	0.711	0.726	0.705	1.2	0.557	0.402	0.38	1.05 J	0.127 J	2.6	0.699	0.34	3.18	0.2 J	2.51	2.08
SBR-SD-1017	111615891	SBR-SD-1017 0-0.5	0.0	0.5	S	O	11/16/2015	24.52	--	1.41 J	<0.718 U	<0.718 U	0.823 J	1.63 J	2.06 J	3.35 J	1.59 J	1.68 J	0.917 J	2.25 J	<0.718 U	4.67	<0.718 U	1.41	<0.718 U	0.529 J	3.84	3.54 J
SBR-SD-1017	111615892	SBR-SD-1017 0.5-1.5	0.5	1.5	SS	A2	11/16/2015	35.017	--	3.61	0.915	0.342 J	0.98	2.16	2.09	4.32 J	1.76	1.34	1.52 J	2.78	0.353	6.79	1.09	1.19	1.19	0.657	5.75	5.09
SBR-SD-1017	111615893	SBR-SD-1017 1.5-2.5	1.5	2.5	SS	A2	11/16/2015	27.948	--	1.37	0.577	<0.122 U	1.12	2.43	2.37	3.15 J	--	1.02	1.4 J	2.93	0.352	4.85	0.518	0.945	0.392 J	--	3.95	4.2
SBR-SD-1017	111615894	SBR-SD-1017 2.5-3.5	2.5	3.5	SS	A2	11/16/2015	9.495	--	0.127	0.0892	0.135 J	0.271	0.73	0.879	1.75 J	0.747	0.609	0.412 J	0.983	0.169	1.56	0.115	0.529	0.106	0.244	0.929	1.37
SBR-SD-1017	111615895	SBR-SD-1017 3.5-4.5	3.5	4.5	SS	O	11/16/2015	238	--	78.1	36.6	2.32	10.3	6.98	5.58	6.33	3.24	2.92	2.18	6.57	0.932 J	10.3	12.7	2.56	73.1	1.21	45.9	18.7 J
SBR-SD-1017	111615896	SBR-SD-1017 4.5-5.5	4.5	5.5	SS	O	11/16/2015	1,457	--	532	183	15.8	101	46.7	22.5	30.4 J	13.9	11.2	8.65	24.5	5.04	71.9	97.9	9.24	535	5.11	209	111
SBR-SD-1017	111615897	SBR-SD-1017 5.5-6.5	5.5	6.5	SS	O	11/16/2015	274	--	108	33.1	2.25	5.53	2.31	1.59 J	1.39 J	0.902 J	0.625 J	0.528 J	2.48	<0.341 U	3.77	10.5	0.494	179	0.292 J	25.5	5.93
SBR-SD-1017	111615898	SBR-SD-1017 6.5-7.5	6.5	7.5	SS	O	11/16/2015	593	--	180	71.2	<9.86 U	35.5 J	14.7 J	<9.86 U	<4.93 U	--	<3.76 U	<9.86 U	17.6 J	<3.62 U	22.9 J	30.6 J	<3.75 U	253	--	97.7	32.5 J
SBR-SD-1017	111615899	SBR-SD-1017 7.5-8.5	7.5	8.5	SS	A1	11/16/2015	4.776	--	1.18	0.484	0.0948 J	0.3	0.195	0.138	0.147 J	0.0883	0.0673 J	0.0423 J	0.236	0.0189 J	0.284	0.26	0.0363 J	1.16	0.0306 J	0.981	0.454

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	TPAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH
								TPAH(13) [1]	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene
		Reporting Units:						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		EC20 for TPAH(13):						*80*	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		EC50 for TPAH(13):						**400**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50							Not detected above reported limit						Result rejected during data validation						Not analyzed						
SBR-SD-1018	100815132	SBR-SD-1018 0-0.5	0.0	0.5	S	O	10/8/2015	11.26	--	<0.0439 U	0.0763 J	0.0586 J	0.305	0.828	1 J	1.09 J	--	0.808 J	1.15 J	1.29	0.256 J	2.51	0.0912	0.701 J	<0.0439 U	--	1.11	1.75
SBR-SD-1018	100815134	SBR-SD-1018 1.5-2.5	1.5	2.5	SS	O	10/8/2015	6.25	--	0.156 J	0.102 J	0.0655 J	0.186 J	0.463	0.485	0.775	0.397	0.311	0.336	0.651 J	0.0911 J	1.26	0.0978 J	0.266	0.0639 J	0.148 J	0.752 J	1.01
SBR-SD-1018	100815137	SBR-SD-1018 4.5-5.5	4.5	5.5	SS	O	10/8/2015	38	--	1.16	0.929	0.2	1.29	2.73	2.8	4.29	1.99	1.62	1.87	3.4 J	0.484	7.09	1.03	1.48	0.445	0.859	6.4	5.51
SBR-SD-1018	100815139	SBR-SD-1018 6.5-7.7	6.5	7.7	SS	O	10/8/2015	7.28	--	1.11	0.212	0.0611 J	0.289	0.471	0.465	0.417 J	--	0.308	0.571 J	0.773	0.0987 J	1.25	0.284	0.258	0.275	--	1.26	0.948
SBR-SD-1019	100715098	SBR-SD-1019 0-0.5	0.0	0.5	S	O	10/7/2015	30.01	--	0.0665 J	0.393	0.117 J	1.15	2.28	2.39	3.48	1.57	1.12	1.41	2.69	0.346	6.94	0.371	1.07	0.0974 J	0.737	3.91	4.78
SBR-SD-1019	100715103	SBR-SD-1019 4.5-5.5	4.5	5.5	SS	O	10/7/2015	4.73	--	0.176	0.116	0.0506 J	0.162	0.316	0.328	0.56	0.27	0.181	0.226	0.448	0.0554 J	0.934	0.112	0.161	0.0544 J	0.105 J	0.699	0.724
SBR-SD-1019	100715104	SBR-SD-1019 5.5-6.5	5.5	6.5	SS	A1	10/7/2015	47.11	--	4.86	1.41	0.52 J	1.2 J	2.95	2.94	6 J	2.7	1.92	1.68 J	4.01	0.482 J	7.87	1.45	1.7	2.9	0.852 J	7.15	7.03
SBR-SD-1019	100715105	SBR-SD-1019 6.5-7.5	6.5	7.5	SS	O	10/7/2015	13.7	--	1.56	0.515	0.228	0.547	0.839	0.847	1.51	0.65	0.403	0.462	1.1	0.125	2.35	0.534	0.365	0.209	0.238	2.57	1.99
SBR-SD-1019	100715106	SBR-SD-1019 7.5-8.5	7.5	8.5	SS	O	10/7/2015	11.4	--	1.45	0.337	0.137 J	0.558	0.705	0.669	0.557 J	--	0.415	0.871 J	1.05	0.14	1.85	0.512	0.345	0.259	--	2.3	1.59
SBR-SD-1019	100715107	SBR-SD-1019 8.5-9.5	8.5	9.5	SS	O	10/7/2015	52.9	--	1.46	1.25	<0.257 U	2.66	3.71	3.82	3.21 J	--	2.4	3.83 J	4.76	0.76	10.5	1.24	2.09	1.2	--	8.6	7.99
SBR-SD-1019	100715109	SBR-SD-1019 10.5-11.5	10.5	11.5	SS	O	10/7/2015	43.1	--	2.44	1.06	0.786	1.6	2.72	2.84	4.59	2.22	2.12	1.75	3.81	0.575 J	8.84	1.16	1.72	0.941	0.861	6.18	6.79
SSCD-RSB-001	111814063	SSCD-RSB-001-001	13.0	13.5	SS	O	10/20/2006	2,843	241	440	271	20.8	207	107	83.9	38.6	43.9	29.9	--	103	8.19	207	147	25.9	763	12.5	576	319
SSCD-RSB-005	111814064 (N)	SSCD-RSB-005-001 (N)	8.5	9.0	SS	O	10/30/2006	39,023	1,190	2,560	2,960	353	2,610	1,640	1,290	1,030	728	593	--	1,560	221	4,210	2,160	616	11,400	305	6,640	3,170
SSCD-RSB-006	111814066	SSCD-RSB-006A-001	8.0	8.5	SS	O	10/31/2006	1,897	87	158	150	15.4	135	88	76.5	46.5	41.7	32.3	--	84.4	12.9	191	98.1	30.2	476	13.9	340	196
SSCD-RSB-008	111814067	SSCD-RSB-008-001	8.0	9.0	SS	O	10/31/2006	11,390	1,720	2,670	1,420	220	718	372	255	131	128	87.3	--	371	36.5	671	669	80	3,710	39.8	2,000	853
SSCD-RSB-010	111814068	SSCD-RSB-010-001	16.0	16.5	SS	O	11/1/2006	4.3	0.285	0.529	0.247	0.037	0.287	0.162	0.124	0.067	0.072	0.072	--	0.183	0.014	0.371	0.203	0.04	1.24	0.026	0.9	0.467
SSCD-RSB-011	111814069	SSCD-RSB-011-001	12.0	12.5	SS	O	11/1/2006	3,987	387	658	336	31.5	266	127	103	45.9	53.1	37.3	--	119	13.3	258	200	31.4	1,470	13.9	683	348
		Total Number of Samples Analyzed:						299	42	299	299	299	299	299	299	299	185	299	257	299	299	299	299	299	299	185	299	299
		Number of Detections:						299	42	262	272	240	283	286	282	282	171	281	238	289	242	292	272	279	260	164	296	292
		Min:						0.2114	0.285	0.0116	0.0161	0.0095	0.0318	0.0224	0.0456	0.0104	0.0269	0.0106	0.0143	0.0213	0.0052	0.0292	0.019	0.0077	0.0125	0.0106	0.0569	0.0258
		Max:						39023	3510	4950	2960	379.00	2610.00	1640	1290	1030	728.00	593.00	33.60	1560.00	221.00	4210.00	2160.00	616.00	11400	305	6640	3170
		Mean:						507	346.90	103.25	56.34	7.95	34.30	20.34	16.08	12.30	14.45	7.02	2.13	19.93	2.74	40.53	30.50	6.73	171.57	5.13	89.38	45.82
		Median:						21.64	74	1.345	0.5905	0.354	1.03	1.62	1.555	1.815	2.87	0.783	0.8845	1.96	0.259	3.575	0.602	0.685	0.7335	0.9385	3.17	3.105
		EC20 for TPAH(13):						80	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Number of Surface Samples that exceed EC20 for TPAH(13):						4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		EC50 for TPAH(13):						400	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Number of Surface Samples that exceed EC50 for TPAH(13):						1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes:
Italic = *result exceeds EC20*
BOLD = result exceeds EC50
< = Concentration is less than reported limit
-- = Analysis not performed
U = Not detected
J = Concentration estimated
R = Result rejected during validation
NS = No Standard
(N) = Normalized sample locations created from combining parent and field duplicate samples following USEPA protocol
SL = Screening Level
Non-detected results were not included in the calculations of the the mean and median.

Surface sediment = bottom of interval depth is less than or equal to 6 inches (0.5 feet) below top of sediment
mg/kg = milligrams per kilogram
Alk PAHs = Alkylated PAHs
BTEX = Benzene, Toluene, Ethylbenzene and Xylene
GEO = Geotechnical Property
PAH = Polycyclic Aromatic Hydrocarbon
TPAH = Total PAHs
VOC = Volatile Organic Compound
EC20 = 20% Effects Concentration (only appliable to Depths 0.0 top 0.5 feet)
EC50 = 50% Effects Concentration (only appliable to Depths 0.0 top 0.5 feet)

EC20 and EC50 from Hawthorne, S., Azzolina, N., Neuhauser, E., and Kreitinger, J. Predicting Bioavailability of Sediment Polycyclic Aromatic Hydrocarbons to Hyallella Azteca using Equilibrium Partitioning Supercritical Fluid Extraction, and Pore Water Concentrations. Grand Forks, North Dakota. Environmental Science Technology, 2007, 41, 6297-6304.

1. The following rules apply to the summation of Total PAH (13) calculated by Natural Resource Technology, Inc. (NRT):
   a. Where no detections were observed, the maximum individual reported detection limit is presented.
   b. Where detections were observed, ½ the reported detection limit for non-detects was used in the summation
   c. The list of Total PAH (13) is as follows: Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Fluoranthene, Fluorene, Naphthalene, Phenanthrene and Pyrene.
   d. R flagged results were not included in calculations.

Non-detected results were not included in the calculations of the the mean and median.
Analysis Runs……O = Original Run (fall 2015)
A1 = 1st Archive Run (August 2016)
A2 = 2nd Archive Run (October 2016)
Depth Gradient……S = Surface
SS = Subsurface

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Alk PAH 2,6,10-trimethyldodecane	Alk PAH 2,6,10-trimethyltetradecane	Alk PAH Benzo(b)naphtho[2,1-d]thiophene	Alk PAH Benzo(b&j)fluorenes	Alk PAH Benzo(k)fluoranthene	Alk PAH C1-Benzene	Alk PAH C2-Benzene	Alk PAH C3-Benzene	Alk PAH C4-Benzene	Alk PAH C5-Benzene	Alk PAH C1-Benzo(a)anthracene/Chrysenes	Alk PAH C2-Benzo(a)anthracenes/Chrysenes	Alk PAH C3-Benzo(a)anthracenes/Chrysenes	Alk PAH C4-Benzo(a)anthracenes/Chrysenes	Alk PAH C1-Dibenzothiophene	Alk PAH C2-Dibenzothiophene	Alk PAH C3-Dibenzothiophene	Alk PAH C4-Dibenzothiophene	Alk PAH C1-Chrysenes	Alk PAH C2-Chrysenes	Alk PAH C3-Chrysenes	Alk PAH C4-Chrysenes	Alk PAH C1-Fluoranthenes/Pyrenes	Alk PAH C2-Fluoranthenes/Pyrenes
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
							EC20 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit					Result rejected during data validation					Not analyzed												
PCS-RSB-005B	111814025 (N)	PCS-RSB-005B-001 (N)	3.5	4.0	SS	O	7/13/2006	34.2	40	3.62	6.91	10.6	1.89	5.27	6.61	6.93	8.53	6.24	3.3	2.28	1.48	9.95	11.6	9.06	4.46	--	--	--	--	25	7.87
PCS-RSB-005B	111814027	PCS-RSB-005B-002	8.0	9.3	SS	O	7/13/2006	2.68	4.29	13.5	38	38.6	2.69	13.7	33.2	41.6	10.2	74.1	24.9	6.4	2.26	47.3	30.6	11.5	2.8	--	--	--	--	267	75.4
PCS-RSB-007B	111814023	PCS-RSB-007B-001	0.0	2.0	SS	O	7/12/2006	42.7	47.4	3.58	5.07	8.7	2.69	4.19	7.48	17.8	16.3	15.7	8.84	4.58	2.31	18.8	21.9	15.4	6.7	--	--	--	--	38.6	19.5
PCS-RSB-008B	111814024	PCS-RSB-008B-001	7.3	8.0	SS	O	7/12/2006	16	20.6	16.9	29.9	29.1	3.76	55.3	68.4	65.6	23.6	89.5	42.1	15.7	5.95	69.7	58	29.4	9.71	--	--	--	--	250	107
PCS-RSB-017	111814008	PCS-RSB-017-001	2.0	4.0	SS	O	6/29/2006	56.3	78.6	2.85	3.05	9.77	3.9	4.58	3.26	8.09	11.4	6.74	4.92	3.16	2.08	13.1	17.9	14.5	7.17	--	--	--	--	15.7	9.12
PCS-RSB-021	111814009	PCS-RSB-021-001	2.0	4.0	SS	O	6/30/2006	28.5	34.8	1.52	1.66	6.06	5.52	4.14	5.12	9.47	9.68	3.85	2.88	2.18	1.27	9.28	11	8.41	3.68	--	--	--	--	8.83	5.8
PCS-RSB-025	111814012 (N)	PCS-RSB-025-001 (N)	3.0	4.0	SS	O	7/6/2006	10.1	10.5	0.533	0.589	2.07	1.86	1.14	1.8	3.49	4.03	1.7	1.29	1.04	0.602	3.69	4.78	3.89	1.77	--	--	--	--	3.49	2.56
PCS-RSB-027B	111814016 (N)	PCS-RSB-027B-001 (N)	8.5	9.5	SS	O	7/7/2006	13.3	16.9	13	25.2	24	2.09	64.1	6.34	59.3	19.5	69	30.6	10	3.98	55.9	45.3	22.1	7.17	--	--	--	--	202	82.5
PCS-RSB-032	111814019	PCS-RSB-032-001	5.0	6.0	SS	O	7/11/2006	45.7	57.7	2.44	2.54	9.49	1.88	3.28	4.72	12.3	15.4	5.4	3.88	2.42	1.56	14.2	17	12.3	5.59	--	--	--	--	12.5	7.08
PCS-RSB-032	111814020	PCS-RSB-032-002	13.0	14.0	SS	O	7/11/2006	20.9	31.3	51.9	88.5	75.5	4.28	142	195	233	84.4	281	142	51.4	22.6	230	195	96.8	30.6	--	--	--	--	776	354
PCS-RSB-035	111814021	PCS-RSB-035-001	8.0	9.0	SS	O	7/11/2006	28.8	39.8	11.8	18.8	21.3	2.1	16.6	21.7	26.8	12.8	48.5	24.4	9.24	3.5	43.6	36.8	19.7	7.01	--	--	--	--	139	56
PCS-RSB-037B	111814018	PCS-RSB-037B-001	5.0	6.0	SS	O	7/7/2006	5.08	5.7	4.07	9.38	25.6	0.828 J	4.93	5.33	6.29	3.47	16.7	7.06	3.05	1.37	7.4	7.25	4.69	2.1	--	--	--	--	46.1	15
PCS-RSB-040B	111814028	PCS-RSB-040B-001	10.0	10.5	SS	O	7/13/2006	32.1	43.6	1.44	1.56	4.12	1.77	2.1	2.52	7.85	10.6	3.53	2.77	1.92	1.27	8.69	11.7	9.44	4.73	--	--	--	--	8.56	5.33
PCS-RSB-042B	111814029	PCS-RSB-042B-001	7.5	8.0	SS	O	7/14/2006	13.3	13.3	1.79	2.33	5.01	1.18	1.68	1.61	6.2	7.95	4.26	2.94	1.98	1.57	5.77	11.6	10.2	6.28	--	--	--	--	13.2	5.97
PCS-RSB-046	111814010	PCS-RSB-046-001	6.0	6.5	SS	O	6/30/2006	55.6	78.4	2.97	3.38	10.6	4.11	4.55	4.4	12	17	7.37	4.98	3.43	2.16	21.2	25.4	17.2	8.01	--	--	--	--	18.4	10.4
PCS-RSB-047	111814011	PCS-RSB-047-001	5.0	6.0	SS	O	7/5/2006	35.3	44.4	1.83	1.85	5.26	2.94	3.01	3.49	9.56	11.4	4.52	3.6	2.46	1.62	10	13.9	11.6	6.29	--	--	--	--	10.5	6.86
PCS-RSB-048	111814014	PCS-RSB-048-001	5.0	6.0	SS	O	7/6/2006	78.1	104	2.58	2.8	8.59	4.03	4.64	4.7	12.4	17.7	6.17	4.47	2.75	1.85	13.8	18.2	13.7	7.02	--	--	--	--	14.6	8.43
PCS-RSB-048	111814015	PCS-RSB-048-002	8.0	9.0	SS	O	7/6/2006	39.2	60.4	161	283	272	8.38 J	246	388	452	149	762	354	130	51.4	608	472	219	62.9	--	--	--	--	2,190	879
PCS-RSB-050	111814022	PCS-RSB-050-001	7.0	8.0	SS	O	7/12/2006	70.2	102	3.34	3.71	12.3	2.09	2.86	3.25	8.85	13.5	8.89	5.56	3.37	2.02	19.9	24.6	17.3	7.9	--	--	--	--	21	12
PCS-RSB-051	111814030	PCS-RSB-051-001	8.0	8.3	SS	O	10/4/2006	6.14	6.91	6.83	11.3	14.8	1.71	19	32.7	44	17.1	32.6	16.7	6.43	2.88	32.6	27	13.1	4.65	--	--	--	--	89	39.7
PCS-RSB-052	111814031	PCS-RSB-052-001	6.0	7.0	SS	O	10/5/2006	4.89	3.54	2.47	3.48	12.1	0.748	5.15	4.58	5.28	2.92	7.63	3.2	1.48	0.853	4.12	4.02	2.85	1.28	--	--	--	--	18.6	7.45
PCS-RSB-054	111814033	PCS-RSB-054-001	12.0	13.0	SS	O	10/5/2006	10	16.8	20.4	33.9	30.6	3.59	41.6	79.5	114	45.3	105	58.3	23.1	10.5	103	88.2	46	16.1	--	--	--	--	299	132
PCS-RSB-055	111814034	PCS-RSB-055-001	1.0	2.0	SS	O	10/5/2006	3.89	4.13	0.273	0.317	1.3	1.81	0.517	0.554	1.12	1.4	0.645	0.382	0.255	0.14	1.15	1.7	1.42	0.685	--	--	--	--	1.58	0.901
PCS-RSB-055	111814032	PCS-RSB-055-002	5.0	6.0	SS	O	10/5/2006	20.6	24.9	3.19	5.46	7.58	1.82	27.9	33.4	29.9	13.3	11.8	6.16	2.84	1.55	15.9	16	11.4	5.23	--	--	--	--	34.9	14.6
PCS-RSB-056	111814036 (N)	PCS-RSB-056-001 (N)	4.5	5.5	SS	O	10/6/2006	17.8	15.6	5.24	5.36	15.6	2.9	8.36	6.71	5.8	4.71	7.57	3.95	2.25	1.36	6.26	8.92	8.08	4.54	--	--	--	--	21	9.2
PCS-RSB-056	111814035	PCS-RSB-056-002	6.0	7.0	SS	O	10/6/2006	13.3	19.4	33.6	85.7	78.1	6.32	207	299	183	39	179	75.1	24.2	9.85	150	112	51.7	16	--	--	--	--	598	204
PCS-RSB-058	111814038	PCS-RSB-058-001	4.0	5.0	SS	O	10/9/2006	39.4	54.8	2.5	3.84	7.77	4.09	4.21	0.956	13.3	14	5.9	3.7	2.02	1.15	13.5	16.4	11.7	5.45	--	--	--	--	18.8	7.57
PCS-RSB-059	111814041	PCS-RSB-059-001	10.0	11.0	SS	O	10/10/2006	14.4	18.3	20.4	45.3	40.6	2.47	69.9	128	134	41.8	105	47.5	14.2	6	88.7	70.8	31.8	10.1	--	--	--	--	344	125
PCS-RSB-060	111814045	PCS-RSB-060-001	3.0	4.0	SS	O	10/10/2006	45	61.4	2.48	3.02	7.18	2.83	3.84	4.68	9.76	11.4	7.14	4.75	2.47	0.96	13.4	19.2	14.4	6.89	--	--	--	--	18.8	9.72
PCS-RSB-060	111814046	PCS-RSB-060-002	8.0	8.5	SS	O	10/10/2006	15.1	17.7	8.34	14.4	16.2	3.31	16.1	32.4	42	18.4	38.3	19.7	6.8	3	34.3	31.9	17.3	6.55	--	--	--	--	116	46.3
PCS-RSB-061	111814047	PCS-RSB-061-001	6.0	7.0	SS	O	10/10/2006	93	125	3.21	3.68	9.48	3.7	6.01	9.37	23.8	30	7.78	5.62	3.19	1.8	14.8	23.4	17.7	8.58	--	--	--	--	21	10.5
PCS-RSB-061	111814048	PCS-RSB-061-002	10.0	10.5	SS	O	10/10/2006	12.8	20.2	23.8	39.2	33.5	5.29	43.8	89.8	132	53.4	112	58	21.7	7.69	109	93.7	45.5	14.9	--	--	--	--	340	140
PCS-RSB-062	111814039 (N)	PCS-RSB-062-001 (N)	2.0	3.0	SS	O	10/10/2006	78	104	4.06	4.5	10.7	7.18	11.3	11.6	28.8	32.5	9.69	7.32	4.61	2.29	21.2	31.7	25.6	13.6	--	--	--	--	26.3	14.6
PCS-RSB-062	111814042	PCS-RSB-062-002	6.5	7.5	SS	O	10/10/2006	2.96	4.66	13.2	28.6	30.9	1.86	30.7	59.6	39.3	7.13	53.7	18.5	4.2	1.48	40.9	26.4	9.24	2.13	--	--	--	--	190	48.1
PCS-RSB-063	111814043	PCS-RSB-063-001	2.0	3.0	SS	O	10/10/2006	82.4	110	4.24	5.32	13.9	6.45	6.14	7	17.8	21.9	9.78	6.42	3.4	1.94	16	23.7	18.6	9.87	--	--	--	--	26.3	12.9
PCS-RSB-063	111814044	PCS-RSB-063-002	6.0	7.0	SS	O	10/10/2006	5.48	6.85	4.47	12.4	11.4	1.68	13	27	24.2	5.84	17	6.1	1.98	0.711	13.8	9.61	4.64	1.83	--	--	--	--	68.4	16.5
SBR-SD-072	1120151046 / 1120151061 (N)	SBR-SD-072 0-0.5 (N)	0.0	0.5	S	O	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-072	1120151050	SBR-SD-072 3.5-4.5	3.5	4.5	SS	O	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-072	1120151053	SBR-SD-072 6.5-7.5	6.5	7.5	SS	A1	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-072	1120151054	SBR-SD-072 7.5-8.5	7.5	8.5	SS	O	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	23.9	12.3	5.67	2.23	42	--
SBR-SD-072	1120151055	SBR-SD-072 8.5-9.5	8.5	9.5	SS	A1	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-072	1120151056	SBR-SD-072 9.5-10.5	9.5	10.5	SS	O	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-072	1120151057	SBR-SD-072 10.5-11.3	10.5	11.3	SS	O	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	33.7	15	5.75	5.17	77.2	--
SBR-SD-072	1120151058	SBR-SD-072 11.3-12.5	11.3	12.5	SS	O	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.247 J	0.32 J	0.185 J	<0.167 U	0.387	--

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Alk PAH 2,6,10-trimethyldodecane	Alk PAH 2,6,10-trimethyltetradecane	Alk PAH Benzo(b)naphtho[2,1-d]thiophene	Alk PAH Benzo(b/c)fluorenes	Alk PAH Benzo(j/k)fluoranthene	Alk PAH C1-Benzene	Alk PAH C2-Benzene	Alk PAH C3-Benzene	Alk PAH C4-Benzene	Alk PAH C5-Benzene	Alk PAH C1-Benzo(a)anthracene/Chrysenes	Alk PAH C2-Benzo(a)anthracene/Chrysenes	Alk PAH C3-Benzo(a)anthracene/Chrysenes	Alk PAH C4-Benzo(a)anthracene/Chrysenes	Alk PAH C1-Dibenzothiophene	Alk PAH C2-Dibenzothiophene	Alk PAH C3-Dibenzothiophene	Alk PAH C4-Dibenzothiophene	Alk PAH C1-Chrysenes	Alk PAH C2-Chrysenes	Alk PAH C3-Chrysenes	Alk PAH C4-Chrysenes	Alk PAH C1-Fluoranthenes/Pyrenes	Alk PAH C2-Fluoranthenes/Pyrenes
						Reporting Units:		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
						EC20 for TPAH(13):		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
						EC50 for TPAH(13):		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit					Result rejected during data validation					Not analyzed											
SBR-SD-073	1120151025	SBR-SD-073 0-0.5	0.0	0.5	S	O	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.41	3.01	1.57	0.712 J	5.8	--
SBR-SD-073	1120151028	SBR-SD-073 2.5-3.5	2.5	3.5	SS	O	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073	1120151031	SBR-SD-073 5.5-6.5	5.5	6.5	SS	O	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073	1120151034	SBR-SD-073 8.5-9.5	8.5	9.5	SS	O	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.96	6.88	4.42	1.06 J	13.5	--
SBR-SD-073	1120151038	SBR-SD-073 12.5-13.5	12.5	13.5	SS	A1	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.23	6.54	3.89	0.924	12.1	38.4
SBR-SD-073	1120151039	SBR-SD-073 13.5-14.5	13.5	14.5	SS	O	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073	1120151040	SBR-SD-073 14.5-16.1	14.5	16.1	SS	O	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	92.1	31.6	11.1	6.43	232	--
SBR-SD-073	1120151041	SBR-SD-073 16.1-16.5	16.1	16.5	SS	O	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.297 J	0.449	0.297 J	<0.171 U	0.459	--
SBR-SD-073	1120151042	SBR-SD-073 16.5-17.5	16.5	17.5	SS	A2	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0831	0.141	0.101	<0.0363 U	0.157	0.641
SBR-SD-073.4 MOB	1217151520	SBR-SD-073.4 MOB 0-0.5	0.0	0.5	S	O	12/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.73 J	3.06 J	1.6	<0.776 U	4.88 J	--
SBR-SD-073.4 MOB	1217151523	SBR-SD-073.4 MOB 2.5-3.5	2.5	3.5	SS	O	12/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073.4 MOB	1217151529	SBR-SD-073.4 MOB 8.5-9.5	8.5	9.5	SS	O	12/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073.4 MOB	1217151531	SBR-SD-073.4 MOB 10.5-11.5	10.5	11.5	SS	A1	12/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073.4 MOB	1217151532 / 1217151539 (N)	SBR-SD-073.4 MOB 11.5-12.5 (N)	11.5	12.5	SS	O	12/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	26.4	15	6.94	1.61	60.3	--
SBR-SD-073.4 MOB	1217151533	SBR-SD-073.4 MOB 12.5-13.5	12.5	13.5	SS	O	12/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073.4 MOB	1217151534	SBR-SD-073.4 MOB 13.5-14.5	13.5	14.5	SS	O	12/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13.7	9.53	5.58	1.06 J	21.1	--
SBR-SD-073.4 MOB	1217151535	SBR-SD-073.4 MOB 14.5-16.5	14.5	16.5	SS	O	12/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	34.7 J	13.6 J	4.77 J	2.56 J	59.3	--
SBR-SD-073.4 MOB	1217151536	SBR-SD-073.4 MOB 16.5-17.5	16.5	17.5	SS	O	12/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.316 U	<0.316 U	<0.158 U	<0.158 U	<0.316 U	--
SBR-SD-074	101315350	SBR-SD-074 0-0.5	0.0	0.5	S	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.46	1.14	0.571	0.426	2.48	--
SBR-SD-074	101315352	SBR-SD-074 1.5-2.5	1.5	2.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-074	101315355	SBR-SD-074 4.5-5.5	4.5	5.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.618	0.467	0.263	<0.116 U	0.602	--
SBR-SD-074	101315359	SBR-SD-074 8.5-9.3	8.5	9.3	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915982	SBR-SD-075 0-0.5	0.0	0.5	S	O	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	34.2	14	5.73 J	5.75	58.4	--
SBR-SD-075	111915983	SBR-SD-075 1.5-2.5	1.5	2.5	SS	A1	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915985	SBR-SD-075 3.5-4.5	3.5	4.5	SS	O	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.85	5.3 J	3.42 J	1.26 J	10.4	--
SBR-SD-075	111915989	SBR-SD-075 7.5-8.5	7.5	8.5	SS	O	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915991	SBR-SD-075 9.5-10.5	9.5	10.5	SS	O	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915992	SBR-SD-075 10.5-11.5	10.5	11.5	SS	A1	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.89	6.46	3.55	0.789	10.4	35.7
SBR-SD-075	111915993	SBR-SD-075 11.5-12.5	11.5	12.5	SS	O	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	26.6	13.5	6.69	3.12	49.4	--
SBR-SD-075	111915994	SBR-SD-075 12.5-13.8	12.5	13.8	SS	O	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	167	66.4	22.2	18.1	345	--
SBR-SD-075	111915995	SBR-SD-075 13.8-14.5	13.8	14.5	SS	O	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.342 J	0.426 J	0.392 J	<0.167 U	0.477 J	--
SBR-SD-075	111915997	SBR-SD-075 15.5-16.5	15.5	16.5	SS	O	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Alk PAH 2,6,10-trimethyldodecane	Alk PAH 2,6,10-trimethyltetradecane	Alk PAH Benzo(b)naphtho[2,1-d]thiophene	Alk PAH Benzo(b)fluorenes	Alk PAH Benzo(k)fluoranthene	Alk PAH C1-Benzene	Alk PAH C2-Benzene	Alk PAH C3-Benzene	Alk PAH C4-Benzene	Alk PAH C5-Benzene	Alk PAH C1-Benzo(a)anthracene/Chrysenes	Alk PAH C2-Benzo(a)anthracene/Chrysenes	Alk PAH C3-Benzo(a)anthracene/Chrysenes	Alk PAH C4-Benzo(a)anthracene/Chrysenes	Alk PAH C1-Dibenzothiophene	Alk PAH C2-Dibenzothiophene	Alk PAH C3-Dibenzothiophene	Alk PAH C4-Dibenzothiophene	Alk PAH C1-Chrysenes	Alk PAH C2-Chrysenes	Alk PAH C3-Chrysenes	Alk PAH C4-Chrysenes	Alk PAH C1-Fluoranthenes/Pyrenes	Alk PAH C2-Fluoranthenes/Pyrenes
Reporting Units:								mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EC20 for TPAH(13):								NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EC50 for TPAH(13):								NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Value exceeds EC20 or EC50			Detected below EC20					Not detected above reported limit					Result rejected during data validation					Not analyzed													
SBR-SD-078	1123151066	SBR-SD-078 0-0.5	0.0	0.5	S	O	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.13 J	2.86 J	<1.51 U	<0.757 U	5.2 J	--
SBR-SD-078	1123151071	SBR-SD-078 5.5-6.5	5.5	6.5	SS	O	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-078	1123151073	SBR-SD-078 7.5-8.5	7.5	8.5	SS	O	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-078	1123151074	SBR-SD-078 8.5-9.5	8.5	9.5	SS	A1	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-078	1123151075 / 1123151082 (N)	SBR-SD-078 9.5-10.5 (N)	9.5	10.5	SS	O	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-078	1123151076	SBR-SD-078 10.5-12.1	10.5	12.1	SS	O	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	50.3 J	17.3	6.55	3.61 J	201	--
SBR-SD-078	1123151077	SBR-SD-078 12.1-12.5	12.1	12.5	SS	O	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.05 J	0.675 J	<0.328 U	<0.164 U	2.16	--
SBR-SD-079	101315313	SBR-SD-079 0-0.5	0.0	0.5	S	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-079	101315315	SBR-SD-079 1.5-2.5	1.5	2.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.612 J	<0.419 U	<0.419 U	<0.419 U	<0.419 U	--
SBR-SD-079	101315317	SBR-SD-079 3.5-4.5	3.5	4.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-079	101315321	SBR-SD-079 7.5-8.5	7.5	8.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-079	101315324	SBR-SD-079 10.5-11.9	10.5	11.9	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.979	<0.263 U	0.402 J	<0.263 U	0.738	--
SBR-SD-080	111915998	SBR-SD-080 0-0.5	0.0	0.5	S	O	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<2.15 U	<2.15 U	<2.15 U	<1.07 U	<2.15 U	--
SBR-SD-080	111915999	SBR-SD-080 0.5-1.5	0.5	1.5	SS	A1	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151000	SBR-SD-080 1.5-2.5	1.5	2.5	SS	O	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	30.3	12.1	4.36 J	3.18	59.9	--
SBR-SD-080	1119151001	SBR-SD-080 2.5-3.5	2.5	3.5	SS	A1	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151003	SBR-SD-080 4.5-5.5	4.5	5.5	SS	O	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151007	SBR-SD-080 8.5-9.5	8.5	9.5	SS	O	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151011	SBR-SD-080 12.5-13.5	12.5	13.5	SS	O	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.62	6.94 J	4.14 J	0.892 J	15	--
SBR-SD-080	1119151013	SBR-SD-080 14.5-15.5	14.5	15.5	SS	O	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151015	SBR-SD-080 16.5-17.5	16.5	17.5	SS	A1	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151016	SBR-SD-080 17.5-18.5	17.5	18.5	SS	O	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	69.3	23.4	8.14	3.96	275	--
SBR-SD-080	1119151017	SBR-SD-080 18.5-19.3	18.5	19.3	SS	O	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	36.6	13.2	4.71	2.3	143	--
SBR-SD-080	1119151018	SBR-SD-080 19.3-20.5	19.3	20.5	SS	O	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.328 U	<0.328 U	<0.328 U	<0.164 U	<0.328 U	--
SBR-SD-081	111815964 / 111815981 (N)	SBR-SD-081 0-0.5 (N)	0.0	0.5	S	O	11/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.23 J	2.83 J	<0.805 U	<0.788 U	4.37 J	--
SBR-SD-081	111815966	SBR-SD-081 1.5-2.5	1.5	2.5	SS	O	11/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-081	111815968	SBR-SD-081 3.5-4.5	3.5	4.5	SS	O	11/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-081	111815972	SBR-SD-081 7.5-8.5	7.5	8.5	SS	O	11/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-081	111815974	SBR-SD-081 9.5-10.5	9.5	10.5	SS	A2	11/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	20.7	17.2	11.2	2.22	32.9	102
SBR-SD-081	111815976	SBR-SD-081 11.5-12.5	11.5	12.5	SS	O	11/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-081	111815977	SBR-SD-081 12.5-13.7	12.5	13.7	SS	O	11/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	33.9	14.6	5.39	2.54 J	88.7	--
SBR-SD-081	111815978	SBR-SD-081 13.7-14.5	13.7	14.5	SS	O	11/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.317 U	0.319 J	<0.317 U	<0.158 U	0.38 J	--

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Alk PAH 2,6,10-trimethyldodecane	Alk PAH 2,6,10-trimethyltetradecane	Alk PAH Benzo(b)naphtho(2,1-d)thiophene	Alk PAH Benzo(b/c)fluorenes	Alk PAH Benzo(j/k)fluoranthene	Alk PAH C1-Benzene	Alk PAH C2-Benzene	Alk PAH C3-Benzene	Alk PAH C4-Benzene	Alk PAH C5-Benzene	Alk PAH C1-Benzo(a)anthracene/Chrysenes	Alk PAH C2-Benzo(a)anthracenes/Chrysenes	Alk PAH C3-Benzo(a)anthracenes/Chrysenes	Alk PAH C4-Benzo(a)anthracenes/Chrysenes	Alk PAH C1-Dibenzothiophene	Alk PAH C2-Dibenzothiophene	Alk PAH C3-Dibenzothiophene	Alk PAH C4-Dibenzothiophene	Alk PAH C1-Chrysenes	Alk PAH C2-Chrysenes	Alk PAH C3-Chrysenes	Alk PAH C4-Chrysenes	Alk PAH C1-Fluoranthenes/Pyrenes	Alk PAH C2-Fluoranthenes/Pyrenes
Reporting Units:								mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EC20 for TPAH(13):								NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EC50 for TPAH(13):								NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Value exceeds EC20 or EC50			Detected below EC20					Not detected above reported limit						Result rejected during data validation				Not analyzed													
SBR-SD-084	1123151083	SBR-SD-084 0-0.5	0.0	0.5	S	O	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.07	3.55 J	2.24 J	1.1 J	7.42	--
SBR-SD-084	1123151086	SBR-SD-084 2.5-3.5	2.5	3.5	SS	O	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-084	1123151091	SBR-SD-084 7.5-8.5	7.5	8.5	SS	O	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-084	1123151093	SBR-SD-084 9.5-10.5	9.5	10.5	SS	O	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-084	1123151095	SBR-SD-084 11.5-12.5	11.5	12.5	SS	O	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-084	1123151096	SBR-SD-084 12.5-13.5	12.5	13.5	SS	A1	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	35.5	11.9	4.16	1.87	69.9	103
SBR-SD-084	1123151097	SBR-SD-084 13.5-14.2	13.5	14.2	SS	O	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	27.3	11.5	4.34	2.39 J	123	--
SBR-SD-084	1123151098	SBR-SD-084 14.2-15.5	14.2	15.5	SS	O	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.375 J	<0.337 U	<0.337 U	<0.169 U	0.849 J	--
SBR-SD-085	101315301	SBR-SD-085 0-0.5	0.0	0.5	S	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.924	<0.285 U	<0.285 U	<0.285 U	0.538 J	--
SBR-SD-085	101315306	SBR-SD-085 4.5-5.5	4.5	5.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-085	101315308	SBR-SD-085 6.5-7.5	6.5	7.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15.4	8.13	3.11	1.13	22.2	--
SBR-SD-085	101315311	SBR-SD-085 9.5-10.5	9.5	10.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-085	101315312	SBR-SD-085 10.5-11.7	10.5	11.7	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0457 U	2.05	0.759	0.28	<0.0457 U	--
SBR-SD-086	101315325	SBR-SD-086 0-0.5	0.0	0.5	S	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.691	<0.25 U	<0.25 U	<0.25 U	0.385 J	--
SBR-SD-086	101315328	SBR-SD-086 2.5-3.5	2.5	3.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-086	101315332	SBR-SD-086 6.5-7.5	6.5	7.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.306	0.249	0.138	<0.0482 U	0.324	--
SBR-SD-086	101315335	SBR-SD-086 9.5-10.5	9.5	10.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-086	101315336 / 101315337 (N)	SBR-SD-086 10.5-11.8 (N)	10.5	11.8	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.866 J	0.249	0.289 J	<0.046 U	0.802 J	--
SBR-SD-087	101215266	SBR-SD-087 0-0.5	0.0	0.5	S	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.93	1.76	<0.402 U	<0.402 U	1.62	--
SBR-SD-087	101215267	SBR-SD-087 0.5-1.5	0.5	1.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-087	101215269 / 101215270 (N)	SBR-SD-087 2.5-3.9 (N)	2.5	3.9	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.998	0.819	<0.0582 U	0.0838 J	1.22	--
SBR-SD-097	101215264	SBR-SD-097 0-0.5	0.0	0.5	S	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.555 J	<0.36 U	<0.36 U	<0.36 U	<0.36 U	--
SBR-SD-097	101215265	SBR-SD-097 0.5-1.4	0.5	1.4	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.591 J	<0.349 U	<0.349 U	<0.349 U	<0.349 U	--
SBR-SD-098	101215271	SBR-SD-098 0-0.5	0.0	0.5	S	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.98	1.84	<0.397 U	0.583 J	2.53	--
SBR-SD-098	101215274	SBR-SD-098 2.5-3.5	2.5	3.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-098	101215275	SBR-SD-098 3.5-4.5	3.5	4.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.841	0.54	<0.0613 U	0.101 J	0.903	--
SBR-SD-098	101215278	SBR-SD-098 6.5-7.8	6.5	7.8	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-099	111815945	SBR-SD-099 0-0.5	0.0	0.5	S	O	11/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11.2	5.62 J	2.94 J	2.31 J	16.7	--
SBR-SD-099	111815946	SBR-SD-099 2.5-3.5	2.5	3.5	SS	O	11/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-099	111815950	SBR-SD-099 6.5-7.5	6.5	7.5	SS	O	11/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-099	111815953 / 111815961 (N)	SBR-SD-099 9.5-10.5 (N)	9.5	10.5	SS	O	11/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10.9	10.4	6.02 J	1.82 J	20.9	--
SBR-SD-099	111815956	SBR-SD-099 12.5-13.5	12.5	13.5	SS	O	11/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-099	111815957	SBR-SD-099 13.5-14.5	13.5	14.5	SS	O	11/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.62	7.4	4 J	<1.48 U	15.6	--
SBR-SD-099	111815958	SBR-SD-099	17.0	18.0	SS	O	11/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0742 J	0.0804 J	<0.0657 U	<0.0329 U	0.0828 J	--

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

								Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH
Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	2,6,10-trimethyldodecane	2,6,10-trimethyltetradecane	Benzo(b)naphtho(2,1-d)thiophene	Benzo(b)fluoranthene	Benzo(j/k)fluoranthene	C1-Benzene	C2-Benzene	C3-Benzene	C4-Benzene	C5-Benzene	C1-Benzo(a)anthracene/Chrysenes	C2-Benzo(a)anthracene/Chrysenes	C3-Benzo(a)anthracene/Chrysenes	C4-Benzo(a)anthracene/Chrysenes	C1-Dibenzothiophene	C2-Dibenzothiophene	C3-Dibenzothiophene	C4-Dibenzothiophene	C1-Chrysenes	C2-Chrysenes	C3-Chrysenes	C4-Chrysenes	C1-Fluoranthenes/Pyrenes	C2-Fluoranthenes/Pyrenes
		Reporting Units:						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		EC20 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		EC50 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit					Result rejected during data validation					Not analyzed											
SBR-SD-100	101215279	SBR-SD-100 0-0.5	0.0	0.5	S	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.734	<0.312 U	<0.312 U	<0.312 U	0.643	--
SBR-SD-100	101215283	SBR-SD-100 3.5-4.5	3.5	4.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-100	101215285	SBR-SD-100 5.5-6.5	5.5	6.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-100	101215287	SBR-SD-100 7.5-8.2	7.5	8.2	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0698 U	<0.0698 U	<0.0698 U	<0.0698 U	0.718	--
SBR-SD-101	101215253	SBR-SD-101 0-0.5	0.0	0.5	S	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.882 J	<0.597 U	<0.597 U	<0.597 U	<0.597 U	--
SBR-SD-101	101215255	SBR-SD-101 1.5-2.5	1.5	2.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-101	101215256	SBR-SD-101 2.5-3.5	2.5	3.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.3 J	1.46 J	0.625 J	<0.535 U	0.862 J	--
SBR-SD-101	101215262	SBR-SD-101 8.5-9.5	8.5	9.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-101	101215263	SBR-SD-101 9.5-10.4	9.5	10.4	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11.9 J	4.36 J	1.54 J	0.62 J	<0.228 U	--
SBR-SD-102	101215242	SBR-SD-102 0-0.5	0.0	0.5	S	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-102	101215244	SBR-SD-102 1.5-2.5	1.5	2.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.771 J	<0.312 U	<0.312 U	<0.312 U	0.358 J	--
SBR-SD-102	101215247 / 101215252 (N)	SBR-SD-102 4.5-5.5 (N)	4.5	5.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.2 J	<0.265 U	1.19 J	<0.265 U	1.98	--
SBR-SD-102	101215249	SBR-SD-102 6.5-7.5	6.5	7.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-102	101215251	SBR-SD-102 8.5-9.5	8.5	9.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-103	100915209 / 100915218 (N)	SBR-SD-103 0-0.5 (N)	0.0	0.5	S	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.93	1.19	0.496 J	0.27	1.95 J	--
SBR-SD-103	100915210	SBR-SD-103 0.5-1.5	0.5	1.5	SS	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.763	0.41	0.209 J	<0.122 U	0.567	--
SBR-SD-103	100915213	SBR-SD-103 3.5-4.5	3.5	4.5	SS	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-103	100915215	SBR-SD-103 5.5-6.5	5.5	6.5	SS	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-103	100915217	SBR-SD-103 7.5-8.5	7.5	8.5	SS	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.895	0.761	0.38	<0.149 U	0.999	--
SBR-SD-104	101215230	SBR-SD-104 0-0.5	0.0	0.5	S	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-104	101215233	SBR-SD-104 2.5-3.5	2.5	3.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.855 J	<0.315 U	<0.315 U	<0.315 U	0.587 J	--
SBR-SD-104	101215235	SBR-SD-104 4.5-5.5	4.5	5.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.582 J	<0.248 U	0.305 J	<0.248 U	0.338 J	--
SBR-SD-104	101215237	SBR-SD-104 6.5-7.5	6.5	7.5	SS	A1	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-104	101215238	SBR-SD-104 7.5-8.5	7.5	8.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-104	101215239	SBR-SD-104 8.5-9.5	8.5	9.5	SS	A1	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.45	5.85	3.2	1.31	9.01	29.2
SBR-SD-104	101215241	SBR-SD-104 10.5-11.9	10.5	11.9	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-105	111715934	SBR-SD-105 0-0.5	0.0	0.5	S	O	11/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.42 U	<0.42 U	<0.21 U	<0.21 U	0.495 J	--
SBR-SD-105	111715937	SBR-SD-105 2.5-3.5	2.5	3.5	SS	O	11/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-105	111715938	SBR-SD-105 3.5-4.5	3.5	4.5	SS	O	11/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-106	100915219	SBR-SD-106 0-0.5	0.0	0.5	S	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.5	0.757	0.386	0.256	1.42	--
SBR-SD-106	100915221	SBR-SD-106 1.5-2.5	1.5	2.5	SS	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-106	100915225	SBR-SD-106 5.5-6.5	5.5	6.5	SS	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.14	0.826	0.482	0.128 J	1.37	--
SBR-SD-106	100915228	SBR-SD-106 8.5-9.5	8.5	9.5	SS	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Alk PAH 2,6,10-trimethyldodecane	Alk PAH 2,6,10-trimethyltetradecane	Alk PAH Benzo(b)naphtho(2,1-d)thiophene	Alk PAH Benzo(b)fluorenes	Alk PAH Benzo(k)fluoranthene	Alk PAH C1-Benzene	Alk PAH C2-Benzene	Alk PAH C3-Benzene	Alk PAH C4-Benzene	Alk PAH C5-Benzene	Alk PAH C1-Benzo(a)anthracene/Chrysenes	Alk PAH C2-Benzo(a)anthracene/Chrysenes	Alk PAH C3-Benzo(a)anthracene/Chrysenes	Alk PAH C4-Benzo(a)anthracene/Chrysenes	Alk PAH C1-Dibenzothiophene	Alk PAH C2-Dibenzothiophene	Alk PAH C3-Dibenzothiophene	Alk PAH C4-Dibenzothiophene	Alk PAH C1-Chrysenes	Alk PAH C2-Chrysenes	Alk PAH C3-Chrysenes	Alk PAH C4-Chrysenes	Alk PAH C1-Fluoranthenes/Pyrenes	Alk PAH C2-Fluoranthenes/Pyrenes
Reporting Units:								mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EC20 for TPAH(13):								NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EC50 for TPAH(13):								NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Value exceeds EC20 or EC50			Detected below EC20					Not detected above reported limit						Result rejected during data validation				Not analyzed													
SBR-SD-107	111715917	SBR-SD-107 0-0.5	0.0	0.5	S	O	11/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-107	111715920	SBR-SD-107 2.5-3.5	2.5	3.5	SS	O	11/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-107	111715923	SBR-SD-107 5.5-6.5	5.5	6.5	SS	O	11/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.98	3.66	1.54 J	0.628	15.9	--
SBR-SD-107	111715926	SBR-SD-107 8.5-9.5	8.5	9.5	SS	O	11/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-107	111715928	SBR-SD-107 10.5-11.5	10.5	11.5	SS	O	11/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10.8	7.46	4.26	1.15	18.1	--
SBR-SD-107	111715929	SBR-SD-107 11.5-12.5	11.5	12.5	SS	O	11/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.092 J	0.139 J	0.0986 J	<0.0331 U	0.144 J	--
SBR-SD-107	111715931	SBR-SD-107 13.5-14.5	13.5	14.5	SS	O	11/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-108	100915198	SBR-SD-108 0-0.5	0.0	0.5	S	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.67	<0.417 U	<0.417 U	<0.417 U	0.963	--
SBR-SD-108	100915200	SBR-SD-108 1.5-2.5	1.5	2.5	SS	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.493	0.316	<0.0509 U	0.0848 J	0.483	--
SBR-SD-108	100915202	SBR-SD-108 3.5-4.5	3.5	4.5	SS	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-108	100915205	SBR-SD-108 6.5-7.5	6.5	7.5	SS	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.77	1.77	<0.0477 U	0.241	4.27	--
SBR-SD-108	100915208	SBR-SD-108 9.5-10	9.5	10.0	SS	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-109	111615902	SBR-SD-109 0-0.5	0.0	0.5	S	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-109	111615904	SBR-SD-109 1.5-2.5	1.5	2.5	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-109	111615909 / 111615915 (N)	SBR-SD-109 6.5-7.5 (N)	6.5	7.5	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-109	111615910	SBR-SD-109 7.5-8.3	7.5	8.3	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	82.6	51.6	20.5	3.7	161	--
SBR-SD-109	111615911	SBR-SD-109 8.3-9.5	8.3	9.5	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	24 J	12	4.84	1.09	51.2	--
SBR-SD-109	111615912	SBR-SD-109 9.5-10.5	9.5	10.5	SS	A1	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.83	0.872	0.354	0.112	2.77	5.83
SBR-SD-109	111615913	SBR-SD-109 10.5-11.5	10.5	11.5	SS	A2	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-109	111615914	SBR-SD-109 11.5-12.5	11.5	12.5	SS	A2	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.38	2.76	1.13	0.372	16.7	28.7
SBR-SD-110	100915186	SBR-SD-110 0-0.5	0.0	0.5	S	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.55	1.56	<0.0545 U	0.697	4.14	--
SBR-SD-110	100915187	SBR-SD-110 0.5-1.5	0.5	1.5	SS	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.96	1.53	<0.282 U	0.691	4.24	--
SBR-SD-110	100915192	SBR-SD-110 5.5-6.5	5.5	6.5	SS	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.95	1.72	<0.0514 U	0.34	3.78	--
SBR-SD-110	100915193	SBR-SD-110 6.5-7.5	6.5	7.5	SS	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-110	100915196	SBR-SD-110 9.5-10.3	9.5	10.3	SS	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.67	2.81	<0.0551 U	0.209	6.04	--
SBR-SD-111	100815158	SBR-SD-111 0-0.5	0.0	0.5	S	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1	0.631	0.393	0.188 J	1.11	--
SBR-SD-111	100815160	SBR-SD-111 1.5-2.5	1.5	2.5	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.76	1.08	0.633	0.413	1.43	--
SBR-SD-111	100815162	SBR-SD-111 3.5-4.5	3.5	4.5	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.744	0.654	<0.0667 U	0.192	0.588	--
SBR-SD-111	100815165	SBR-SD-111 6.5-7	6.5	7.0	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-112	100815178	SBR-SD-112 0-0.5	0.0	0.5	S	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-112	100815180	SBR-SD-112 1.5-2.5	1.5	2.5	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.628	0.513	0.246	0.114	0.533	--
SBR-SD-112	100815184	SBR-SD-112 5.5-6.5	5.5	6.5	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.52	1.15	0.516	0.195	1.62	--
SBR-SD-112	100815185	SBR-SD-112 6.5-7.6	6.5	7.6	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

								Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH
Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	2,6,10-trimethyldodecane	2,6,10-trimethyltetradecane	Benzo(b)naphtho(2,1-d)thiophene	Benzo(b/c)fluorenes	Benzo(j/k)fluoranthene	C1-Benzene	C2-Benzene	C3-Benzene	C4-Benzene	C5-Benzene	C1-Benzo(a)anthracene/Chrysenes	C2-Benzo(a)anthracenes/Chrysenes	C3-Benzo(a)anthracenes/Chrysenes	C4-Benzo(a)anthracenes/Chrysenes	C1-Dibenzothiophene	C2-Dibenzothiophene	C3-Dibenzothiophene	C4-Dibenzothiophene	C1-Chrysenes	C2-Chrysenes	C3-Chrysenes	C4-Chrysenes	C1-Fluoranthenes/Pyrenes	C2-Fluoranthenes/Pyrenes
		Reporting Units:						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		EC20 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		EC50 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit					Result rejected during data validation					Not analyzed											
SBR-SD-113	100815166	SBR-SD-113 0-0.5	0.0	0.5	S	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.53	4.82	<0.493 U	1.75	8.45	--
SBR-SD-113	100815170 / 100815177 (N)	SBR-SD-113 3.5-4.5 (N)	3.5	4.5	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-113	100815172	SBR-SD-113 5.5-6.5	5.5	6.5	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-113	100815174	SBR-SD-113 7.5-8.5	7.5	8.5	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.36 J	0.73 J	<0.0562 UJ	0.28 J	1.31 J	--
SBR-SD-113	100815176	SBR-SD-113 9.5-10	9.5	10.0	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.73	1.12	<0.0648 U	0.279	1.88	--
SBR-SD-114	100815147	SBR-SD-114 0-0.5	0.0	0.5	S	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.909	0.778	<0.176 U	0.202 J	0.842	--
SBR-SD-114	100815148	SBR-SD-114 0.5-1.5	0.5	1.5	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-114	100815155	SBR-SD-114 7.5-8.5	7.5	8.5	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.54	1.24	0.612	0.222 J	1.94	--
SBR-SD-114	100815156	SBR-SD-114 8.5-9.5	8.5	9.5	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.71	1.39	<0.136 U	0.248 J	2.75	--
SBR-SD-114	100815157	SBR-SD-114 9.5-10.4	9.5	10.4	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-115	111615867	SBR-SD-115 0-0.5	0.0	0.5	S	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.77 J	1.24 J	<0.809 U	<0.404 U	2.13 J	--
SBR-SD-115	111615871	SBR-SD-115 3.5-4.5	3.5	4.5	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-115	111615875	SBR-SD-115 7.5-8.5	7.5	8.5	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-115	111615878	SBR-SD-115 10.5-11.5	10.5	11.5	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-115	111615879	SBR-SD-115 11.5-12.5	11.5	12.5	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.12	8.04	5.01 J	1.71	15.2	--
SBR-SD-115	111615882	SBR-SD-115 14.5-15.5	14.5	15.5	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-115	111615883	SBR-SD-115 15.5-16.5	15.5	16.5	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.5	8.99	4.77 J	2.18	25	--
SBR-SD-115	111615884	SBR-SD-115 16.5-17.5	16.5	17.5	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.171 J	0.192 J	0.112 J	<0.0333 U	0.264 J	--
SBR-SD-115	111615885	SBR-SD-115 17.5-18.5	17.5	18.5	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-115.X	100715110	SBR-SD-115.X 0-0.5	0.0	0.5	S	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.3	2.3	<0.187 U	0.387	2.85	--
SBR-SD-115.X	100715113	SBR-SD-115.X 2.5-3.5	2.5	3.5	SS	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.722 J	0.469 J	<0.123 UJ	0.128 J	0.713 J	--
SBR-SD-115.X	100715114	SBR-SD-115.X 3.5-4.5	3.5	4.5	SS	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-115.X	100715116	SBR-SD-115.X 5.5-6.5	5.5	6.5	SS	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-115.X	100715118	SBR-SD-115.X 7.5-8.6	7.5	8.6	SS	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-116	100815119 / 100815130 (N)	SBR-SD-116 0-0.5 (N)	0.0	0.5	S	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.07	0.609	0.296	0.215	1.11	--
SBR-SD-116	100815122	SBR-SD-116 2.5-3.5	2.5	3.5	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-116	100815126	SBR-SD-116 6.5-7.5	6.5	7.5	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-116	100815127	SBR-SD-116 7.5-8.5	7.5	8.5	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.29	2.16	<0.103 U	0.329	3.17	--
SBR-SD-116	100815129	SBR-SD-116 9.5-10.4	9.5	10.4	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.788	0.499	<0.132 U	0.162 J	0.798	--
SBR-SD-117	111315856	SBR-SD-117 0-0.5	0.0	0.5	S	O	11/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.332	0.214	0.155	0.039 J	0.566	--
SBR-SD-117	111315859	SBR-SD-117 2.5-3.6	2.5	3.6	SS	O	11/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-117	111315860	SBR-SD-117 3.6-4.6	3.6	4.6	SS	O	11/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.03	0.604	0.33	0.122	1.61	--
SBR-SD-117	111315861 / 111315866 (N)	SBR-SD-117 4.6-5.6 (N)	4.6	5.6	SS	O	11/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-117	111315863	SBR-SD-117 6.6-7.6	6.6	7.6	SS	O	11/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0738	0.174	0.141	<0.0332 U	0.0975	--
SBR-SD-118	100715091	SBR-SD-118 0-0.5	0.0	0.5	S	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-118	100715094	SBR-SD-118 2.5-3.5	2.5	3.5	SS	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1	1	0.711	0.311 J	0.986	--
SBR-SD-118	100715096	SBR-SD-118 4.5-5.5	4.5	5.5	SS	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.898	0.87	0.577	0.168	1.17	--
SBR-SD-118	100715097	SBR-SD-118 5.5-6.8	5.5	6.8	SS	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.02	1.12	0.738	0.126	1.34	--

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Alk PAH 2,6,10-trimethyldodecane	Alk PAH 2,6,10-trimethyltetradecane	Alk PAH Benzo(b)naphtho(2,1-d)thiophene	Alk PAH Benzo(b)fluorenes	Alk PAH Benzo(k)fluoranthene	Alk PAH C1-Benzene	Alk PAH C2-Benzene	Alk PAH C3-Benzene	Alk PAH C4-Benzene	Alk PAH C5-Benzene	Alk PAH C1-Benzo(a)anthracene/Chrysenes	Alk PAH C2-Benzo(a)anthracenes/Chrysenes	Alk PAH C3-Benzo(a)anthracenes/Chrysenes	Alk PAH C4-Benzo(a)anthracenes/Chrysenes	Alk PAH C1-Dibenzothiophene	Alk PAH C2-Dibenzothiophene	Alk PAH C3-Dibenzothiophene	Alk PAH C4-Dibenzothiophene	Alk PAH C1-Chrysenes	Alk PAH C2-Chrysenes	Alk PAH C3-Chrysenes	Alk PAH C4-Chrysenes	Alk PAH C1-Fluoranthenes/Pyrenes	Alk PAH C2-Fluoranthenes/Pyrenes
Reporting Units:								mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EC20 for TPAH(13):								NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EC50 for TPAH(13):								NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Value exceeds EC20 or EC50			Detected below EC20						Not detected above reported limit					Result rejected during data validation				Not analyzed												
SBR-SD-118.4	1218151561	SBR-SD-118.4 0-0.5	0.0	0.5	S	O	12/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.16 J	2.59 J	<1.47 U	<1.47 U	4.73 J	--
SBR-SD-118.4	1218151565	SBR-SD-118.4 5.5-6.5	5.5	6.5	SS	O	12/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-118.4	1218151567	SBR-SD-118.4 7.5-8.5	7.5	8.5	SS	O	12/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-118.4	1218151570	SBR-SD-118.4 10.5-11.5	10.5	11.5	SS	O	12/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14.5	14.9	6.59 J	2.54 J	22.4	--
SBR-SD-118.4	1218151571	SBR-SD-118.4 11.5-12.5	11.5	12.5	SS	O	12/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13.1	9.66	4.29 J	2.23 J	17.7	--
SBR-SD-118.4	1218151572	SBR-SD-118.4 12.5-13.5	12.5	13.5	SS	O	12/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-118.4	1218151575	SBR-SD-118.4 15.5-16.5	15.5	16.5	SS	O	12/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-119	100715088	SBR-SD-119 0-0.5	0.0	0.5	S	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-119	100715090	SBR-SD-119 1.5-2.9	1.5	2.9	SS	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-120	100715085	SBR-SD-120 0-0.5	0.0	0.5	S	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0578	0.0403	0.0236	0.0106 J	0.0725	--
SBR-SD-120	100715086	SBR-SD-120 0.5-1.4	0.5	1.4	SS	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1014	101315338	SBR-SD-1014 0-0.5	0.0	0.5	S	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.3	1.17	0.644	0.364	2.36	--
SBR-SD-1014	101315339	SBR-SD-1014 0.5-1.5	0.5	1.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1014	101315344	SBR-SD-1014 5.5-6.5	5.5	6.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1014	101315347	SBR-SD-1014 8.5-9.5	8.5	9.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.72	4.62	1.76	0.699	10.6	--
SBR-SD-1014	101315348 / 101315349 (N)	SBR-SD-1014 9.5-10.5 (N)	9.5	10.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.27 J	1.14 J	0.519 J	0.257	2.55 J	--
SBR-SD-1015	101315289	SBR-SD-1015 0-0.5	0.0	0.5	S	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.54	<0.289 U	0.533 J	<0.289 U	1.16	--
SBR-SD-1015	101315291	SBR-SD-1015 1.5-2.5	1.5	2.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.868	<0.272 U	<0.272 U	<0.272 U	0.662	--
SBR-SD-1015	101315293	SBR-SD-1015 3.5-4.5	3.5	4.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.517	<0.245 U	<0.245 U	<0.245 U	<0.245 U	--
SBR-SD-1015	101315295	SBR-SD-1015 5.5-6.5	5.5	6.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.557	<0.245 U	0.289 J	<0.245 U	0.294 J	--
SBR-SD-1015	101315297	SBR-SD-1015 7.5-8.5	7.5	8.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1015	101315300	SBR-SD-1015 10.5-11.3	10.5	11.3	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.87	<0.342 U	0.789	<0.342 U	1.92	--
SBR-SD-1016	100815140	SBR-SD-1016 0-0.5	0.0	0.5	S	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.04	1.55	0.835	0.318	2.96	--
SBR-SD-1016	100815142	SBR-SD-1016 1.5-2.5	1.5	2.5	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.38	1.28	<0.111 U	0.253	1.78	--
SBR-SD-1016	100815143	SBR-SD-1016 2.5-3.5	2.5	3.5	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1016	100815144	SBR-SD-1016 3.5-4.5	3.5	4.5	SS	A1	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.97	5.07	3.45	0.907 J	7.89	27.5
SBR-SD-1016	100815146	SBR-SD-1016 5.5-6.9	5.5	6.9	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.25	1	<0.124 U	0.186 J	1.94	--
SBR-SD-1017	111615891	SBR-SD-1017 0-0.5	0.0	0.5	S	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.04 J	1.57 J	0.953 J	<0.359 U	2.52 J	--
SBR-SD-1017	111615892	SBR-SD-1017 0.5-1.5	0.5	1.5	SS	A2	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.85	2.49	1.74	0.329	3.61	14.2
SBR-SD-1017	111615893	SBR-SD-1017 1.5-2.5	1.5	2.5	SS	A2	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1017	111615894	SBR-SD-1017 2.5-3.5	2.5	3.5	SS	A2	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.84	0.501	0.264	0.128	0.949	3.31
SBR-SD-1017	111615895	SBR-SD-1017 3.5-4.5	3.5	4.5	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10.7	6.18	3.06	0.889	22.2	--
SBR-SD-1017	111615896	SBR-SD-1017 4.5-5.5	4.5	5.5	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	103	58.7	23.3	5.82	185	--
SBR-SD-1017	111615897	SBR-SD-1017 5.5-6.5	5.5	6.5	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.73	2.95	1.35 J	0.298 J	9.56	--
SBR-SD-1017	111615898	SBR-SD-1017 6.5-7.5	6.5	7.5	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1017	111615899	SBR-SD-1017 7.5-8.5	7.5	8.5	SS	A1	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.498	0.408	0.251	0.0418 J	0.647	2.21

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Alk PAH 2,6,10-trimethyldodecane	Alk PAH 2,6,10-trimethyltetradecane	Alk PAH Benzo(b)naphtho(2,1-d)thiophene	Alk PAH Benzo(b)fluorenes	Alk PAH Benzo(k)fluoranthene	Alk PAH C1-Benzene	Alk PAH C2-Benzene	Alk PAH C3-Benzene	Alk PAH C4-Benzene	Alk PAH C5-Benzene	Alk PAH C1-Benzo(a)anthracene/Chrysenes	Alk PAH C2-Benzo(a)anthracenes/Chrysenes	Alk PAH C3-Benzo(a)anthracenes/Chrysenes	Alk PAH C4-Benzo(a)anthracenes/Chrysenes	Alk PAH C1-Dibenzothiophene	Alk PAH C2-Dibenzothiophene	Alk PAH C3-Dibenzothiophene	Alk PAH C4-Dibenzothiophene	Alk PAH C1-Chrysenes	Alk PAH C2-Chrysenes	Alk PAH C3-Chrysenes	Alk PAH C4-Chrysenes	Alk PAH C1-Fluoranthenes/Pyrenes	Alk PAH C2-Fluoranthenes/Pyrenes
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
							EC20 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit					Result rejected during data validation						Not analyzed										
SBR-SD-1018	100815132	SBR-SD-1018 0-0.5	0.0	0.5	S	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1018	100815134	SBR-SD-1018 1.5-2.5	1.5	2.5	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.575	0.439	<0.108 U	0.118 J	0.528	--
SBR-SD-1018	100815137	SBR-SD-1018 4.5-5.5	4.5	5.5	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.37	1.4	0.699	0.453	3.11	--
SBR-SD-1018	100815139	SBR-SD-1018 6.5-7.7	6.5	7.7	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1019	100715098	SBR-SD-1019 0-0.5	0.0	0.5	S	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.99	1.26	0.743	0.349	2.34	--
SBR-SD-1019	100715103	SBR-SD-1019 4.5-5.5	4.5	5.5	SS	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.418	0.433	0.269	0.1 J	0.479	--
SBR-SD-1019	100715104	SBR-SD-1019 5.5-6.5	5.5	6.5	SS	A1	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.03	3.47	2.32	<0.621 U	4.47	16.5
SBR-SD-1019	100715105	SBR-SD-1019 6.5-7.5	6.5	7.5	SS	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.36	1.19	0.845	<0.0486 U	1.88	--
SBR-SD-1019	100715106	SBR-SD-1019 7.5-8.5	7.5	8.5	SS	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1019	100715107	SBR-SD-1019 8.5-9.5	8.5	9.5	SS	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1019	100715109	SBR-SD-1019 10.5-11.5	10.5	11.5	SS	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.13	3.57	<0.29 U	0.896	5.44	--
SSCD-RSB-001	111814063	SSCD-RSB-001-001	13.0	13.5	SS	O	10/20/2006	5.28	6.56	13.8	33.4	49.1	<5.32 U	34.1	41.3	27.6	10.9	66.5	21.2	4.35	<1.06 U	40.3	26.9	9.5	3.28	--	--	--	--	233	52.9
SSCD-RSB-005	111814064 (N)	SSCD-RSB-005-001 (N)	8.5	9.0	SS	O	10/30/2006	6.87 J	9.88	264	478	997	55.2	302	217	86.5	49.3	484	130	37.7	<7.19 U	142	64.5	27.6	<7.19 U	--	--	--	--	1,800	333
SSCD-RSB-006	111814066	SSCD-RSB-006A-001	8.0	8.5	SS	O	10/31/2006	8.46	8.77	13.5	25.8	50.6	1.45 J	11.2	15.6	10.5	5.57	50.3	15.5	3.92	<0.361 U	18.8	14.8	8.97	4.5	--	--	--	--	148	36.9
SSCD-RSB-008	111814067	SSCD-RSB-008-001	8.0	9.0	SS	O	10/31/2006	34.6	49.7	96.7	140	160	<21.1 U	173	232	212	91.8	409	168	51.7	<4.23 U	322	268	137	52.8	--	--	--	--	1,040	392
SSCD-RSB-010	111814068	SSCD-RSB-010-001	16.0	16.5	SS	O	11/1/2006	0.648	0.903	0.054	0.055	0.073	<0.048 U	0.049	0.059	0.064	0.093	0.147	0.158	0.112	0.075	0.218	0.265	0.606	0.159	--	--	--	--	0.374	0.229
SSCD-RSB-011	111814069	SSCD-RSB-011-001	12.0	12.5	SS	O	11/1/2006	4.95	7.16	18.7	38.9	57.2	3.57 J	89	93.1	46.2	14.1	92.6	27.5	5.9	<0.777 U	48.9	33.3	14.2	5.22	--	--	--	--	278	73.2
		Total Number of Samples Analyzed:						42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	143	143	143	143	185	55
		Number of Detections:						42	42	42	42	42	39	42	42	42	42	42	42	42	37	42	42	42	41	136	119	94	93	175	55
		Min:						0.648	0.903	0.054	0.055	0.073	0.748	0.049	0.059	0.064	0.093	0.147	0.158	0.112	0.075	0.218	0.265	0.606	0.159	0.0578	0.0403	0.0236	0.0106	0.0725	0.229
		Max:						93	125	264	478	997	55	302	388	452	149	762	354	130	51	608	472	219	63	167.00	66.40	23.30	18.10	2190.00	879.00
		Mean:						27.48	36.45	20.62	36.91	53.20	4.51	40.67	52.21	53.11	23.29	76.86	32.82	11.58	4.46	58.60	48.74	25.60	9.42	9.80	5.69	2.98	1.30	72.13	69.17
		Median:						16.9	20.4	4.155	6.185	13.1	2.83	9.78	8.425	20.8	13.75	13.75	6.74	3.415	1.85	18.8	23.55	13.95	6.29	1.96	1.72	1.16	0.453	4.73	16.5
		EC20 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Number of Surface Samples that exceed EC20 for TPAH(13):						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		EC50 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Number of Surface Samples that exceed EC50 for TPAH(13):						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes:
Italic = result exceeds EC20
BOLD = result exceeds EC50
< = Concentration is less than reported limit
-- = Analysis not performed
U = Not detected
J = Concentration estimated
R = Result rejected during validation
NS = No Standard
(N) = Normalized sample locations created from combining parent and field duplicate samples following USEPA protocol
SL = Screening Level
Non-detected results were not included in the calculations of the the mean and median.

Surface sediment = bottom of interval depth is less than or equal to 6 inches (0.5 feet) below top of sediment
mg/kg = milligrams per kilogram
Alk PAHs = Alkylated PAHs
BTEX = Benzene, Toluene, Ethylbenzene and Xylene
GEO = Geotechnical Property
PAH = Polycyclic Aromatic Hydrocarbon
TPAH = Total PAHs
VOC = Volatile Organic Compound
EC20 = 20% Effects Concentration (only appliable to Depths 0.0 top 0.5 feet)
EC50 = 50% Effects Concentration (only appliable to Depths 0.0 top 0.5 feet)
EC20 and EC50 from Hawthorne, S., Azzolina, N., Neuhauser, E., and Kreitinger, J. Predicting Bioavailability of Sediment Polycyclic Aromatic Hydrocarbons to Hyallella Azteca using Equilibrium Partitioning Supercritical Fluid Extraction, and Pore Water Concentrations. Grand Forks, North Dakota. Environmental Science Technology, 2007, 41, 6297-6304.

1. The following rules apply to the summation of Total PAH (13) calculated by Natural Resource Technology, Inc. (NRT):
   a. Where no detections were observed, the maximum individual reported detection limit is presented.
   b. Where detections were observed, ½ the reported detection limit for non-detects was used in the summation
   c. The list of Total PAH (13) is as follows: Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Fluoranthene, Fluorene, Naphthalene, Phenanthrene and Pyrene.
   d. R flagged results were not included in calculations.

Non-detected results were not included in the calculations of the the mean and median.
Analysis Runs……O = Original Run (fall 2015)
A1 = 1st Archive Run (August 2016)
A2 = 2nd Archive Run (October 2016)
Depth Gradient…… S = Surface
SS = Subsurface

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Alk PAH C3-Fluoranthenes/Pyrenes	Alk PAH C1-Fluorenes	Alk PAH C2-Fluorenes	Alk PAH C3-Fluorenes	Alk PAH C1-Naphthalenes	Alk PAH C2-Naphthalenes	Alk PAH C3-Naphthalenes	Alk PAH C4-Naphthalenes	Alk PAH C1-Phenanthrenes/Anthracenes	Alk PAH C2-Phenanthrenes/Anthracenes	Alk PAH C3-Phenanthrenes/Anthracenes	Alk PAH C4-Phenanthrenes/Anthracenes	Alk PAH Phytane	Alk PAH Pristane	SVOC 1-Methylpyrene	SVOC 2,6,10-trimethyltridecane	SVOC 2-Methylpyrene	SVOC 4-Methylpyrene	SVOC Coronene	SVOC Dibenzofuran	SVOC Dibenzothiophene	SVOC Octadecane	SVOC Retene
		Reporting Units:						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		EC20 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		EC50 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50																												
		Detected below EC20																												
		Not detected above reported limit																												
		Result rejected during data validation																												
		Not analyzed																												
PCS-RSB-005B	111814025 (N)	PCS-RSB-005B-001 (N)	3.5	4.0	SS	O	7/13/2006	3.94	12.1	13.9	10.4	206	55.1	49.2	33.5	33.4	20.9	10.5	4.31	53.2	75	1.73	47.2	2.48	1.85	1.41	113	9.99	<0.0453 U	3.11
PCS-RSB-005B	111814027	PCS-RSB-005B-002	8.0	9.3	SS	O	7/13/2006	17.5	104	46	12.6	735	429	109	19.3	442	119	28.3	7.92	3.77	6.1	37.4	3.98	32.4	31.3	3.94	15.6	36.8	1.15	16.3
PCS-RSB-007B	111814023	PCS-RSB-007B-001	0.0	2.0	SS	O	7/12/2006	8.89	22.3	25.7	16.8	96.3	103	74.1	42	70.9	46.2	20.2	6.46	65.1	96.4	5.56	59.4	5.38	5.48	1.35	3.1	8.44	<0.305 U	2.64
PCS-RSB-008B	111814024	PCS-RSB-008B-001	7.3	8.0	SS	O	7/12/2006	38.8	114	93	35.1	654	475	187	55.2	386	187	60.2	19.3	26.5	39.4	38.1	25.6	33	34.2	2.74	15	43.6	3	27.2
PCS-RSB-017	111814008	PCS-RSB-017-001	2.0	4.0	SS	O	6/29/2006	5.55	8.59	13.3	13.2	10.1	39.2	54.8	40	29.4	27.9	15.8	7.78	93.3	146	1.53	99.6	2.15	2.07	1.58	2.58	4.55	<0.111 U	14.3
PCS-RSB-021	111814009	PCS-RSB-021-001	2.0	4.0	SS	O	6/30/2006	3.31	7.37	11.5	9.32	13.4	37.1	42.5	29.2	20.3	17.1	8.8	3.51	43.7	68.3	0.841	39.1	1.15	1.12	1	1.81	3.28	<0.088 U	2.26
PCS-RSB-025	111814012 (N)	PCS-RSB-025-001 (N)	3.0	4.0	SS	O	7/6/2006	1.4	2.91	4.6	3.9	5.46	15	16.1	10.6	8.21	8.82	4.68	1.7	15.4	24.1	0.404	14.2	0.507	0.5	0.365	0.587	1.09	3.06	0.822
PCS-RSB-027B	111814016 (N)	PCS-RSB-027B-001 (N)	8.5	9.5	SS	O	7/7/2006	27.3	92.8	72.4	27.7	615	408	151	43.1	321	148	45.7	16.7	21.4	31.7	30.3	20.3	27.5	27.3	2.41	13	35.5	2.16	36.6
PCS-RSB-032	111814019	PCS-RSB-032-001	5.0	6.0	SS	O	7/11/2006	4.14	12.7	19.2	13.4	16.6	59.8	74.9	49.6	30.6	24.9	12.1	4.65	74.5	116	1.18	60.4	1.63	1.48	1.45	1.99	5.16	<0.287 U	3.36
PCS-RSB-032	111814020	PCS-RSB-032-002	13.0	14.0	SS	O	7/11/2006	136	387	331	129	1,830	1,590	670	194	1,210	639	212	55	35	48.8	123	35.1	102	105	7.43	46.6	136	<0.428 U	29.7
PCS-RSB-035	111814021	PCS-RSB-035-001	8.0	9.0	SS	O	7/11/2006	18.6	57	43.4	17.7	322	228	103	39.1	200	97.3	32	9.1	49.6	79	20.9	50	16.2	18.4	2.4	8.06	27.7	3.89	8.44
PCS-RSB-037B	111814018	PCS-RSB-037B-001	5.0	6.0	SS	O	7/7/2006	5.73	7.97	7.26	4.49	42.7	25.4	14.2	7.16	45.4	22.8	12.4	14.7	8.74	13	4.49	7.52	5.4	4.66	3.42	5.39	6.15	1.83	57.3
PCS-RSB-040B	111814028	PCS-RSB-040B-001	10.0	10.5	SS	O	7/13/2006	3.33	6.02	10.1	8.42	9.16	35.6	45.3	29.5	19.1	19	11.1	5.83	56.7	85	0.913	55.8	1.22	1.23	0.762	1.49	3.05	4.8	8.58
PCS-RSB-042B	111814029	PCS-RSB-042B-001	7.5	8.0	SS	O	7/14/2006	3.52	3.1	5.6	6.13	4.28	10.8	13.1	9.7	13.7	15	29.5	63	24.3	31.7	0.968	20.6	1.31	1.24	0.764	1.47	2.07	3.41	332
PCS-RSB-046	111814010	PCS-RSB-046-001	6.0	6.5	SS	O	6/30/2006	5.81	14.4	23.8	18.8	20.3	77.2	96.2	63.3	44.2	39.7	20.4	9.62	106	160	1.86	98.1	2.53	2.52	1.6	3.78	8.18	7.39	17.2
PCS-RSB-047	111814011	PCS-RSB-047-001	5.0	6.0	SS	O	7/5/2006	4.18	6.02	9.81	8.93	6.55	36.2	42.8	27.8	20.6	21.7	12.6	5.74	59.1	95	1.15	63.1	1.54	1.56	0.958	1.8	3.48	9.7	7.58
PCS-RSB-048	111814014	PCS-RSB-048-001	5.0	6.0	SS	O	7/6/2006	4.62	9.53	14	12	17.5	69.6	85.4	53	26.9	25.7	14.2	7.78	124	198	1.44	142	1.99	1.92	1.37	3.27	5.48	11.1	14.5
PCS-RSB-048	111814015	PCS-RSB-048-002	8.0	9.0	SS	O	7/6/2006	299	1,000	708	254	5,210	3,830	1,450	400	3,270	1,520	471	117	67.5	98.3	344	63.2	260	270	28.4	121	406	<2.36 U	56.2
PCS-RSB-050	111814022	PCS-RSB-050-001	7.0	8.0	SS	O	7/12/2006	6.07	14.2	24.2	18.6	13.4	60	91.8	67.3	47.2	42	20.5	9.86	130	200	2.18	124	2.98	2.7	1.68	3.62	7.51	<0.274 U	19.1
PCS-RSB-051	111814030	PCS-RSB-051-001	8.0	8.3	SS	O	10/4/2006	15.7	49.3	40.5	15.6	326	232	109	31.6	175	85.1	29.3	9.62	7.91	12.6	13.9	7.65	12.2	13	2.31	8.36	20	1.36	13.3
PCS-RSB-052	111814031	PCS-RSB-052-001	6.0	7.0	SS	O	10/5/2006	3.1	4.18	3.55	2.88	28.8	19	10.7	4.83	19.7	11.4	5.98	5.35	4.94	7.79	1.93	5.04	2.51	2.1	2.38	2.11	2.85	0.59	17.6
PCS-RSB-054	111814033	PCS-RSB-054-001	12.0	13.0	SS	O	10/5/2006	52.2	159	149	55.8	882	701	348	104	532	281	98.6	26.6	19.5	28.2	47.8	16.1	36.8	44.5	3.81	20.2	61.2	2.77	12
PCS-RSB-055	111814034	PCS-RSB-055-001	1.0	2.0	SS	O	10/5/2006	0.485	0.833	1.56	1.59	1.08	3.98	5.72	4.11	3.29	2.88	1.55	0.576	6.21	8.21	0.146	4.96	0.203	0.173	0.252	0.224	0.372	<0.0214 U	0.333
PCS-RSB-055	111814032	PCS-RSB-055-002	5.0	6.0	SS	O	10/5/2006	5.64	17.7	14.7	8.78	220	97.2	58.2	28.7	60.4	37.1	19	14	50	71.3	4.67	30.5	4.89	4.56	1.18	8.15	9.55	2.5	58
PCS-RSB-056	111814036 (N)	PCS-RSB-056-001 (N)	4.5	5.5	SS	O	10/6/2006	4.29	4.36	5.77	7.37	23.6	18.5	19.4	13.2	25.8	17.2	11.2	8.15	24	33.7	1.86	23	2.57	2.18	2.29	2.62	3.32	<0.0266 U	21.2
PCS-RSB-056	111814035	PCS-RSB-056-002	6.0	7.0	SS	O	10/6/2006	60.5	253	169	53	2,100	983	366	91.8	918	383	110	30.2	23.2	34.6	86.8	21.2	73.5	83.9	8.98	44	105	9.57	31.2
PCS-RSB-058	111814038	PCS-RSB-058-001	4.0	5.0	SS	O	10/9/2006	4.23	11.8	19.5	11.2	28.8	56.1	64.4	40.4	36.5	25.3	12	6.14	67.2	99.2	1.78	55.9	2.26	2.19	1.4	12.6	7.59	4.07	11.2
PCS-RSB-059	111814041	PCS-RSB-059-001	10.0	11.0	SS	O	10/10/2006	41.2	156	117	37.9	1,100	631	252	62.5	522	229	67.6	25.9	21.4	31.4	49.9	21.2	44.3	46.9	5.07	26.2	61.6	1.71	54.2
PCS-RSB-060	111814045	PCS-RSB-060-001	3.0	4.0	SS	O	10/10/2006	5.67	10.1	18.8	12.9	14.3	37.4	53.6	40.6	35.2	30.8	16.1	9.79	80.1	118	2.16	64	2.44	2.58	1.35	2.09	4.64	<0.164 U	23.4
PCS-RSB-060	111814046	PCS-RSB-060-002	8.0	8.5	SS	O	10/10/2006	18	51	47.2	18	314	226	99.3	32.3	190	91.2	32.6	16.7	25.2	35	18.3	22	15	17.6	2.11	7.79	21.6	2.41	43
PCS-RSB-061	111814047	PCS-RSB-061-001	6.0	7.0	SS	O	10/10/2006	6.35	11.7	16.7	16	28.2	83.7	98.3	57.4	38.6	33.3	20.9	15.4	145	223	2.17	156	2.78	2.79	1.58	3.84	7.25	<0.17 U	45.7
PCS-RSB-061	111814048	PCS-RSB-061-002	10.0	10.5	SS	O	10/10/2006	54.2	176	148	60	1,010	774	338	97.4	606	286	93.1	27.5	24.3	30.9	53.5	20.9	42.7	49.1	4.1	22.9	71.4	<0.803 U	15.9
PCS-RSB-062	111814039 (N)	PCS-RSB-062-001 (N)	2.0	3.0	SS	O	10/10/2006	8.85	13.2	25.2	19.5	27.3	84.4	96.9	60.3	49.2	49	28.7	15.1	133	198	2.89	132	3.67	3.91	2.17	4.76	8.44	16.6	29.8
PCS-RSB-062	111814042	PCS-RSB-062-002	6.5	7.5	SS	O	10/10/2006	11.4	66.4	32.4	9.33	535	215	60.8	12.1	266	88.3	22.3	12.6	5.77	7.6	26.1	4.62	23.2	24.4	3.87	11.3	35.6	5.54	43.1
PCS-RSB-063	111814043	PCS-RSB-063-001	2.0	3.0	SS	O	10/10/2006	6.82	10.8	20.4	15.3	15.7	57.3	76.2	49	39.5	36.6	20.6	10.6	132	188	2.44	135	3.36	3.13	2.49	3.65	6.79	12.7	20.5
PCS-RSB-063	111814044	PCS-RSB-063-002	6.0	7.0	SS	O	10/10/2006	4.54	24.7	10.2	4.37	302	131	31.1	6.57	100	32.8	11.9	11.1	10.1	14.2	9.2	7.34	8.48	8.48	1.45	7	13.6	2.02	42.4
SBR-SD-072	1120151046 / 1120151061 (N)	SBR-SD-072 0-0.5 (N)	0.0	0.5	S	O	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-072	1120151050	SBR-SD-072 3.5-4.5	3.5	4.5	SS	O	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-072	1120151053	SBR-SD-072 6.5-7.5	6.5	7.5	SS	A1	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-072	1120151054	SBR-SD-072 7.5-8.5	7.5	8.5	SS	O	11/20/2015	--	31.4	25	21	99	72.6	48.9	13.3	104	30.3	23.6	9.92	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-072	1120151055	SBR-SD-072 8.5-9.5	8.5	9.5	SS	A1	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-072	1120151056	SBR-SD-072 9.5-10.5	9.5	10.5	SS	O	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-072	1120151057	SBR-SD-072 10.5-11.3	10.5	11.3	SS	O	11/20/2015	--	68.4	37.1	25	183	137	80.1	14.9	234	50.8	19.5	18.8	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-072	1120151058	SBR-SD-072 11.3-12.5	11.3	12.5	SS	O	11/20/2015	--	0.671	0.635	0.471	0.636	1.04	1.93	0.812	1.57	0.515	0.453	0.227 J	--	--	--	--	--	--	--	--	--	--	--

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Alk PAH C3-Fluoranthenes/Pyrenes	Alk PAH C1-Fluorenes	Alk PAH C2-Fluorenes	Alk PAH C3-Fluorenes	Alk PAH C1-Naphthalenes	Alk PAH C2-Naphthalenes	Alk PAH C3-Naphthalenes	Alk PAH C4-Naphthalenes	Alk PAH C1-Phenanthrenes/Anthracenes	Alk PAH C2-Phenanthrenes/Anthracenes	Alk PAH C3-Phenanthrenes/Anthracenes	Alk PAH C4-Phenanthrenes/Anthracenes	Alk PAH Phytane	Alk PAH Pristane	SVOC 1-Methylpyrene	SVOC 2,6,10-trimethyltridecane	SVOC 2-Methylpyrene	SVOC 4-Methylpyrene	SVOC Coronene	SVOC Dibenzofuran	SVOC Dibenzothiophene	SVOC Octadecane	SVOC Retene
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
							EC20 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit					Result rejected during data validation					Not analyzed										
SBR-SD-073	1120151025	SBR-SD-073 0-0.5	0.0	0.5	S	O	11/20/2015	--	2.37	2.37	3.09	0.968 J	2.7	4.06	1.87	7.9	3.54	2.66	2.38	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073	1120151028	SBR-SD-073 2.5-3.5	2.5	3.5	SS	O	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073	1120151031	SBR-SD-073 5.5-6.5	5.5	6.5	SS	O	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073	1120151034	SBR-SD-073 8.5-9.5	8.5	9.5	SS	O	11/20/2015	--	22.7	25.9	26.6	11.4	41.9	89.7	42.7	47.7	28.4	19.3	4.47	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073	1120151038	SBR-SD-073 12.5-13.5	12.5	13.5	SS	A1	11/20/2015	7.25	16.1	20.7	15.7	13.7	33.1	87.6	36.1	45.8	24.6	15.4	3.27	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073	1120151039	SBR-SD-073 13.5-14.5	13.5	14.5	SS	O	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073	1120151040	SBR-SD-073 14.5-16.1	14.5	16.1	SS	O	11/20/2015	--	200	99.6	59.1	690	448	216	27.7	669	143	45.1	29.4	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073	1120151041	SBR-SD-073 16.1-16.5	16.1	16.5	SS	O	11/20/2015	--	2.23	1.15	1.04	47.8	10.3	2.46	1.2	2.45	0.828	0.833	0.33 J	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073	1120151042	SBR-SD-073 16.5-17.5	16.5	17.5	SS	A2	11/20/2015	<0.0363 U	0.244	0.355	0.308	0.815	0.286	0.366	0.276	0.597	0.274	0.307	0.0625 J	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073.4 MOB	1217151520	SBR-SD-073.4 MOB 0-0.5	0.0	0.5	S	O	12/17/2015	--	2.15 J	2.63 J	2.26 J	<1.55 U	2.16 J	2.75 J	<1.55 U	8.56	3.42 J	2.27 J	2.05	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073.4 MOB	1217151523	SBR-SD-073.4 MOB 2.5-3.5	2.5	3.5	SS	O	12/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073.4 MOB	1217151529	SBR-SD-073.4 MOB 8.5-9.5	8.5	9.5	SS	O	12/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073.4 MOB	1217151531	SBR-SD-073.4 MOB 10.5-11.5	10.5	11.5	SS	A1	12/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073.4 MOB	1217151532 / 1217151539 (N)	SBR-SD-073.4 MOB 11.5-12.5 (N)	11.5	12.5	SS	O	12/17/2015	--	82.2	56	38.1 J	265	263	208	54.8	278	84.6	32.8	6.29	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073.4 MOB	1217151533	SBR-SD-073.4 MOB 12.5-13.5	12.5	13.5	SS	O	12/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073.4 MOB	1217151534	SBR-SD-073.4 MOB 13.5-14.5	13.5	14.5	SS	O	12/17/2015	--	29.6	25.6	25.6	63.7	85.2	110	35	113	41.4	28.8	4.49	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073.4 MOB	1217151535	SBR-SD-073.4 MOB 14.5-16.5	14.5	16.5	SS	O	12/17/2015	--	46	27.1 J	17.1 J	167	108	61.6	9.92 J	294 J	43.6 J	16 J	9.48 J	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073.4 MOB	1217151536	SBR-SD-073.4 MOB 16.5-17.5	16.5	17.5	SS	O	12/17/2015	--	0.402 J	0.393 J	0.36 J	0.423 J	0.455 J	0.977 J	0.52 J	1.29 J	0.448 J	0.383 J	0.16 J	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-074	101315350	SBR-SD-074 0-0.5	0.0	0.5	S	O	10/13/2015	--	1.13	<0.153 U	1.04	0.28 J	0.541	1.11	0.487	2.79	0.91	0.622	1.21	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-074	101315352	SBR-SD-074 1.5-2.5	1.5	2.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-074	101315355	SBR-SD-074 4.5-5.5	4.5	5.5	SS	O	10/13/2015	--	0.921	1.3	1.2	0.445	1.77	5.24	2.09	2.49	1.25	0.939	0.265	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-074	101315359	SBR-SD-074 8.5-9.3	8.5	9.3	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915982	SBR-SD-075 0-0.5	0.0	0.5	S	O	11/19/2015	--	32.2	14.6	24.7	9.02	10.3	8.6	2.98 J	76.8	19.1	8.8	22.3	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915983	SBR-SD-075 1.5-2.5	1.5	2.5	SS	A1	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915985	SBR-SD-075 3.5-4.5	3.5	4.5	SS	O	11/19/2015	--	15	16.7	16.3	9.72	40.7	80.5	25.2	35	17.4	11.4	3.8 J	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915989	SBR-SD-075 7.5-8.5	7.5	8.5	SS	O	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915991	SBR-SD-075 9.5-10.5	9.5	10.5	SS	O	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915992	SBR-SD-075 10.5-11.5	10.5	11.5	SS	A1	11/19/2015	7.85	18.3	25.2	17.6	11	39.5	107	40.1	50.2	28.3	16.3	2.79	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915993	SBR-SD-075 11.5-12.5	11.5	12.5	SS	O	11/19/2015	--	32	22.6	23.6	29	38.5	38	12	104	31.2	20.1	13.3	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915994	SBR-SD-075 12.5-13.8	12.5	13.8	SS	O	11/19/2015	--	193	109	96.6	546	321	178	30.5	1,060	214	74.5	78	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915995	SBR-SD-075 13.8-14.5	13.8	14.5	SS	O	11/19/2015	--	0.822 J	0.765 J	0.751 J	2.96	1.01 J	2.36	1.09 J	1.88	0.654 J	0.559 J	<0.334 U	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915997	SBR-SD-075 15.5-16.5	15.5	16.5	SS	O	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

								Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC
Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	C3-Fluoranthenes/Pyrenes	C1-Fluorenes	C2-Fluorenes	C3-Fluorenes	C1-Naphthalenes	C2-Naphthalenes	C3-Naphthalenes	C4-Naphthalenes	C1-Phenanthrenes/Anthracenes	C2-Phenanthrenes/Anthracenes	C3-Phenanthrenes/Anthracenes	C4-Phenanthrenes/Anthracenes	Phytane	Pristane	1-Methylpyrene	2,6,10-trimethyltridecane	2-Methylpyrene	4-Methylpyrene	Coronene	Dibenzofuran	Dibenzothiophene	Octadecane	Retene
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
							EC20 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit					Result rejected during data validation				Not analyzed											
SBR-SD-078	1123151066	SBR-SD-078 0-0.5	0.0	0.5	S	O	11/23/2015	--	3.92 J	3.22 J	3.5 J	<1.51 U	3.42 J	5.3 J	2.21 J	8.56	3.57 J	2.55 J	2.37 J	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-078	1123151071	SBR-SD-078 5.5-6.5	5.5	6.5	SS	O	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-078	1123151073	SBR-SD-078 7.5-8.5	7.5	8.5	SS	O	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-078	1123151074	SBR-SD-078 8.5-9.5	8.5	9.5	SS	A1	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-078	1123151075 / 1123151082 (N)	SBR-SD-078 9.5-10.5 (N)	9.5	10.5	SS	O	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-078	1123151076	SBR-SD-078 10.5-12.1	10.5	12.1	SS	O	11/23/2015	--	89.2	42.6 J	26.9 J	235	144	73.3	14	301	53.8	21.9	15.5	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-078	1123151077	SBR-SD-078 12.1-12.5	12.1	12.5	SS	O	11/23/2015	--	2.21	1.73	1.24 J	7.37	3.87	4.18	1.46 J	6.8	1.85	1.02 J	0.523 J	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-079	101315313	SBR-SD-079 0-0.5	0.0	0.5	S	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-079	101315315	SBR-SD-079 1.5-2.5	1.5	2.5	SS	O	10/13/2015	--	0.515 J	0.579 J	0.619 J	<0.419 U	<0.419 U	0.577 J	<0.419 U	1.05	<0.419 U	<0.419 U	<0.419 U	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-079	101315317	SBR-SD-079 3.5-4.5	3.5	4.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-079	101315321	SBR-SD-079 7.5-8.5	7.5	8.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-079	101315324	SBR-SD-079 10.5-11.9	10.5	11.9	SS	O	10/13/2015	--	1.98	<0.263 U	1.71	1.38	4.05	9.69	3.55	5.22	2.26	1.36	0.419 J	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	111915998	SBR-SD-080 0-0.5	0.0	0.5	S	O	11/19/2015	--	2.91 J	2.83 J	2.91 J	<2.15 U	7.67 J	13.2	4.76 J	7.13 J	3.27 J	2.18 J	<2.15 U	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	111915999	SBR-SD-080 0.5-1.5	0.5	1.5	SS	A1	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151000	SBR-SD-080 1.5-2.5	1.5	2.5	SS	O	11/19/2015	--	36.3	19.5	17.7	79.1	50.2	32.4	5.77 J	146	38.9	13.2	13.9	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151001	SBR-SD-080 2.5-3.5	2.5	3.5	SS	A1	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151003	SBR-SD-080 4.5-5.5	4.5	5.5	SS	O	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151007	SBR-SD-080 8.5-9.5	8.5	9.5	SS	O	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151011	SBR-SD-080 12.5-13.5	12.5	13.5	SS	O	11/19/2015	--	38.5	38.1	31.4	33.5	53.5	65.6	32.2	54.4	32.4	22.8	4.06 J	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151013	SBR-SD-080 14.5-15.5	14.5	15.5	SS	O	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151015	SBR-SD-080 16.5-17.5	16.5	17.5	SS	A1	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151016	SBR-SD-080 17.5-18.5	17.5	18.5	SS	O	11/19/2015	--	124	59.5	34.4 J	338	207	94.2	18.3	562	75	30.3	19.3	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151017	SBR-SD-080 18.5-19.3	18.5	19.3	SS	O	11/19/2015	--	70.9	36	20.7 J	146	101	55	10.8	158	44.4	12.7 J	11	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151018	SBR-SD-080 19.3-20.5	19.3	20.5	SS	O	11/19/2015	--	0.66 J	0.873 J	0.775 J	6.61	1.7	2.96	1.04 J	1.34 J	0.504 J	0.498 J	<0.328 U	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-081	111815964 / 111815981 (N)	SBR-SD-081 0-0.5 (N)	0.0	0.5	S	O	11/18/2015	--	4.22 J	7.6 J	5.68 J	3.99 J	11.6 J	16.4 J	6.48 J	10.6 J	4.06 J	3.4 J	2.16 J	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-081	111815966	SBR-SD-081 1.5-2.5	1.5	2.5	SS	O	11/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-081	111815968	SBR-SD-081 3.5-4.5	3.5	4.5	SS	O	11/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-081	111815972	SBR-SD-081 7.5-8.5	7.5	8.5	SS	O	11/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-081	111815974	SBR-SD-081 9.5-10.5	9.5	10.5	SS	A2	11/18/2015	19.1	20	60.4	51.2	23.4	68.7	133	50.2	176	71.1	60.5	11.5	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-081	111815976	SBR-SD-081 11.5-12.5	11.5	12.5	SS	O	11/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-081	111815977	SBR-SD-081 12.5-13.7	12.5	13.7	SS	O	11/18/2015	--	79.7	39.3	25.6 J	273	166	79.8	16.3	280	54	20.8	12.3	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-081	111815978	SBR-SD-081 13.7-14.5	13.7	14.5	SS	O	11/18/2015	--	0.52 J	0.49 J	0.422 J	0.817 J	0.537 J	0.984 J	0.581 J	1.47 J	0.472 J	0.402 J	<0.317 U	--	--	--	--	--	--	--	--	--	--	--

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Alk PAH C3-Fluoranthenes/Pyrenes	Alk PAH C1-Fluorenes	Alk PAH C2-Fluorenes	Alk PAH C3-Fluorenes	Alk PAH C1-Naphthalenes	Alk PAH C2-Naphthalenes	Alk PAH C3-Naphthalenes	Alk PAH C4-Naphthalenes	Alk PAH C1-Phenanthrenes/Anthracenes	Alk PAH C2-Phenanthrenes/Anthracenes	Alk PAH C3-Phenanthrenes/Anthracenes	Alk PAH C4-Phenanthrenes/Anthracenes	Alk PAH Phytane	Alk PAH Pristane	SVOC 1-Methylpyrene	SVOC 2,6,10-trimethyltridecane	SVOC 2-Methylpyrene	SVOC 4-Methylpyrene	SVOC Coronene	SVOC Dibenzofuran	SVOC Dibenzothiophene	SVOC Octadecane	SVOC Retene
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
							EC20 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit					Result rejected during data validation				Not analyzed												
SBR-SD-084	1123151083	SBR-SD-084 0-0.5	0.0	0.5	S	O	11/23/2015	--	7.25	11.7	7.42	2.41 J	10.4	18.4	7.15	15.8	6.74	4.94 J	3.36 J	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-084	1123151086	SBR-SD-084 2.5-3.5	2.5	3.5	SS	O	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-084	1123151091	SBR-SD-084 7.5-8.5	7.5	8.5	SS	O	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-084	1123151093	SBR-SD-084 9.5-10.5	9.5	10.5	SS	O	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-084	1123151095	SBR-SD-084 11.5-12.5	11.5	12.5	SS	O	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-084	1123151096	SBR-SD-084 12.5-13.5	12.5	13.5	SS	A1	11/23/2015	9.59	46	28.1	15.4	150	96.8	67.2	8.08	191	47.9	13.4	7.41	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-084	1123151097	SBR-SD-084 13.5-14.2	13.5	14.2	SS	O	11/23/2015	--	44.7	22 J	12.9 J	132	99.8	49.1	9.73	223	32.3	14.8	10.2	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-084	1123151098	SBR-SD-084 14.2-15.5	14.2	15.5	SS	O	11/23/2015	--	1.37 J	0.793 J	0.522 J	5.87	4.41	2.68	0.606 J	3.94	0.783 J	0.4 J	<0.337 U	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-085	101315301	SBR-SD-085 0-0.5	0.0	0.5	S	O	10/13/2015	--	0.443 J	0.337 J	0.465 J	<0.285 U	<0.285 U	0.711	0.341 J	1.63	0.584	0.365 J	0.441 J	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-085	101315306	SBR-SD-085 4.5-5.5	4.5	5.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-085	101315308	SBR-SD-085 6.5-7.5	6.5	7.5	SS	O	10/13/2015	--	13.2	<0.275 U	8.67	7.09	16.7	25.4	4.76	67.2	21.2	10.2	4.55	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-085	101315311	SBR-SD-085 9.5-10.5	9.5	10.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-085	101315312	SBR-SD-085 10.5-11.7	10.5	11.7	SS	O	10/13/2015	--	4.78	<0.0457 U	2.26	12.4	9.51	7.07	1.34	<0.0457 U	<0.0457 U	2.21	1.07	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-086	101315325	SBR-SD-086 0-0.5	0.0	0.5	S	O	10/13/2015	--	0.414 J	0.306 J	0.391 J	<0.25 U	<0.25 U	0.498 J	<0.25 U	1.21	0.355 J	<0.25 U	0.374 J	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-086	101315328	SBR-SD-086 2.5-3.5	2.5	3.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-086	101315332	SBR-SD-086 6.5-7.5	6.5	7.5	SS	O	10/13/2015	--	1.33	<0.0482 U	1.05	0.499	2.02	6.84	2.8	<0.0482 U	1.45	0.728	0.12	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-086	101315335	SBR-SD-086 9.5-10.5	9.5	10.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-086	101315336 / 101315337 (N)	SBR-SD-086 10.5-11.8 (N)	10.5	11.8	SS	O	10/13/2015	--	1.87 J	<0.046 U	1.51 J	1.08 J	2.97 J	8.17 J	3.26 J	5.45 J	2.18 J	1.28 J	0.352 J	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-087	101215266	SBR-SD-087 0-0.5	0.0	0.5	S	O	10/12/2015	--	2.65	<0.402 U	<0.402 U	<0.402 U	1.73	3.8	2.15	3.44	2.7	2.74	1.09	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-087	101215267	SBR-SD-087 0.5-1.5	0.5	1.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-087	101215269 / 101215270 (N)	SBR-SD-087 2.5-3.9 (N)	2.5	3.9	SS	O	10/12/2015	--	3.49 J	0.0609 J	0.0724 J	0.285 J	3.53 J	17.2 J	8.36 J	9.38 J	3.84 J	2.67 J	0.419	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-097	101215264	SBR-SD-097 0-0.5	0.0	0.5	S	O	10/12/2015	--	0.53 J	0.433 J	0.594 J	<0.36 U	0.537 J	0.909 J	0.367 J	1.03 J	<0.36 U	<0.36 U	<0.36 U	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-097	101215265	SBR-SD-097 0.5-1.4	0.5	1.4	SS	O	10/12/2015	--	0.723 J	0.843 J	0.809 J	<0.349 U	0.649 J	1.57 J	0.751 J	1.34 J	0.441 J	0.404 J	0.349 J	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-098	101215271	SBR-SD-098 0-0.5	0.0	0.5	S	O	10/12/2015	--	<0.397 U	<0.397 U	<0.397 U	<0.397 U	1.12	1.43	0.611 J	4.92	1.5	1.26	1.59	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-098	101215274	SBR-SD-098 2.5-3.5	2.5	3.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-098	101215275	SBR-SD-098 3.5-4.5	3.5	4.5	SS	O	10/12/2015	--	1.45	<0.0613 U	<0.0613 U	0.784	7.16	13.3	2.84	3.96	2.23	1.66	0.387	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-098	101215278	SBR-SD-098 6.5-7.8	6.5	7.8	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-099	111815945	SBR-SD-099 0-0.5	0.0	0.5	S	O	11/18/2015	--	9.84	7.14	9.75	3.3 J	8.89	11.3	3.87 J	21.9	6.98	4.36 J	8.39	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-099	111815946	SBR-SD-099 2.5-3.5	2.5	3.5	SS	O	11/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-099	111815950	SBR-SD-099 6.5-7.5	6.5	7.5	SS	O	11/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-099	111815953 / 111815961 (N)	SBR-SD-099 9.5-10.5 (N)	9.5	10.5	SS	O	11/18/2015	--	52	54.3	47.2	12.1	38.2	59.1	25.2	63.8	33	41.1	7.66 J	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-099	111815956	SBR-SD-099 12.5-13.5	12.5	13.5	SS	O	11/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-099	111815957	SBR-SD-099 13.5-14.5	13.5	14.5	SS	O	11/18/2015	--	20.2	24.1	18.9	10	33.3	32.6	12.1	44.1	18.6	21.7	4.85 J	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-099	111815958	SBR-SD-099	17.0	18.0	SS	O	11/18/2015	--	0.277 J	0.336	0.269 J	0.226 J	0.28 J	0.865	0.377	0.483	0.185 J	0.192 J	0.0733 J	--	--	--	--	--	--	--	--	--	--	--	--

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South Branch Site River OU
Chicago, IL

								Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC
Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	C3-Fluoranthenes/Pyrenes	C1-Fluorenes	C2-Fluorenes	C3-Fluorenes	C1-Naphthalenes	C2-Naphthalenes	C3-Naphthalenes	C4-Naphthalenes	C1-Phenanthrenes/Anthracenes	C2-Phenanthrenes/Anthracenes	C3-Phenanthrenes/Anthracenes	C4-Phenanthrenes/Anthracenes	Phytane	Pristane	1-Methylpyrene	2,6,10-trimethyltridecane	2-Methylpyrene	4-Methylpyrene	Coronene	Dibenzofuran	Dibenzothiophene	Octadecane	Retene
Reporting Units:								mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EC20 for TPAH(13):								NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EC50 for TPAH(13):								NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Value exceeds EC20 or EC50		Detected below EC20						Not detected above reported limit					Result rejected during data validation				Not analyzed											
SBR-SD-100	101215279	SBR-SD-100 0-0.5	0.0	0.5	S	O	10/12/2015	--	0.556 J	<0.312 U	<0.312 U	<0.312 U	0.399 J	0.736	<0.312 U	0.801	<0.312 U	<0.312 U	0.41 J	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-100	101215283	SBR-SD-100 3.5-4.5	3.5	4.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-100	101215285	SBR-SD-100 5.5-6.5	5.5	6.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-100	101215287	SBR-SD-100 7.5-8.2	7.5	8.2	SS	O	10/12/2015	--	<0.0698 U	<0.0698 U	0.136 J	0.704	4.48	8.39	0.107 J	11.6	0.105 J	4.25	<0.0698 U	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-101	101215253	SBR-SD-101 0-0.5	0.0	0.5	S	O	10/12/2015	--	1.26 J	1.35 J	1.28 J	<0.597 U	1.87 J	3.56 J	1.41 J	2.61 J	1.02 J	0.713 J	<0.597 U	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-101	101215255	SBR-SD-101 1.5-2.5	1.5	2.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-101	101215256	SBR-SD-101 2.5-3.5	2.5	3.5	SS	O	10/12/2015	--	4.86 J	4.57 J	3.67 J	1.9 J	6.39 J	19.4 J	7.98 J	7.8 J	4.33 J	2.8 J	0.787 J	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-101	101215262	SBR-SD-101 8.5-9.5	8.5	9.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-101	101215263	SBR-SD-101 9.5-10.4	9.5	10.4	SS	O	10/12/2015	--	20 J	<0.228 U	5.6 J	55.2 J	46.3 J	27.5 J	2.83 J	<0.228 U	<0.228 U	5.79 J	3.02 J	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-102	101215242	SBR-SD-102 0-0.5	0.0	0.5	S	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-102	101215244	SBR-SD-102 1.5-2.5	1.5	2.5	SS	O	10/12/2015	--	0.712 J	0.724 J	0.795 J	0.345 J	0.884 J	1.43 J	0.583 J	1.51 J	0.435 J	<0.312 U	0.469 J	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-102	101215247 / 101215252 (N)	SBR-SD-102 4.5-5.5 (N)	4.5	5.5	SS	O	10/12/2015	--	6.29 J	<0.265 U	5.54 J	3.8 J	11.4 J	30.8 J	12.1 J	14.3 J	6.63 J	4.26 J	1.13 J	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-102	101215249	SBR-SD-102 6.5-7.5	6.5	7.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-102	101215251	SBR-SD-102 8.5-9.5	8.5	9.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-103	100915209 / 100915218 (N)	SBR-SD-103 0-0.5 (N)	0.0	0.5	S	O	10/9/2015	--	1.6 J	0.711	1.49 J	0.366 J	0.827 J	1.8 J	0.672 J	2.68	0.917	0.946 J	1.23 J	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-103	100915210	SBR-SD-103 0.5-1.5	0.5	1.5	SS	O	10/9/2015	--	0.683	<0.122 U	0.722	0.204 J	0.666	1.78	0.701	1.78	0.607	0.444	0.407	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-103	100915213	SBR-SD-103 3.5-4.5	3.5	4.5	SS	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-103	100915215	SBR-SD-103 5.5-6.5	5.5	6.5	SS	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-103	100915217	SBR-SD-103 7.5-8.5	7.5	8.5	SS	O	10/9/2015	--	1.97	<0.149 U	1.59	0.56	1.18	2.57	0.902	3.77	1.45	1.45	0.498	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-104	101215230	SBR-SD-104 0-0.5	0.0	0.5	S	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-104	101215233	SBR-SD-104 2.5-3.5	2.5	3.5	SS	O	10/12/2015	--	1.86 J	<0.315 U	2.46 J	0.849 J	3.76 J	8.36 J	3.07 J	5.06 J	2.34 J	1.51 J	0.465 J	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-104	101215235	SBR-SD-104 4.5-5.5	4.5	5.5	SS	O	10/12/2015	--	1.55 J	<0.248 U	1.73 J	1.58 J	4.75 J	10.3 J	3.43 J	4.23 J	1.81 J	1.1 J	0.339 J	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-104	101215237	SBR-SD-104 6.5-7.5	6.5	7.5	SS	A1	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-104	101215238	SBR-SD-104 7.5-8.5	7.5	8.5	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-104	101215239	SBR-SD-104 8.5-9.5	8.5	9.5	SS	A1	10/12/2015	6.35	24.6	24.7	17.8	19.6	88.2	198	58.7	34.1	22	14.4	3.95	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-104	101215241	SBR-SD-104 10.5-11.9	10.5	11.9	SS	O	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-105	111715934	SBR-SD-105 0-0.5	0.0	0.5	S	O	11/17/2015	--	0.881 J	0.879 J	0.67 J	<0.21 U	1.33 J	3.13	1.32 J	1.69 J	0.823 J	0.548 J	<0.42 U	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-105	111715937	SBR-SD-105 2.5-3.5	2.5	3.5	SS	O	11/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-105	111715938	SBR-SD-105 3.5-4.5	3.5	4.5	SS	O	11/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-106	100915219	SBR-SD-106 0-0.5	0.0	0.5	S	O	10/9/2015	--	1.05	0.844	0.95	0.269	0.551	1.13	0.416	2.64	0.798	0.513	0.913	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-106	100915221	SBR-SD-106 1.5-2.5	1.5	2.5	SS	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-106	100915225	SBR-SD-106 5.5-6.5	5.5	6.5	SS	O	10/9/2015	--	3.59	<0.0991 U	2.9	4.79	7.39	16.1	6.29	<0.0991 U	4.1	2.33	0.493	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-106	100915228	SBR-SD-106 8.5-9.5	8.5	9.5	SS	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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Chicago, IL

								Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	Alk PAH	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC	SVOC
Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	C3-Fluoranthenes/Pyrenes	C1-Fluorenes	C2-Fluorenes	C3-Fluorenes	C1-Naphthalenes	C2-Naphthalenes	C3-Naphthalenes	C4-Naphthalenes	C1-Phenanthrenes/Anthracenes	C2-Phenanthrenes/Anthracenes	C3-Phenanthrenes/Anthracenes	C4-Phenanthrenes/Anthracenes	Phytane	Pristane	1-Methylpyrene	2,6,10-trimethyltridecane	2-Methylpyrene	4-Methylpyrene	Coronene	Dibenzofuran	Dibenzothiophene	Octadecane	Retene
		Reporting Units:						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		EC20 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		EC50 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit					Result rejected during data validation				Not analyzed												
SBR-SD-107	111715917	SBR-SD-107 0-0.5	0.0	0.5	S	O	11/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-107	111715920	SBR-SD-107 2.5-3.5	2.5	3.5	SS	O	11/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-107	111715923	SBR-SD-107 5.5-6.5	5.5	6.5	SS	O	11/17/2015	--	18.7 J	11.5	7.91	37.5	33.5	24.2 J	5.52	54.7	14	5.89	2.72	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-107	111715926	SBR-SD-107 8.5-9.5	8.5	9.5	SS	O	11/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-107	111715928	SBR-SD-107 10.5-11.5	10.5	11.5	SS	O	11/17/2015	--	18.9	20.4	16.9	18.2	68.7	69.2	11.4	109	20.7	16.7	9.42	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-107	111715929	SBR-SD-107 11.5-12.5	11.5	12.5	SS	O	11/17/2015	--	0.42	0.69	0.48	0.273	0.762	2.07	0.781	0.684	0.338	0.363	0.117 J	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-107	111715931	SBR-SD-107 13.5-14.5	13.5	14.5	SS	O	11/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-108	100915198	SBR-SD-108 0-0.5	0.0	0.5	S	O	10/9/2015	--	<0.417 U	<0.417 U	<0.417 U	<0.417 U	0.876	1.02	0.442 J	1.23	1.04	0.68 J	0.914	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-108	100915200	SBR-SD-108 1.5-2.5	1.5	2.5	SS	O	10/9/2015	--	0.56	<0.0509 U	<0.0509 U	0.217	1.88	2.78	1.13	1.99	1.05	0.697	0.238	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-108	100915202	SBR-SD-108 3.5-4.5	3.5	4.5	SS	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-108	100915205	SBR-SD-108 6.5-7.5	6.5	7.5	SS	O	10/9/2015	--	8.06	0.122	0.0943 J	6.02	28.6	45.8	11.6	27.2	8.59	5.56	1.2	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-108	100915208	SBR-SD-108 9.5-10	9.5	10.0	SS	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-109	111615902	SBR-SD-109 0-0.5	0.0	0.5	S	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-109	111615904	SBR-SD-109 1.5-2.5	1.5	2.5	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-109	111615909 / 111615915 (N)	SBR-SD-109 6.5-7.5 (N)	6.5	7.5	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-109	111615910	SBR-SD-109 7.5-8.3	7.5	8.3	SS	O	11/16/2015	--	265	187	115	770	687	397	77	603	197	80.6	17.9	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-109	111615911	SBR-SD-109 8.3-9.5	8.3	9.5	SS	O	11/16/2015	--	75	45.5	25 J	338	233	110	14.9	212	53	18.4	6.44	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-109	111615912	SBR-SD-109 9.5-10.5	9.5	10.5	SS	A1	11/16/2015	0.755	1.83	1.37	0.897	14.2	5.57	4.36	0.939	7.12	2.08	0.941	0.406	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-109	111615913	SBR-SD-109 10.5-11.5	10.5	11.5	SS	A2	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-109	111615914	SBR-SD-109 11.5-12.5	11.5	12.5	SS	A2	11/16/2015	2.83	11.7	6.21	3.47	65.3	32.9	16.2	2.49	65.3	12.6	3.46	1.82	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-110	100915186	SBR-SD-110 0-0.5	0.0	0.5	S	O	10/9/2015	--	0.065 J	<0.0545 U	<0.0545 U	0.39	1.02	1.28	0.474	6.8	1.6	0.954	1.9	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-110	100915187	SBR-SD-110 0.5-1.5	0.5	1.5	SS	O	10/9/2015	--	<0.282 U	<0.282 U	<0.282 U	0.554 J	1.52	1.74	0.609	6.44	1.77	1.12	1.95	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-110	100915192	SBR-SD-110 5.5-6.5	5.5	6.5	SS	O	10/9/2015	--	8.61	0.126	0.103 J	6.4	14.5	33.9	15.5	12.4	9.1	5.7	1.37	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-110	100915193	SBR-SD-110 6.5-7.5	6.5	7.5	SS	O	10/9/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-110	100915196	SBR-SD-110 9.5-10.3	9.5	10.3	SS	O	10/9/2015	--	3.28	0.0613 J	0.0998 J	1.86	6.28	8.96	2.4	17	8.22	6.84	1.41	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-111	100815158	SBR-SD-111 0-0.5	0.0	0.5	S	O	10/8/2015	--	0.333	<0.11 U	<0.11 U	<0.11 U	0.4	0.735	0.302	1.64	0.632	0.479	0.585	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-111	100815160	SBR-SD-111 1.5-2.5	1.5	2.5	SS	O	10/8/2015	--	0.625	<0.124 U	<0.124 U	0.521	1.08	1.38	0.488	2.26	0.68	0.479	0.707	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-111	100815162	SBR-SD-111 3.5-4.5	3.5	4.5	SS	O	10/8/2015	--	<0.0667 U	<0.0667 U	<0.0667 U	0.56	3.39	6.37	2.31	2.89	1.53	1.06	0.3	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-111	100815165	SBR-SD-111 6.5-7	6.5	7.0	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-112	100815178	SBR-SD-112 0-0.5	0.0	0.5	S	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-112	100815180	SBR-SD-112 1.5-2.5	1.5	2.5	SS	O	10/8/2015	--	1.22	<0.0522 U	<0.0522 U	0.795	4.9	8.56	2.71	3.45	1.53	1.02	0.278	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-112	100815184	SBR-SD-112 5.5-6.5	5.5	6.5	SS	O	10/8/2015	--	0.0757 J	<0.0646 U	<0.0646 U	1.09	8.18	14.7	4.23	7.94	3.83	3.05	0.617	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-112	100815185	SBR-SD-112 6.5-7.6	6.5	7.6	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Alk PAH C3-Fluoranthenes/Pyrenes	Alk PAH C1-Fluorenes	Alk PAH C2-Fluorenes	Alk PAH C3-Fluorenes	Alk PAH C1-Naphthalenes	Alk PAH C2-Naphthalenes	Alk PAH C3-Naphthalenes	Alk PAH C4-Naphthalenes	Alk PAH C1-Phenanthrenes/Anthracenes	Alk PAH C2-Phenanthrenes/Anthracenes	Alk PAH C3-Phenanthrenes/Anthracenes	Alk PAH C4-Phenanthrenes/Anthracenes	Alk PAH Phytane	Alk PAH Pristane	SVOC 1-Methylpyrene	SVOC 2,6,10-trimethyltridecane	SVOC 2-Methylpyrene	SVOC 4-Methylpyrene	SVOC Coronene	SVOC Dibenzofuran	SVOC Dibenzothiophene	SVOC Octadecane	SVOC Retene
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
							EC20 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit					Result rejected during data validation					Not analyzed											
SBR-SD-113	100815166	SBR-SD-113 0-0.5	0.0	0.5	S	O	10/8/2015	--	<0.493 U	<0.493 U	<0.493 U	2.16	8.58	12.7	4.43	17	5.9	4.17	4.5	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-113	100815170 / 100815177 (N)	SBR-SD-113 3.5-4.5 (N)	3.5	4.5	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-113	100815172	SBR-SD-113 5.5-6.5	5.5	6.5	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-113	100815174	SBR-SD-113 7.5-8.5	7.5	8.5	SS	O	10/8/2015	--	<0.0562 UJ	<0.0562 UJ	<0.0562 UJ	0.351 J	1.54 J	2.42 J	0.865 J	2.99 J	1.05 J	0.71 J	0.667 J	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-113	100815176	SBR-SD-113 9.5-10	9.5	10.0	SS	O	10/8/2015	--	<0.0648 U	<0.0648 U	4.31	1.28	5.71	9.62	3.23	9.18	4.25	4.02	0.717	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-114	100815147	SBR-SD-114 0-0.5	0.0	0.5	S	O	10/8/2015	--	0.535	<0.176 U	<0.176 U	<0.176 U	0.365	0.597	0.218 J	1.22	0.437	0.251 J	0.557	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-114	100815148	SBR-SD-114 0.5-1.5	0.5	1.5	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-114	100815155	SBR-SD-114 7.5-8.5	7.5	8.5	SS	O	10/8/2015	--	<0.125 U	4.24	2.53	1.49	6.99	14	3.96	6.92	3.33	2.88	0.702	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-114	100815156	SBR-SD-114 8.5-9.5	8.5	9.5	SS	O	10/8/2015	--	<0.136 U	5.75	3.74	0.993	3.54	5.26	1.89	9.25	4.09	8.25	0.813	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-114	100815157	SBR-SD-114 9.5-10.4	9.5	10.4	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-115	111615867	SBR-SD-115 0-0.5	0.0	0.5	S	O	11/16/2015	--	1.98 J	1.4 J	1.66 J	<0.404 U	1.93 J	2.28 J	0.955 J	3.34 J	1.17 J	<0.809 U	1.2 J	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-115	111615871	SBR-SD-115 3.5-4.5	3.5	4.5	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-115	111615875	SBR-SD-115 7.5-8.5	7.5	8.5	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-115	111615878	SBR-SD-115 10.5-11.5	10.5	11.5	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-115	111615879	SBR-SD-115 11.5-12.5	11.5	12.5	SS	O	11/16/2015	--	42.2	42.3	36.7	21.6	92.7	154	51.1	74	35.8	25.7	4.94 J	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-115	111615882	SBR-SD-115 14.5-15.5	14.5	15.5	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-115	111615883	SBR-SD-115 15.5-16.5	15.5	16.5	SS	O	11/16/2015	--	22.2	15.2	18.3	32.4	27.8	28.3	7.96	60.4	18.3	14.7	9.02	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-115	111615884	SBR-SD-115 16.5-17.5	16.5	17.5	SS	O	11/16/2015	--	0.557	0.647	0.487	1.41	1.56	2.56	0.744	1.33	0.486	0.398	0.129 J	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-115	111615885	SBR-SD-115 17.5-18.5	17.5	18.5	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-115.X	100715110	SBR-SD-115.X 0-0.5	0.0	0.5	S	O	10/7/2015	--	<0.187 U	<0.187 U	6.17	2.21	9	16.9	6.33	11.3	7.1	5.95	1.02	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-115.X	100715113	SBR-SD-115.X 2.5-3.5	2.5	3.5	SS	O	10/7/2015	--	0.544 J	<0.123 UJ	<0.123 UJ	0.326 J	0.564 J	0.595 J	0.258 J	1.22 J	0.454 J	0.348 J	0.423 J	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-115.X	100715114	SBR-SD-115.X 3.5-4.5	3.5	4.5	SS	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-115.X	100715116	SBR-SD-115.X 5.5-6.5	5.5	6.5	SS	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-115.X	100715118	SBR-SD-115.X 7.5-8.6	7.5	8.6	SS	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-116	100815119 / 100815130 (N)	SBR-SD-116 0-0.5 (N)	0.0	0.5	S	O	10/8/2015	--	0.567	<0.0926 U	<0.0926 U	0.101 J	0.368	0.576	0.219	1.51	0.457	0.291	0.604	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-116	100815122	SBR-SD-116 2.5-3.5	2.5	3.5	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-116	100815126	SBR-SD-116 6.5-7.5	6.5	7.5	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-116	100815127	SBR-SD-116 7.5-8.5	7.5	8.5	SS	O	10/8/2015	--	<0.103 U	<0.103 U	6.18	2.59	16.6	28.7	9.82	16.3	7.02	5.1	1.13	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-116	100815129	SBR-SD-116 9.5-10.4	9.5	10.4	SS	O	10/8/2015	--	0.632	<0.132 U	<0.132 U	<0.132 U	0.334	0.459	0.201 J	1.29	0.41	0.338	0.466	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-117	111315856	SBR-SD-117 0-0.5	0.0	0.5	S	O	11/13/2015	--	1.02	1.08	0.815	0.28	1.9	4.33	1.22	2.1	0.919	0.539	0.209	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-117	111315859	SBR-SD-117 2.5-3.6	2.5	3.6	SS	O	11/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-117	111315860	SBR-SD-117 3.6-4.6	3.6	4.6	SS	O	11/13/2015	--	1.24	1.07	1.02	0.412	1.66	2.94	0.776	4.07	1.25	0.767	0.5	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-117	111315861 / 111315866 (N)	SBR-SD-117 4.6-5.6 (N)	4.6	5.6	SS	O	11/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-117	111315863	SBR-SD-117 6.6-7.6	6.6	7.6	SS	O	11/13/2015	--	0.509	0.726	0.653	0.326	1.26	3.37	1.1	0.848	0.429	0.493	0.15	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-118	100715091	SBR-SD-118 0-0.5	0.0	0.5	S	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-118	100715094	SBR-SD-118 2.5-3.5	2.5	3.5	SS	O	10/7/2015	--	0.689	0.782	0.484	<0.233 U	0.777	1.09	0.47	1.51	0.548	0.488	0.711	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-118	100715096	SBR-SD-118 4.5-5.5	4.5	5.5	SS	O	10/7/2015	--	2.25	2.67	2.59	1.27	10.2	18.8	7.16	7.76	2.94	1.93	0.523	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-118	100715097	SBR-SD-118 5.5-6.8	5.5	6.8	SS	O	10/7/2015	--	2.84	4.72	2.54	0.809	13.2	30.8	11.1	12	5.98	2.63	0.494	--	--	--	--	--	--	--	--	--	--	--	--

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Alk PAH C3-Fluoranthenes/Pyrenes	Alk PAH C1-Fluorenes	Alk PAH C2-Fluorenes	Alk PAH C3-Fluorenes	Alk PAH C1-Naphthalenes	Alk PAH C2-Naphthalenes	Alk PAH C3-Naphthalenes	Alk PAH C4-Naphthalenes	Alk PAH C1-Phenanthrenes/Anthracenes	Alk PAH C2-Phenanthrenes/Anthracenes	Alk PAH C3-Phenanthrenes/Anthracenes	Alk PAH C4-Phenanthrenes/Anthracenes	Alk PAH Phytane	Alk PAH Pristane	SVOC 1-Methylpyrene	SVOC 2,6,10-trimethyltridecane	SVOC 2-Methylpyrene	SVOC 4-Methylpyrene	SVOC Coronene	SVOC Dibenzofuran	SVOC Dibenzothiophene	SVOC Octadecane	SVOC Retene
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
							EC20 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit					Result rejected during data validation				Not analyzed												
SBR-SD-118.4	1218151561	SBR-SD-118.4 0-0.5	0.0	0.5	S	O	12/18/2015	--	2.84 J	1.61 J	2.18 J	<0.736 U	2.51 J	2.18 J	<1.47 U	5.11 J	1.55 J	<1.47 U	2.04 J	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-118.4	1218151565	SBR-SD-118.4 5.5-6.5	5.5	6.5	SS	O	12/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-118.4	1218151567	SBR-SD-118.4 7.5-8.5	7.5	8.5	SS	O	12/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-118.4	1218151570	SBR-SD-118.4 10.5-11.5	10.5	11.5	SS	O	12/18/2015	--	41.6	43.1	29.1	37.6	139	197	61	64.5	34.8	24.1	5.59 J	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-118.4	1218151571	SBR-SD-118.4 11.5-12.5	11.5	12.5	SS	O	12/18/2015	--	17	21.5	13.5	12.8	29.9	31	14.1	31.3	17.7	15.4	4.8 J	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-118.4	1218151572	SBR-SD-118.4 12.5-13.5	12.5	13.5	SS	O	12/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-118.4	1218151575	SBR-SD-118.4 15.5-16.5	15.5	16.5	SS	O	12/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-119	100715088	SBR-SD-119 0-0.5	0.0	0.5	S	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-119	100715090	SBR-SD-119 1.5-2.9	1.5	2.9	SS	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-120	100715085	SBR-SD-120 0-0.5	0.0	0.5	S	O	10/7/2015	--	0.0524	0.0526	0.033	0.0229	0.068	0.126	0.0498	0.169	0.0532	0.0364	0.0222	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-120	100715086	SBR-SD-120 0.5-1.4	0.5	1.4	SS	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1014	101315338	SBR-SD-1014 0-0.5	0.0	0.5	S	O	10/13/2015	--	1.23	<0.136 U	1.15	0.439	0.823	1.71	0.742	3.4	1.32	0.877	1.08	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1014	101315339	SBR-SD-1014 0.5-1.5	0.5	1.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1014	101315344	SBR-SD-1014 5.5-6.5	5.5	6.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1014	101315347	SBR-SD-1014 8.5-9.5	8.5	9.5	SS	O	10/13/2015	--	5.77	5.72	4.67	2.12	7.24	20.2	7.82	14.9	7.23	4.2	1.94	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1014	101315348 / 101315349 (N)	SBR-SD-1014 9.5-10.5 (N)	9.5	10.5	SS	O	10/13/2015	--	2.59 J	2.17	2.03 J	1.15 J	3.15	12.6 J	3.32	6.19 J	2.38 J	1.36 J	0.968 J	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1015	101315289	SBR-SD-1015 0-0.5	0.0	0.5	S	O	10/13/2015	--	0.751	<0.289 U	0.792	0.381 J	0.845	0.908	<0.289 U	1.78	0.578 J	0.452 J	0.889	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1015	101315291	SBR-SD-1015 1.5-2.5	1.5	2.5	SS	O	10/13/2015	--	0.963	<0.272 U	1.29	0.46 J	1.52	4.02	1.65	3.08	1.41	0.841	0.494 J	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1015	101315293	SBR-SD-1015 3.5-4.5	3.5	4.5	SS	O	10/13/2015	--	0.875	<0.245 U	0.931	0.636	2.25	5.25	1.9	2.68	1.19	0.722	0.292 J	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1015	101315295	SBR-SD-1015 5.5-6.5	5.5	6.5	SS	O	10/13/2015	--	1.3	<0.245 U	1.33	0.974	3.25	8.03	2.86	3.64	1.64	0.999	0.298 J	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1015	101315297	SBR-SD-1015 7.5-8.5	7.5	8.5	SS	O	10/13/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1015	101315300	SBR-SD-1015 10.5-11.3	10.5	11.3	SS	O	10/13/2015	--	4.44	5.15	4.04	1.53	3.51	8.55	3.54	10.6	4.53	5.2	0.738	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1016	100815140	SBR-SD-1016 0-0.5	0.0	0.5	S	O	10/8/2015	--	<0.122 U	<0.122 U	4.8	3.15	22.1	36.5	12.4	14.3	6.61	4.86	1.34	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1016	100815142	SBR-SD-1016 1.5-2.5	1.5	2.5	SS	O	10/8/2015	--	<0.111 U	<0.111 U	3.86	2.8	16.7	25.8	8.63	10.3	4.96	3.7	0.789	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1016	100815143	SBR-SD-1016 2.5-3.5	2.5	3.5	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1016	100815144	SBR-SD-1016 3.5-4.5	3.5	4.5	SS	A1	10/8/2015	6.21	17.6	20.3	15.7	13.9	40.7	164	37.4	38.1	22	12.7	3.06	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1016	100815146	SBR-SD-1016 5.5-6.9	5.5	6.9	SS	O	10/8/2015	--	<0.124 U	<0.124 U	2.69	6.33	6.42	8.12	2.6	6.15	3.02	4.57	0.639	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1017	111615891	SBR-SD-1017 0-0.5	0.0	0.5	S	O	11/16/2015	--	5.03	5.54	5.21	2.58 J	12.6	12.9 J	9.46	10.3	4.77	2.96 J	1.09 J	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1017	111615892	SBR-SD-1017 0.5-1.5	0.5	1.5	SS	A2	11/16/2015	2.63	5.38	7.21	5.29	6.56	17.8	35	12	18.4	8.69	5.61	1.56	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1017	111615893	SBR-SD-1017 1.5-2.5	1.5	2.5	SS	A2	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1017	111615894	SBR-SD-1017 2.5-3.5	2.5	3.5	SS	A2	11/16/2015	0.625	0.551	0.477	0.515	0.22	1.47	1.23	0.437	1.68	0.707	0.483	0.393	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1017	111615895	SBR-SD-1017 3.5-4.5	3.5	4.5	SS	O	11/16/2015	--	33.4	22.2	12.9 J	133	118	69.2	10.6	87.6	23.8	9.23	3.76	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1017	111615896	SBR-SD-1017 4.5-5.5	4.5	5.5	SS	O	11/16/2015	--	284	195	126	901	783	460	80.5	724	206	85.8	23.6	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1017	111615897	SBR-SD-1017 5.5-6.5	5.5	6.5	SS	O	11/16/2015	--	23.1	13 J	7.64	201	108	36.6	5.14	42.3	10.9	4.57	1.55 J	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1017	111615898	SBR-SD-1017 6.5-7.5	6.5	7.5	SS	O	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1017	111615899	SBR-SD-1017 7.5-8.5	7.5	8.5	SS	A1	11/16/2015	0.489	0.815	0.897	0.659	1.95	1.88	3.12	0.929	2.49	0.989	0.631	0.203	--	--	--	--	--	--	--	--	--	--	--	--

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Alk PAH C3-Fluoranthenes/Pyrenes	Alk PAH C1-Fluorenes	Alk PAH C2-Fluorenes	Alk PAH C3-Fluorenes	Alk PAH C1-Naphthalenes	Alk PAH C2-Naphthalenes	Alk PAH C3-Naphthalenes	Alk PAH C4-Naphthalenes	Alk PAH C1-Phenanthrenes/Anthracenes	Alk PAH C2-Phenanthrenes/Anthracenes	Alk PAH C3-Phenanthrenes/Anthracenes	Alk PAH C4-Phenanthrenes/Anthracenes	Alk PAH Phytane	Alk PAH Pristane	SVOC 1-Methylpyrene	SVOC 2,6,10-trimethyltridecane	SVOC 2-Methylpyrene	SVOC 4-Methylpyrene	SVOC Coronene	SVOC Dibenzofuran	SVOC Dibenzothiophene	SVOC Octadecane	SVOC Retene
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
							EC20 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit					Result rejected during data validation				Not analyzed												
SBR-SD-1018	100815132	SBR-SD-1018 0-0.5	0.0	0.5	S	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1018	100815134	SBR-SD-1018 1.5-2.5	1.5	2.5	SS	O	10/8/2015	--	<0.108 U	<0.108 U	<0.108 U	0.274	1.48	2.9	1.13	1.6	0.918	0.616	0.307	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1018	100815137	SBR-SD-1018 4.5-5.5	4.5	5.5	SS	O	10/8/2015	--	3.18	<0.099 U	4.31	1.94	9.92	17	6.15	9.44	4.8	3.27	1.39	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1018	100815139	SBR-SD-1018 6.5-7.7	6.5	7.7	SS	O	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1019	100715098	SBR-SD-1019 0-0.5	0.0	0.5	S	O	10/7/2015	--	0.922	0.522	0.86	0.132 J	0.462	0.612	0.264	2.9	0.843	0.548	1.1	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1019	100715103	SBR-SD-1019 4.5-5.5	4.5	5.5	SS	O	10/7/2015	--	0.537	0.954	0.951	0.315	1.85	5.73	1.65	2.04	1.12	0.741	0.245	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1019	100715104	SBR-SD-1019 5.5-6.5	5.5	6.5	SS	A1	10/7/2015	4.34	8.94	12.9	9.6	8.52	22.8	76.4	20	20.8	13.6	8.33	2.01	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1019	100715105	SBR-SD-1019 6.5-7.5	6.5	7.5	SS	O	10/7/2015	--	1.93	5.99	1.02	2.58	20.9	37	13.2	13.6	6.62	3.24	0.712	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1019	100715106	SBR-SD-1019 7.5-8.5	7.5	8.5	SS	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1019	100715107	SBR-SD-1019 8.5-9.5	8.5	9.5	SS	O	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1019	100715109	SBR-SD-1019 10.5-11.5	10.5	11.5	SS	O	10/7/2015	--	18.8	18.8	11.3	3.96	39.9	75.2	18.4	40.9	13.2	10.2	2.23	--	--	--	--	--	--	--	--	--	--	--	--
SSCD-RSB-001	111814063	SSCD-RSB-001-001	13.0	13.5	SS	O	10/20/2006	11.4	98.2	24	9.96	427	224	68.2	16.1	328	96.4	24.1	4.54	9.33	13.9	27	7.42	28.3	23.7	5.96	20.6	37.8	4.67	42.4
SSCD-RSB-005	111814064 (N)	SSCD-RSB-005-001 (N)	8.5	9.0	SS	O	10/30/2006	80.3	249	115	44.8	2,290	713	214	65.5	1,410	348	83.5	24.4	8.1	20.8	111	9.9	158	125	--	1,560	519	27.2	22.4
SSCD-RSB-006	111814066	SSCD-RSB-006A-001	8.0	8.5	SS	O	10/31/2006	9.84	30.1	18.9	6.18	150	74.3	31.1	12.1	153	56.4	31.9	7.58	11.3	17.4	14.1	10.9	15.5	14.4	7.66	47.7	26.7	3.88	271
SSCD-RSB-008	111814067	SSCD-RSB-008-001	8.0	9.0	SS	O	10/31/2006	121	442	325	109	2,680	1,700	648	192	1,510	660	187	67.2	61.6	88.4	114	56	105	113	20.2	101	250	8	51.2
SSCD-RSB-010	111814068	SSCD-RSB-010-001	16.0	16.5	SS	O	11/1/2006	0.174	0.098	0.123	0.151	0.534	0.329	0.282	0.529	0.59	0.417	0.43	0.198	1.4	3.24	0.055	1.16	0.052	0.054	0.013	0.069	0.073	0.93	0.066
SSCD-RSB-011	111814069	SSCD-RSB-011-001	12.0	12.5	SS	O	11/1/2006	16.7	90.5	45.8	15.9	636	302	94.1	24.2	389	129	30.2	11.7	7.92	13.3	29.2	7.72	32.2	28.8	8.23	51.4	52.8	9.14	26.4
		Total Number of Samples Analyzed:						55	185	185	185	185	185	185	185	185	185	185	185	42	42	42	42	42	42	41	42	42	42	42
		Number of Detections:						54	169	139	165	165	182	185	179	181	180	178	175	42	42	42	42	42	42	41	42	42	29	42
		Min:						0.174	0.0524	0.0526	0.033	0.0229	0.068	0.126	0.0498	0.169	0.0532	0.0364	0.0222	1.4	3.24	0.055	1.16	0.052	0.054	0.013	0.069	0.073	0.59	0.066
		Max:						299.00	1000.00	708.00	254.00	5210	3830	1450.00	400.00	3270.00	1520.00	471.00	117.00	145	223	344	156	260	270	28	1,560	519	27	332
		Mean:						22.38	37.54	33.05	15.19	178.04	113.79	62.42	20.02	120.71	46.03	17.70	7.13	46.13	69.30	29	44	27	27	4	56	50	6	37
		Median:						6.28	5.38	11.7	5.54	6.61	11.1	16.4	6.48	13.6	6.685	4.77	1.95	25.85	37.2	4.58	24.3	5.135	4.61	2.17	7.395	8.995	3.88	20.85
		EC20 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Number of Surface Samples that exceed EC20 for TPAH(13):						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		EC50 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Number of Surface Samples that exceed EC50 for TPAH(13):						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes:
Italic = result exceeds EC20
BOLD = result exceeds EC50
< = Concentration is less than reported limit
-- = Analysis not performed
U = Not detected
J = Concentration estimated
R = Result rejected during validation
NS = No Standard
(N) = Normalized sample locations created from combining parent and field duplicate samples following USEPA protocol
SL = Screening Level
Non-detected results were not included in the calculations of the the mean and median.

Surface sediment = bottom of interval depth is less than or equal to 6 inches (0.5 feet) below top of sediment
mg/kg = milligrams per kilogram
Alk PAHs = Alkylated PAHs
BTEX = Benzene, Toluene, Ethylbenzene and Xylene
GEO = Geotechnical Property
PAH = Polycyclic Aromatic Hydrocarbon
TPAH = Total PAHs
VOC = Volatile Organic Compound
EC20 = 20% Effects Concentration (only appliable to Depths 0.0 top 0.5 feet)
EC50 = 50% Effects Concentration (only appliable to Depths 0.0 top 0.5 feet)
EC20 and EC50 from Hawthorne, S., Azzolina, N., Neuhauser, E., and Kreitinger, J. Predicting Bioavailability of Sediment Polycyclic Aromatic Hydrocarbons to Hyallella Azteca using Equilibrium Partitioning Supercritical Fluid Extraction, and Pore Water Concentrations. Grand Forks, North Dakota. Environmental Science Technology, 2007, 41, 6297-6304.

1. The following rules apply to the summation of Total PAH (13) calculated by Natural Resource Technology, Inc. (NRT):
   a. Where no detections were observed, the maximum individual reported detection limit is presented.
   b. Where detections were observed, ½ the reported detection limit for non-detects was used in the summation
   c. The list of Total PAH (13) is as follows: Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Fluoranthene, Fluorene, Naphthalene, Phenanthrene and Pyrene.
   d. R flagged results were not included in calculations.

Non-detected results were not included in the calculations of the the mean and median.
Analysis Runs…… O = Original Run (fall 2015)
A1 = 1st Archive Run (August 2016)
A2 = 2nd Archive Run (October 2016)
Depth Gradient…… S = Surface
SS = Subsurface

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Phenol	Phenol	Phenol	Phenol	BTEX	BTEX	BTEX	BTEX	BTEX	BTEX	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC
								2,4-Dimethylphenol	2-Methylphenol	3 & 4-Methylphenol	Phenol	Benzene	Ethylbenzene	Toluene	Xylenes, m + p	Xylene, o	Xylenes, Total	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	cis-Decalin	Heptadecane	Isopropylbenzene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	Styrene	tert-Butylbenzene	trans-Decalin
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
							EC20 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit					Result rejected during data validation						Not analyzed									
PCS-RSB-005B	111814025 (N)	PCS-RSB-005B-001 (N)	3.5	4.0	SS	O	7/13/2006	--	--	--	--	0.767	2.64	3.05	7.2	1.86	--	5.73	2.94	1.63	0.496	<0.0453 U	0.264	1.32	0.459	0.264	0.388	0.605	5.67
PCS-RSB-005B	111814027	PCS-RSB-005B-002	8.0	9.3	SS	O	7/13/2006	--	--	--	--	2.01	18.6	4.31	9.28	4.56	--	27.1	5.19	5.33	<0.0475 U	1.4	5.62	2.35	1.91	0.208	5.88	<0.0475 U	0.944
PCS-RSB-007B	111814023	PCS-RSB-007B-001	0.0	2.0	SS	O	7/12/2006	--	--	--	--	1.05 J	2.16	4.35	6.16	1.1	--	6.49	1.49	2.55	0.8	<0.305 U	0.682	2.83	0.931	0.658	0.711	<0.305 U	8.39
PCS-RSB-008B	111814024	PCS-RSB-008B-001	7.3	8.0	SS	O	7/12/2006	--	--	--	--	3.82	68.1	6.01	40.1	24.6	--	51.7	15	9.26	0.303	7.47	10.6	4.91	3.66	0.483	2.56	<0.244 U	4.14
PCS-RSB-017	111814008	PCS-RSB-017-001	2.0	4.0	SS	O	6/29/2006	--	--	--	--	2.38	0.835	6.29	8.58	0.656	--	2.33	0.82	2.7	0.716	<0.111 U	0.159	3.02	0.977	0.406	0.451	<0.111 U	9.48
PCS-RSB-021	111814009	PCS-RSB-021-001	2.0	4.0	SS	O	6/30/2006	--	--	--	--	1.19	1.01	8.9	7.02	1.26	--	4.35	1.47	2.74	0.486	<0.088 U	0.255	1.89	0.793	0.493	0.226	<0.088 U	4.88
PCS-RSB-025	111814012 (N)	PCS-RSB-025-001 (N)	3.0	4.0	SS	O	7/6/2006	--	--	--	--	0.429	0.141	3	2.06	0.304	--	1.53	0.575	0.544	0.213	3.72	0.091	0.706	0.319	0.192	0.213	0.139	1.88
PCS-RSB-027B	111814016 (N)	PCS-RSB-027B-001 (N)	8.5	9.5	SS	O	7/7/2006	--	--	--	--	8.9	76.8	3.41	48.8	27	--	48.8	14.6	9.01	0.284	3.78	9.72	4.37	3.14	0.362	2.15	<0.191 U	3.8
PCS-RSB-032	111814019	PCS-RSB-032-001	5.0	6.0	SS	O	7/11/2006	--	--	--	--	1.04 J	0.328	2.98	5.82	0.868	--	3.95	1.45	1.85	0.635	<0.287 U	0.187 J	2.42	0.771	0.603	0.359	0.566	7.7
PCS-RSB-032	111814020	PCS-RSB-032-002	13.0	14.0	SS	O	7/11/2006	--	--	--	--	15.1	180	6.99	88.6	70.7	--	148	39.6	29.5	0.56	<0.428 U	32.3	16.4	12.7	1.24	7.17	<0.428 U	2.48
PCS-RSB-035	111814021	PCS-RSB-035-001	8.0	9.0	SS	O	7/11/2006	--	--	--	--	2.18	21.2	3.35	12.2	7.03	--	16.1	4.37	6.15	0.353	7.27	3.45	4.31	1.37	0.33	1.76	<0.25 U	5
PCS-RSB-037B	111814018	PCS-RSB-037B-001	5.0	6.0	SS	O	7/7/2006	--	--	--	--	2.14	6.84	1.36	3.13	2.06	--	2.74	0.95	1.31	0.174 J	3.69	1.95	1.21	0.57	0.246	15.2	<0.222 U	2.6
PCS-RSB-040B	111814028	PCS-RSB-040B-001	10.0	10.5	SS	O	7/13/2006	--	--	--	--	0.698	0.443	2.86	3.77	0.399	--	1.93	0.685	2.46	0.591	9.22	0.112	1.97	0.491	0.393	0.224	<0.0553 U	8.64
PCS-RSB-042B	111814029	PCS-RSB-042B-001	7.5	8.0	SS	O	7/14/2006	--	--	--	--	1.08	0.338	1.89	3.03	0.287	--	1.15	0.154	1.6	0.674	13.8	0.182	2.25	0.706	0.491	0.234	<0.0688 U	10.5
PCS-RSB-046	111814010	PCS-RSB-046-001	6.0	6.5	SS	O	6/30/2006	--	--	--	--	1.8	0.97	6.66	8.05	1.08	--	3.39	1.21	3.48	0.782	12.8	0.231	3.72	1.06	0.681	0.414	<0.106 U	11.9
PCS-RSB-047	111814011	PCS-RSB-047-001	5.0	6.0	SS	O	7/5/2006	--	--	--	--	1.24	0.622	4.77	5.53	0.52	--	2.62	0.939	3.64	0.632	16.1	0.164	2.65	0.735	0.497	0.271	0.368	10.5
PCS-RSB-048	111814014	PCS-RSB-048-001	5.0	6.0	SS	O	7/6/2006	--	--	--	--	1.69	1.1	6.51	8.23	0.918	--	3.35	1.16	6.03	0.785	21.4	0.205	4.26	1.23	0.672	0.367	<0.101 U	11.8
PCS-RSB-048	111814015	PCS-RSB-048-002	8.0	9.0	SS	O	7/6/2006	--	--	--	--	14.6	337	13.8	158	112	--	291	72.4	61.2	<2.36 U	<2.36 U	65.7	60.6	22.2	2.25 J	19.5	<2.36 U	4.23
PCS-RSB-050	111814022	PCS-RSB-050-001	7.0	8.0	SS	O	7/12/2006	--	--	--	--	0.788 J	0.551	3.38	4.63	1.05	--	2.27	0.968	2.38	0.729	<0.274 U	0.177 J	2.28	0.621	0.485	0.452	<0.274 U	10.6
PCS-RSB-051	111814030	PCS-RSB-051-001	8.0	8.3	SS	O	10/4/2006	--	--	--	--	2.19	23.7	2.58	9.83	10.7	--	26.3	6.87	5.7	0.136	2.04	5.83	2.78	2.6	0.366	0.989	<0.0618 U	1.49
PCS-RSB-052	111814031	PCS-RSB-052-001	6.0	7.0	SS	O	10/5/2006	--	--	--	--	1.7	5.56	1.11	2.26	4.27	--	1.68	1.31	1.01	0.096	1.34	1.91	0.983	0.597	0.192	0.279	<0.0157 U	1.51
PCS-RSB-054	111814033	PCS-RSB-054-001	12.0	13.0	SS	O	10/5/2006	--	--	--	--	3.78	64	4.93	16.1	19.8	--	60.3	14.4	23.7	0.272	2.69	14.1	8.82	6.96	0.727	2.39	<0.146 U	1.38
PCS-RSB-055	111814034	PCS-RSB-055-001	1.0	2.0	SS	O	10/5/2006	--	--	--	--	0.224	0.053	2.67	0.951	0.094	--	0.444	0.19	0.13	0.096	<0.0214 U	0.031	0.23	0.102	0.049	0.192	<0.0214 U	1.06
PCS-RSB-055	111814032	PCS-RSB-055-002	5.0	6.0	SS	O	10/5/2006	--	--	--	--	2.96	32.5	2.7	19.2	13.4	--	24.3	6.98	5.34	0.407	9.14	5.65	3.84	2.58	0.519	0.594	<0.0199 U	7.44
PCS-RSB-056	111814036 (N)	PCS-RSB-056-001 (N)	4.5	5.5	SS	O	10/6/2006	--	--	--	--	3.18	6.66	4.27	7.78	4.86	--	4.77	1.14	1.29	0.345	<0.0266 U	1.98	1.33	0.749	0.236	0.282	<0.0266 U	4.96
PCS-RSB-056	111814035	PCS-RSB-056-002	6.0	7.0	SS	O	10/6/2006	--	--	--	--	3.07	216	9.29	178	84.5	--	188	64.2	28.2	0.31	11	35.6	10.4	9.3	0.774	10.3	<0.176 U	2.95
PCS-RSB-058	111814038	PCS-RSB-058-001	4.0	5.0	SS	O	10/9/2006	--	--	--	--	1.43	0.619	5.67	5.64	1.32	--	3.9	1.31	1.28	0.554	12.9	0.307	2.39	0.773	0.577	0.344	<0.156 U	8.31
PCS-RSB-059	111814041	PCS-RSB-059-001	10.0	11.0	SS	O	10/10/2006	--	--	--	--	1.9	86.6	3.46	29.1	30.6	--	94	25.7	18.2	0.41	3.75	20.2	6.42	6.89	0.745	4.82	<0.136 U	3.47
PCS-RSB-060	111814045	PCS-RSB-060-001	3.0	4.0	SS	O	10/10/2006	--	--	--	--	1.29	0.658	3.93	5.41	1.02	--	3.26	1.18	1.62	0.468	<0.164 U	0.255	2.19	0.724	0.421	0.566	<0.164 U	9.12
PCS-RSB-060	111814046	PCS-RSB-060-002	8.0	8.5	SS	O	10/10/2006	--	--	--	--	1.83	17.6	4.66	9.24	6.68	--	22.6	6.01	6.07	0.335 J	7.13	4.94	5.43	2.57	0.445	1.76	<0.346 U	4.59
PCS-RSB-061	111814047	PCS-RSB-061-001	6.0	7.0	SS	O	10/10/2006	--	--	--	--	2.18	1.16	5.18	8.6	1.41	--	6.81	2.47	3.96	1.3	<0.17 U	0.476	5.47	1.53	1.32	0.917	<0.17 U	19.6
PCS-RSB-061	111814048	PCS-RSB-061-002	10.0	10.5	SS	O	10/10/2006	--	--	--	--	3.86 J	60.9	7.63	14.7	17.9	--	62.3	15.8	25.9	<0.803 U	<0.803 U	14.8	15	7.51	0.863	2.68	<0.803 U	1.58
PCS-RSB-062	111814039 (N)	PCS-RSB-062-001 (N)	2.0	3.0	SS	O	10/10/2006	--	--	--	--	2.56	1.53	10	14.5	4.89	--	8.04	3.18	6.94	1.35	36.7	0.64	7.1	1.81	1.45	0.689	<0.227 U	27.5
PCS-RSB-062	111814042	PCS-RSB-062-002	6.5	7.5	SS	O	10/10/2006	--	--	--	--	0.832	35.1	2.62	17.7	11.6	--	40.3	11	5.61	<0.163 U	6.04	7.71	2.18	2.36	0.168	2.16	<0.163 U	0.85
PCS-RSB-063	111814043	PCS-RSB-063-001	2.0	3.0	SS	O	10/10/2006	--	--	--	--	1.79	1.22	9	9.06	1.09	--	4.63	1.72	5.67	0.929	34.4	0.318	5.26	1.21	0.828	0.635	<0.22 U	17.9
PCS-RSB-063	111814044	PCS-RSB-063-002	6.0	7.0	SS	O	10/10/2006	--	--	--	--	1.17	14.9	2.3	10.1	2.15	--	21.5	2.47	5.36	<0.202 U	3.51	4.61	2.04	2.09	0.249	1.22	<0.202 U	1.98
SBR-SD-072	1120151046 / 1120151061 (N)	SBR-SD-072 0-0.5 (N)	0.0	0.5	S	O	11/20/2015	<9.96 U	<9.15 U	<9.23 U	<12 U	<0.0232 U	<0.0312 U	0.266	--	--	<0.122 U	0.0343 J	<0.0364 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-072	1120151050	SBR-SD-072 3.5-4.5	3.5	4.5	SS	O	11/20/2015	<7.36 U	<6.76 U	<6.82 U	<8.83 U	0.0889	0.0341 J	0.0776 J	--	--	0.339	0.934	<0.0269 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-072	1120151053	SBR-SD-072 6.5-7.5	6.5	7.5	SS	A1	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-072	1120151054	SBR-SD-072 7.5-8.5	7.5	8.5	SS	O	11/20/2015	<6.52 U	<5.99 U	<6.04 U	<7.82 U	0.159 J	0.119 J	0.123 J	--	--	<0.398 U	0.407 J	0.155 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-072	1120151055	SBR-SD-072 8.5-9.5	8.5	9.5	SS	A1	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-072	1120151056	SBR-SD-072 9.5-10.5	9.5	10.5	SS	O	11/20/2015	<7.4 U	<6.8 U	<6.86 U	<8.88 U	1.55 J	26.2	<1.05 U	--	--	22.4	22.1	6.89	--	--	--	--	--	--	--	--	--	--
SBR-SD-072	1120151057	SBR-SD-072 10.5-11.3	10.5	11.3	SS	O	11/20/2015	<6.24 U	<5.73 U	<5.78 U	<7.49 U	0.752 J	10.6	0.499 J	--	--	12.7	7.09	2.56	--	--	--	--	--	--	--	--	--	--
SBR-SD-072	1120151058	SBR-SD-072 11.3-12.5	11.3	12.5	SS	O	11/20/2015	<4.68 U	<4.3 U	<4.34 U	<5.62 U	0.722	5.71	0.293 J	--	--	6.02	0.657	<0.171 U	--	--	--	--	--	--	--	--	--	--

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

								Phenol	Phenol	Phenol	Phenol	BTEX	BTEX	BTEX	BTEX	BTEX	BTEX	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC
Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	2,4-Dimethylphenol	2-Methylphenol	3 & 4-Methylphenol	Phenol	Benzene	Ethylbenzene	Toluene	Xylenes, m + p	Xylene, o	Xylenes, Total	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	cis-Decalin	Heptadecane	Isopropylbenzene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	Styrene	tert-Butylbenzene	trans-Decalin
Reporting Units:								mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EC20 for TPAH(13):								NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EC50 for TPAH(13):								NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit					Result rejected during data validation							Not analyzed								
SBR-SD-073	1120151025	SBR-SD-073 0-0.5	0.0	0.5	S	O	11/20/2015	<9.92 UJ	<9.11 UJ	<9.19 UJ	<11.9 UJ	<0.0231 U	<0.0311 U	0.113 J	--	--	<0.121 U	<0.0306 U	<0.0362 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-073	1120151028	SBR-SD-073 2.5-3.5	2.5	3.5	SS	O	11/20/2015	<9.46 U	<8.69 U	<8.76 U	<11.3 U	<0.022 U	<0.0297 U	0.21	--	--	<0.116 U	0.0409 J	<0.0345 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-073	1120151031	SBR-SD-073 5.5-6.5	5.5	6.5	SS	O	11/20/2015	<8.57 U	<7.88 U	<7.95 U	<10.3 U	<0.02 U	<0.0269 U	0.108 J	--	--	0.135 J	0.386	0.144	--	--	--	--	--	--	--	--	--	--
SBR-SD-073	1120151034	SBR-SD-073 8.5-9.5	8.5	9.5	SS	O	11/20/2015	<9.12 U	<8.38 U	<8.45 U	<10.9 U	<0.0212 U	<0.0286 U	0.222	--	--	0.12 J	0.33	0.13	--	--	--	--	--	--	--	--	--	--
SBR-SD-073	1120151038	SBR-SD-073 12.5-13.5	12.5	13.5	SS	A1	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073	1120151039	SBR-SD-073 13.5-14.5	13.5	14.5	SS	O	11/20/2015	<7.52 U	<6.91 U	<6.97 U	<9.02 U	<3.5 U	31.1	<4.26 U	--	--	49.3 J	24.5	8.11 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-073	1120151040	SBR-SD-073 14.5-16.1	14.5	16.1	SS	O	11/20/2015	<7.24 U	<6.65 U	<6.71 U	<8.68 U	<3.37 U	34.3	<4.1 U	--	--	45.7 J	20.9	8.1 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-073	1120151041	SBR-SD-073 16.1-16.5	16.1	16.5	SS	O	11/20/2015	<4.71 U	<4.33 U	<4.36 U	<5.65 U	4.57	14.3	0.518 J	--	--	17.5	4.13	1.48 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-073	1120151042	SBR-SD-073 16.5-17.5	16.5	17.5	SS	A2	11/20/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073.4 MOB	1217151520	SBR-SD-073.4 MOB 0-0.5	0.0	0.5	S	O	12/17/2015	<10.9 U	<9.97 U	<10.1 U	<13 U	<0.0253 U	<0.0341 U	0.0979 J	--	--	<0.133 U	<0.0335 U	<0.0396 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-073.4 MOB	1217151523	SBR-SD-073.4 MOB 2.5-3.5	2.5	3.5	SS	O	12/17/2015	<10.1 U	<9.28 U	<9.36 U	<12.1 U	<0.0235 U	<0.0317 U	0.0963 J	--	--	<0.124 U	0.137	<0.0369 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-073.4 MOB	1217151529	SBR-SD-073.4 MOB 8.5-9.5	8.5	9.5	SS	O	12/17/2015	<7.58 U	<6.97 U	<7.03 U	<9.1 U	0.0519	0.0346 J	0.11	--	--	0.368	0.518	0.208 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-073.4 MOB	1217151531	SBR-SD-073.4 MOB 10.5-11.5	10.5	11.5	SS	A1	12/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073.4 MOB	1217151532 / 1217151539 (N)	SBR-SD-073.4 MOB 11.5-12.5 (N)	11.5	12.5	SS	O	12/17/2015	<7.35 U	<6.75 U	<6.81 U	<8.82 U	<0.137 U	<0.184 U	<0.167 U	--	--	1.81 J	3.2	1.59 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-073.4 MOB	1217151533	SBR-SD-073.4 MOB 12.5-13.5	12.5	13.5	SS	O	12/17/2015	<7.82 U	<7.18 U	<7.25 U	<9.38 U	0.0372 J	<0.0245 UJ	0.106 J	--	--	0.288 J	0.44 J	0.198 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-073.4 MOB	1217151534	SBR-SD-073.4 MOB 13.5-14.5	13.5	14.5	SS	O	12/17/2015	<7.73 U	<7.11 U	<7.17 U	<9.28 U	0.116 J	0.0451 J	0.0945 J	--	--	0.614 J	0.696 J	0.247 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-073.4 MOB	1217151535	SBR-SD-073.4 MOB 14.5-16.5	14.5	16.5	SS	O	12/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-073.4 MOB	1217151536	SBR-SD-073.4 MOB 16.5-17.5	16.5	17.5	SS	O	12/17/2015	<4.34 U	<3.99 U	<4.03 U	<5.21 U	1.81	<0.0136 U	0.17	--	--	<0.0531 U	0.0548 J	<0.0159 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-074	101315350	SBR-SD-074 0-0.5	0.0	0.5	S	O	10/13/2015	<12.4 U	<11.4 U	<11.5 U	<14.9 U	<0.0289 U	<0.0389 U	0.65	--	--	<0.152 U	0.0704 J	<0.0453 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-074	101315352	SBR-SD-074 1.5-2.5	1.5	2.5	SS	O	10/13/2015	<9.41 U	<8.65 U	<8.72 U	<11.3 U	<0.0219 U	<0.0295 U	0.477	--	--	<0.115 U	0.0543 J	<0.0344 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-074	101315355	SBR-SD-074 4.5-5.5	4.5	5.5	SS	O	10/13/2015	<9.39 U	<8.63 U	<8.7 U	<11.3 U	<0.0219 U	<0.0295 U	0.453	--	--	0.133 J	0.453	0.23	--	--	--	--	--	--	--	--	--	--
SBR-SD-074	101315359	SBR-SD-074 8.5-9.3	8.5	9.3	SS	O	10/13/2015	<7.79 U	<7.16 U	<7.22 U	<9.35 U	0.0642	0.0306 J	0.127	--	--	0.555	0.818	0.296	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915982	SBR-SD-075 0-0.5	0.0	0.5	S	O	11/19/2015	<8.36 UJ	<7.68 U	<7.75 U	<10 U	<0.0195 U	<0.0262 U	0.506	--	--	<0.102 U	0.0346 J	<0.0305 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915983	SBR-SD-075 1.5-2.5	1.5	2.5	SS	A1	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915985	SBR-SD-075 3.5-4.5	3.5	4.5	SS	O	11/19/2015	<9.02 U	<8.29 U	<8.36 U	<10.8 U	<0.021 U	<0.0283 U	0.174	--	--	0.154 J	0.418	0.167	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915989	SBR-SD-075 7.5-8.5	7.5	8.5	SS	O	11/19/2015	<9.51 U	<8.73 U	<8.81 U	<11.4 U	0.0532	0.0568 J	0.171	--	--	0.464	0.697	0.275	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915991	SBR-SD-075 9.5-10.5	9.5	10.5	SS	O	11/19/2015	<11.9 U	<11 U	<11.1 U	<14.3 U	0.0532 J	0.064 J	0.228	--	--	0.39 J	0.715	0.303	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915992	SBR-SD-075 10.5-11.5	10.5	11.5	SS	A1	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915993	SBR-SD-075 11.5-12.5	11.5	12.5	SS	O	11/19/2015	<9.16 U	<8.41 U	<8.49 U	<11 U	0.417	0.124	0.0854 J	--	--	0.286 J	0.325	0.0841 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915994	SBR-SD-075 12.5-13.8	12.5	13.8	SS	O	11/19/2015	<7.54 U	<6.93 U	<6.99 U	<9.05 U	2 J	8.53	<1.71 U	--	--	10.7 J	7.3 J	3.14 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915995	SBR-SD-075 13.8-14.5	13.8	14.5	SS	O	11/19/2015	<4.41 U	<4.05 U	<4.09 U	<5.29 U	1.35	2.09	<0.312 U	--	--	1.82 J	0.622 J	<0.402 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-075	111915997	SBR-SD-075 15.5-16.5	15.5	16.5	SS	O	11/19/2015	<4.58 U	<4.2 U	<4.24 U	<5.49 U	<0.0107 U	<0.0144 U	<0.013 U	--	--	<0.0559 U	<0.0141 U	<0.0167 U	--	--	--	--	--	--	--	--	--	--

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Phenol	Phenol	Phenol	Phenol	BTEX	BTEX	BTEX	BTEX	BTEX	BTEX	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC
								2,4-Dimethylphenol	2-Methylphenol	3 & 4-Methylphenol	Phenol	Benzene	Ethylbenzene	Toluene	Xylenes, m + p	Xylene, o	Xylenes, Total	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	cis-Decalin	Heptadecane	Isopropylbenzene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	Styrene	tert-Butylbenzene	trans-Decalin
		Reporting Units:						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		EC20 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		EC50 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit					Result rejected during data validation						Not analyzed									
SBR-SD-078	1123151066	SBR-SD-078 0-0.5	0.0	0.5	S	O	11/23/2015	<10.4 U	<9.55 U	<9.63 U	<12.5 U	<0.0242 U	<0.0326 U	0.146	--	--	<0.127 U	<0.032 U	<0.0379 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-078	1123151071	SBR-SD-078 5.5-6.5	5.5	6.5	SS	O	11/23/2015	<7.3 UJ	<6.7 U	<6.76 U	<8.76 U	0.0243 J	<0.0229 U	0.0574 J	--	--	0.178 J	0.631	<0.0266 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-078	1123151073	SBR-SD-078 7.5-8.5	7.5	8.5	SS	O	11/23/2015	<7.51 U	<6.9 U	<6.96 U	<9.02 U	0.157	0.0287 J	0.0479 J	--	--	0.355	1.06	0.207	--	--	--	--	--	--	--	--	--	--
SBR-SD-078	1123151074	SBR-SD-078 8.5-9.5	8.5	9.5	SS	A1	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-078	1123151075 / 1123151082 (N)	SBR-SD-078 9.5-10.5 (N)	9.5	10.5	SS	O	11/23/2015	<8.09 U	<7.44 U	<7.5 U	<9.71 U	<1.51 U	8.71	<1.83 U	--	--	<7.92 U	7.19 J	<2.36 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-078	1123151076	SBR-SD-078 10.5-12.1	10.5	12.1	SS	O	11/23/2015	<7.23 U	<6.64 U	<6.7 U	<8.67 U	<0.841 U	11.1	<1.02 U	--	--	9.47 J	6.39	2.31 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-078	1123151077	SBR-SD-078 12.1-12.5	12.1	12.5	SS	O	11/23/2015	<4.51 U	<4.14 U	<4.18 U	<5.41 U	<0.839 U	6.65	<1.02 U	--	--	7.33 J	4.33 J	<1.32 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-079	101315313	SBR-SD-079 0-0.5	0.0	0.5	S	O	10/13/2015	<13.7 U	<12.6 U	<12.7 U	<16.4 U	<0.0319 U	<0.043 U	0.657	--	--	<0.167 U	<0.0422 U	<0.05 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-079	101315315	SBR-SD-079 1.5-2.5	1.5	2.5	SS	O	10/13/2015	<13.3 U	<12.2 U	<12.3 U	<16 U	<0.031 U	<0.0418 U	0.283	--	--	<0.163 U	<0.0411 U	<0.0486 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-079	101315317	SBR-SD-079 3.5-4.5	3.5	4.5	SS	O	10/13/2015	<10.5 U	<9.69 U	<9.77 U	<12.7 U	<0.0246 U	<0.0331 U	0.196	--	--	<0.129 U	0.039 J	<0.0385 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-079	101315321	SBR-SD-079 7.5-8.5	7.5	8.5	SS	O	10/13/2015	<9.59 U	<8.81 U	<8.89 U	<11.5 U	<0.0223 U	<0.0301 U	0.251	--	--	0.149 J	0.702	0.308	--	--	--	--	--	--	--	--	--	--
SBR-SD-079	101315324	SBR-SD-079 10.5-11.9	10.5	11.9	SS	O	10/13/2015	<8.39 U	<7.71 U	<7.78 U	<10.1 U	0.0546	0.0766 J	0.43	--	--	0.599	1.18	0.428	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	111915998	SBR-SD-080 0-0.5	0.0	0.5	S	O	11/19/2015	<15.6 U	<14.3 U	<14.5 U	<18.7 U	<0.0363 U	<0.049 U	0.323	--	--	<0.191 U	<0.0481 U	<0.057 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	111915999	SBR-SD-080 0.5-1.5	0.5	1.5	SS	A1	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151000	SBR-SD-080 1.5-2.5	1.5	2.5	SS	O	11/19/2015	<11.6 U	<10.6 U	<10.7 U	<13.9 U	<0.027 U	<0.0363 U	0.179	--	--	<0.142 U	<0.0357 U	<0.0423 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151001	SBR-SD-080 2.5-3.5	2.5	3.5	SS	A1	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151003	SBR-SD-080 4.5-5.5	4.5	5.5	SS	O	11/19/2015	<10.7 U	<9.79 U	<9.87 U	<12.8 U	<0.0248 U	<0.0334 U	0.416	--	--	<0.13 U	0.0493 J	<0.0389 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151007	SBR-SD-080 8.5-9.5	8.5	9.5	SS	O	11/19/2015	<8.79 U	<8.08 U	<8.15 U	<10.6 U	<0.0205 U	<0.0276 U	0.09 J	--	--	0.13 J	0.329	0.143	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151011	SBR-SD-080 12.5-13.5	12.5	13.5	SS	O	11/19/2015	<10.3 U	<9.5 U	<9.58 U	<12.4 U	0.0502 J	0.127 J	0.39	--	--	0.54 J	0.845	0.303	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151013	SBR-SD-080 14.5-15.5	14.5	15.5	SS	O	11/19/2015	<10.4 U	<9.6 U	<9.68 U	<12.5 U	0.133	0.201	0.168	--	--	0.456	0.505	0.183	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151015	SBR-SD-080 16.5-17.5	16.5	17.5	SS	A1	11/19/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151016	SBR-SD-080 17.5-18.5	17.5	18.5	SS	O	11/19/2015	<7.32 U	<6.73 U	<6.79 U	<8.79 U	<0.682 U	6.21	1.03 J	--	--	6.56 J	6.11	2.42 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151017	SBR-SD-080 18.5-19.3	18.5	19.3	SS	O	11/19/2015	<7.1 U	<6.52 U	<6.58 U	<8.52 U	0.288 J	3.99	0.375 J	--	--	5.02	3.36	1.21	--	--	--	--	--	--	--	--	--	--
SBR-SD-080	1119151018	SBR-SD-080 19.3-20.5	19.3	20.5	SS	O	11/19/2015	<4.42 U	<4.06 U	<4.1 U	<5.3 U	1.18	7.91	0.923 J	--	--	8.95	2.09	0.597 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-081	111815964 / 111815981 (N)	SBR-SD-081 0-0.5 (N)	0.0	0.5	S	O	11/18/2015	<10.6 U	<9.76 U	<9.85 U	<12.8 U	<0.0247 U	<0.0333 U	0.686	--	--	<0.13 U	0.0651 J	<0.0388 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-081	111815966	SBR-SD-081 1.5-2.5	1.5	2.5	SS	O	11/18/2015	<8.66 U	<7.96 U	<8.02 U	<10.4 U	<0.0202 U	<0.0272 U	0.413	--	--	<0.106 U	0.0532 J	<0.0316 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-081	111815968	SBR-SD-081 3.5-4.5	3.5	4.5	SS	O	11/18/2015	<8.57 U	<7.87 U	<7.94 U	<10.3 U	0.0304 J	<0.0269 U	0.0724 J	--	--	0.266 J	0.403	0.122	--	--	--	--	--	--	--	--	--	--
SBR-SD-081	111815972	SBR-SD-081 7.5-8.5	7.5	8.5	SS	O	11/18/2015	<11.2 U	<10.2 U	<10.3 U	<13.4 U	0.0476 J	0.0678 J	0.188	--	--	0.507	0.752	0.308	--	--	--	--	--	--	--	--	--	--
SBR-SD-081	111815974	SBR-SD-081 9.5-10.5	9.5	10.5	SS	A2	11/18/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-081	111815976	SBR-SD-081 11.5-12.5	11.5	12.5	SS	O	11/18/2015	<4.13 U	<3.8 U	<3.83 U	<4.96 U	0.422 J	3.59	<0.293 U	--	--	3.18 J	2.33	0.88 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-081	111815977	SBR-SD-081 12.5-13.7	12.5	13.7	SS	O	11/18/2015	<8.17 U	<7.5 U	<7.57 U	<9.8 U	0.373	0.603	0.149	--	--	0.686	0.436	0.151	--	--	--	--	--	--	--	--	--	--
SBR-SD-081	111815978	SBR-SD-081 13.7-14.5	13.7	14.5	SS	O	11/18/2015	<4.43 U	<4.07 U	<4.11 U	<5.32 U	1.2	0.0684	0.0595	--	--	0.0578 J	0.0151 J	<0.0162 U	--	--	--	--	--	--	--	--	--	--

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Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Phenol	Phenol	Phenol	Phenol	BTEX	BTEX	BTEX	BTEX	BTEX	BTEX	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC
								2,4-Dimethylphenol	2-Methylphenol	3 & 4-Methylphenol	Phenol	Benzene	Ethylbenzene	Toluene	Xylenes, m + p	Xylene, o	Xylenes, Total	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	cis-Decalin	Heptadecane	Isopropylbenzene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	Styrene	tert-Butylbenzene	trans-Decalin
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
							EC20 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit					Result rejected during data validation						Not analyzed									
SBR-SD-084	1123151083	SBR-SD-084 0-0.5	0.0	0.5	S	O	11/23/2015	<13.4 U	<12.3 U	<12.4 U	<16.1 U	<0.0312 U	<0.042 U	0.206	--	--	<0.164 U	0.0772 J	<0.0489 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-084	1123151086	SBR-SD-084 2.5-3.5	2.5	3.5	SS	O	11/23/2015	<8.73 U	<8.03 U	<8.09 U	<10.5 U	<0.0203 U	<0.0274 U	0.0674 J	--	--	<0.107 U	0.265	0.061 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-084	1123151091	SBR-SD-084 7.5-8.5	7.5	8.5	SS	O	11/23/2015	<7.54 U	<6.93 U	<6.99 U	<9.05 U	0.0982	0.0248 J	0.133	--	--	0.592	0.772	0.301	--	--	--	--	--	--	--	--	--	--
SBR-SD-084	1123151093	SBR-SD-084 9.5-10.5	9.5	10.5	SS	O	11/23/2015	<7.53 U	<6.92 U	<6.98 U	<9.04 U	0.0981	0.0468 J	0.137	--	--	0.622	0.937	0.384	--	--	--	--	--	--	--	--	--	--
SBR-SD-084	1123151095	SBR-SD-084 11.5-12.5	11.5	12.5	SS	O	11/23/2015	<9.01 U	<8.27 U	<8.35 U	<10.8 U	<0.419 U	4.55	<0.51 U	--	--	5.11 J	8.87	2.32	--	--	--	--	--	--	--	--	--	--
SBR-SD-084	1123151096	SBR-SD-084 12.5-13.5	12.5	13.5	SS	A1	11/23/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-084	1123151097	SBR-SD-084 13.5-14.2	13.5	14.2	SS	O	11/23/2015	<7.8 U	<7.16 U	<7.23 U	<9.36 U	<0.363 U	2.31	<0.442 U	--	--	<1.91 U	3.56	0.977 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-084	1123151098	SBR-SD-084 14.2-15.5	14.2	15.5	SS	O	11/23/2015	<4.9 U	<4.5 U	<4.54 U	<5.88 U	0.36	1.51	0.145 J	--	--	1.42 J	0.741	0.198 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-085	101315301	SBR-SD-085 0-0.5	0.0	0.5	S	O	10/13/2015	<9.12 U	<8.38 U	<8.45 U	<10.9 U	<0.0212 U	<0.0286 U	0.469	--	--	<0.112 U	<0.0281 U	<0.0333 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-085	101315306	SBR-SD-085 4.5-5.5	4.5	5.5	SS	O	10/13/2015	<8.72 UJ	<8.01 U	<8.08 U	<10.5 U	0.119	0.0316 J	0.0946 J	--	--	0.236 J	0.0607 J	0.0475 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-085	101315308	SBR-SD-085 6.5-7.5	6.5	7.5	SS	O	10/13/2015	<8.82 U	<8.1 U	<8.17 U	<10.6 U	0.109	0.0518 J	0.196	--	--	0.198 J	0.217	0.174	--	--	--	--	--	--	--	--	--	--
SBR-SD-085	101315311	SBR-SD-085 9.5-10.5	9.5	10.5	SS	O	10/13/2015	<7.52 U	<6.91 U	<6.97 U	<9.03 U	0.268	0.319	0.285	--	--	0.759	0.777	0.233	--	--	--	--	--	--	--	--	--	--
SBR-SD-085	101315312	SBR-SD-085 10.5-11.7	10.5	11.7	SS	O	10/13/2015	<7.29 U	<6.7 U	<6.76 U	<8.75 U	0.273 J	1.89	0.429 J	--	--	2.45 J	3.58	1.07	--	--	--	--	--	--	--	--	--	--
SBR-SD-086	101315325	SBR-SD-086 0-0.5	0.0	0.5	S	O	10/13/2015	<8.38 U	<7.7 U	<7.77 U	<10.1 U	<0.0195 U	<0.0263 U	0.398	--	--	<0.102 U	0.0439 J	<0.0306 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-086	101315328	SBR-SD-086 2.5-3.5	2.5	3.5	SS	O	10/13/2015	<9.27 U	<8.52 U	<8.59 U	<11.1 U	<0.0216 U	<0.0291 U	0.214	--	--	<0.113 U	0.217	0.07 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-086	101315332	SBR-SD-086 6.5-7.5	6.5	7.5	SS	O	10/13/2015	<7.69 UJ	<7.07 UJ	<7.13 UJ	<9.23 UJ	0.0238 J	<0.0241 U	0.1	--	--	0.164 J	0.274	0.0426 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-086	101315335	SBR-SD-086 9.5-10.5	9.5	10.5	SS	O	10/13/2015	<7.36 U	<6.76 U	<6.82 U	<8.84 U	0.0584	<0.0231 U	0.115	--	--	0.345	0.734	0.276	--	--	--	--	--	--	--	--	--	--
SBR-SD-086	101315336 / 101315337 (N)	SBR-SD-086 10.5-11.8 (N)	10.5	11.8	SS	O	10/13/2015	<6.82 U	<6.27 U	<6.32 U	<8.19 U	0.0659	0.0241 J	0.114	--	--	0.353	0.588	0.222	--	--	--	--	--	--	--	--	--	--
SBR-SD-087	101215266	SBR-SD-087 0-0.5	0.0	0.5	S	O	10/12/2015	<12.9 U	<11.8 U	<11.9 U	<15.5 U	<0.03 U	0.614	0.844	--	--	<0.157 U	0.0639 J	<0.047 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-087	101215267	SBR-SD-087 0.5-1.5	0.5	1.5	SS	O	10/12/2015	<11.8 U	<10.8 U	<10.9 U	<14.1 U	<0.0274 U	<0.0369 U	0.172	--	--	<0.144 U	<0.0362 U	<0.0429 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-087	101215269 / 101215270 (N)	SBR-SD-087 2.5-3.9 (N)	2.5	3.9	SS	O	10/12/2015	<9.29 U	<8.53 UJ	<8.61 UJ	<11.1 UJ	<0.0216 U	<0.0291 U	0.0892 J	--	--	<0.114 U	0.0367 J	<0.0339 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-097	101215264	SBR-SD-097 0-0.5	0.0	0.5	S	O	10/12/2015	<11.9 UJ	<11 U	<11.1 U	<14.3 U	<0.0278 U	<0.0375 U	0.845	--	--	<0.146 U	0.0565 J	<0.0436 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-097	101215265	SBR-SD-097 0.5-1.4	0.5	1.4	SS	O	10/12/2015	<11.2 UJ	<10.3 U	<10.4 U	<13.5 U	<0.0262 U	<0.0353 U	1.12	--	--	<0.138 U	0.0481 J	<0.0411 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-098	101215271	SBR-SD-098 0-0.5	0.0	0.5	S	O	10/12/2015	<13.1 U	<12 U	<12.1 U	<15.7 U	<0.0305 U	<0.0411 U	0.976	--	--	<0.16 U	0.0512 J	<0.0478 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-098	101215274	SBR-SD-098 2.5-3.5	2.5	3.5	SS	O	10/12/2015	<9.55 U	<8.77 U	<8.85 U	<11.5 U	<0.0222 U	<0.03 U	0.243	--	--	<0.117 U	0.0392 J	<0.0349 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-098	101215275	SBR-SD-098 3.5-4.5	3.5	4.5	SS	O	10/12/2015	<9.8 U	<9.01 U	<9.09 U	<11.8 U	<0.0228 U	<0.0308 U	0.234	--	--	0.192 J	0.694	0.356	--	--	--	--	--	--	--	--	--	--
SBR-SD-098	101215278	SBR-SD-098 6.5-7.8	6.5	7.8	SS	O	10/12/2015	<8.78 U	<8.07 U	<8.14 U	<10.5 U	0.0394 J	0.0421 J	0.13	--	--	0.85	1.27	0.436	--	--	--	--	--	--	--	--	--	--
SBR-SD-099	111815945	SBR-SD-099 0-0.5	0.0	0.5	S	O	11/18/2015	<8.62 U	<7.92 U	<7.99 U	<10.3 U	<0.0201 U	0.0587 J	0.774	--	--	<0.105 U	0.0841 J	0.038 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-099	111815946	SBR-SD-099 2.5-3.5	2.5	3.5	SS	O	11/18/2015	<12.5 U	<11.5 U	<11.6 U	<15 U	<0.0292 U	<0.0393 U	0.268	--	--	<0.153 U	0.0552 J	<0.0457 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-099	111815950	SBR-SD-099 6.5-7.5	6.5	7.5	SS	O	11/18/2015	<9.86 UJ	<9.06 U	<9.14 U	<11.8 U	<0.023 U	<0.0309 U	0.178	--	--	<0.121 U	0.0459 J	<0.036 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-099	111815953 / 111815961 (N)	SBR-SD-099 9.5-10.5 (N)	9.5	10.5	SS	O	11/18/2015	<11.8 U	<10.9 U	<11 U	<14.2 U	0.0474 J	0.0863 J	0.071 J	--	--	0.4 J	0.818	0.33	--	--	--	--	--	--	--	--	--	--
SBR-SD-099	111815956	SBR-SD-099 12.5-13.5	12.5	13.5	SS	O	11/18/2015	<11.2 U	<10.3 U	<10.4 U	<13.5 U	0.0418 J	0.0361 J	0.0588 J	--	--	0.183 J	0.291	0.169	--	--	--	--	--	--	--	--	--	--
SBR-SD-099	111815957	SBR-SD-099 13.5-14.5	13.5	14.5	SS	O	11/18/2015	<10.2 U	<9.36 U	<9.44 U	<12.2 U	0.0394 J	0.0668 J	0.0985 J	--	--	0.181 J	0.212	0.0868 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-099	111815958	SBR-SD-099	17.0	18.0	SS	O	11/18/2015	<4.77 U	<4.38 U	<4.42 U	<5.73 U	<0.0111 U	<0.015 U	0.0144 J	--	--	<0.0583 U	0.0364 J	0.0183 J	--	--	--	--	--	--	--	--	--	--

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Phenol	Phenol	Phenol	Phenol	BTEX	BTEX	BTEX	BTEX	BTEX	BTEX	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC
								2,4-Dimethylphenol	2-Methylphenol	3 & 4-Methylphenol	Phenol	Benzene	Ethylbenzene	Toluene	Xylenes, m + p	Xylene, o	Xylenes, Total	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	cis-Decalin	Heptadecane	Isopropylbenzene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	Styrene	tert-Butylbenzene	trans-Decalin
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
							EC20 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit					Result rejected during data validation						Not analyzed									
SBR-SD-100	101215279	SBR-SD-100 0-0.5	0.0	0.5	S	O	10/12/2015	<10 U	<9.22 U	<9.3 U	<12 U	<0.0234 U	<0.0315 U	0.749	--	--	<0.123 U	0.0875 J	<0.0366 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-100	101215283	SBR-SD-100 3.5-4.5	3.5	4.5	SS	O	10/12/2015	<8.93 U	<8.2 U	<8.27 U	<10.7 U	0.0572	0.0329 J	0.132	--	--	1.02	1.22	0.512	--	--	--	--	--	--	--	--	--	--
SBR-SD-100	101215285	SBR-SD-100 5.5-6.5	5.5	6.5	SS	O	10/12/2015	<11.9 U	<10.9 U	<11 U	<14.3 U	0.0821	0.128 J	0.23	--	--	0.45 J	1.08	0.359	--	--	--	--	--	--	--	--	--	--
SBR-SD-100	101215287	SBR-SD-100 7.5-8.2	7.5	8.2	SS	O	10/12/2015	<11.4 U	<10.5 U	<10.6 U	<13.7 U	0.0767	<0.0357 U	0.13 J	--	--	0.143 J	0.208	0.0708 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-101	101215253	SBR-SD-101 0-0.5	0.0	0.5	S	O	10/12/2015	<9.87 U	<9.07 U	<9.15 U	<11.8 U	<0.023 U	<0.031 U	0.29	--	--	<0.121 U	0.174	0.106 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-101	101215255	SBR-SD-101 1.5-2.5	1.5	2.5	SS	O	10/12/2015	<8.83 U	<8.11 U	<8.19 U	<10.6 U	0.0476	0.0298 J	0.127	--	--	0.708	0.704	0.277	--	--	--	--	--	--	--	--	--	--
SBR-SD-101	101215256	SBR-SD-101 2.5-3.5	2.5	3.5	SS	O	10/12/2015	<8.53 U	<7.84 U	<7.91 U	<10.2 U	0.0612	0.0343 J	0.123	--	--	0.808	0.733	0.305	--	--	--	--	--	--	--	--	--	--
SBR-SD-101	101215262	SBR-SD-101 8.5-9.5	8.5	9.5	SS	O	10/12/2015	<11.7 UJ	<10.7 U	<10.8 U	<14 U	0.0842	<0.0366 U	0.168	--	--	0.166 J	0.297	0.118 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-101	101215263	SBR-SD-101 9.5-10.4	9.5	10.4	SS	O	10/12/2015	<7.39 U	<6.79 U	<6.85 U	<8.87 U	<0.172 U	0.454 J	<0.209 U	--	--	<0.903 U	3.34	1.12	--	--	--	--	--	--	--	--	--	--
SBR-SD-102	101215242	SBR-SD-102 0-0.5	0.0	0.5	S	O	10/12/2015	<12.6 U	<11.6 U	<11.7 U	<15.2 U	<0.0294 U	<0.0396 U	0.2	--	--	<0.154 U	0.0696 J	<0.0461 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-102	101215244	SBR-SD-102 1.5-2.5	1.5	2.5	SS	O	10/12/2015	<9.97 U	<9.16 U	<9.24 U	<12 U	<0.0232 U	<0.0313 U	0.755	--	--	<0.122 U	0.0787 J	<0.0364 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-102	101215247 / 101215252 (N)	SBR-SD-102 4.5-5.5 (N)	4.5	5.5	SS	O	10/12/2015	<8.49 U	<7.8 U	<7.86 U	<10.2 U	0.0999 J	0.0376 J	0.189	--	--	1.25	0.753	0.28	--	--	--	--	--	--	--	--	--	--
SBR-SD-102	101215249	SBR-SD-102 6.5-7.5	6.5	7.5	SS	O	10/12/2015	<12.3 U	<11.3 U	<11.4 U	<14.8 U	0.0775	0.0979 J	0.13 J	--	--	1.07	1.04	0.352	--	--	--	--	--	--	--	--	--	--
SBR-SD-102	101215251	SBR-SD-102 8.5-9.5	8.5	9.5	SS	O	10/12/2015	<11.9 U	<10.9 U	<11 U	<14.3 U	0.077	0.0428 J	0.143 J	--	--	0.149 J	0.405	0.174	--	--	--	--	--	--	--	--	--	--
SBR-SD-103	100915209 / 100915218 (N)	SBR-SD-103 0-0.5 (N)	0.0	0.5	S	O	10/9/2015	<9.22 U	<8.47 U	<8.54 U	<11.1 U	<0.0215 U	<0.0289 U	0.691	--	--	<0.113 U	0.109 J	<0.0336 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-103	100915210	SBR-SD-103 0.5-1.5	0.5	1.5	SS	O	10/9/2015	<9.93 U	<9.12 U	<9.2 U	<11.9 U	<0.0231 U	<0.0311 U	0.184	--	--	<0.121 U	0.213	0.104 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-103	100915213	SBR-SD-103 3.5-4.5	3.5	4.5	SS	O	10/9/2015	<9.54 U	<8.77 U	<8.84 U	<11.5 U	0.0586	0.0403 J	0.156	--	--	1.81	1.14	0.459	--	--	--	--	--	--	--	--	--	--
SBR-SD-103	100915215	SBR-SD-103 5.5-6.5	5.5	6.5	SS	O	10/9/2015	<9.91 U	<9.11 U	<9.18 U	<11.9 U	0.0614	0.105 J	0.266	--	--	0.649	0.687	0.279	--	--	--	--	--	--	--	--	--	--
SBR-SD-103	100915217	SBR-SD-103 7.5-8.5	7.5	8.5	SS	O	10/9/2015	<12 U	<11.1 U	<11.2 U	<14.4 U	0.0881	<0.0378 U	0.0962 J	--	--	<0.147 U	0.345	0.143 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-104	101215230	SBR-SD-104 0-0.5	0.0	0.5	S	O	10/12/2015	<8.99 U	<8.26 U	<8.33 U	<10.8 U	<0.0209 UJ	<0.0282 UJ	0.539 J	--	--	<0.11 UJ	0.078 J	<0.0328 UJ	--	--	--	--	--	--	--	--	--	--
SBR-SD-104	101215233	SBR-SD-104 2.5-3.5	2.5	3.5	SS	O	10/12/2015	<10 U	<9.22 U	<9.3 U	<12 U	<0.0234 U	<0.0315 U	0.173	--	--	0.149 J	0.66	0.354	--	--	--	--	--	--	--	--	--	--
SBR-SD-104	101215235	SBR-SD-104 4.5-5.5	4.5	5.5	SS	O	10/12/2015	<7.97 U	<7.32 U	<7.38 U	<9.56 U	0.0338 J	0.0528 J	0.133	--	--	0.429	1.23	0.465	--	--	--	--	--	--	--	--	--	--
SBR-SD-104	101215237	SBR-SD-104 6.5-7.5	6.5	7.5	SS	A1	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-104	101215238	SBR-SD-104 7.5-8.5	7.5	8.5	SS	O	10/12/2015	<10.4 U	<9.6 U	<9.68 U	<12.5 U	0.0649	0.0672 J	0.252	--	--	0.783	0.776	0.316	--	--	--	--	--	--	--	--	--	--
SBR-SD-104	101215239	SBR-SD-104 8.5-9.5	8.5	9.5	SS	A1	10/12/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-104	101215241	SBR-SD-104 10.5-11.9	10.5	11.9	SS	O	10/12/2015	<11.4 U	<10.5 U	<10.6 U	<13.7 U	0.0684	0.101 J	0.181	--	--	0.422 J	1.01	0.341	--	--	--	--	--	--	--	--	--	--
SBR-SD-105	111715934	SBR-SD-105 0-0.5	0.0	0.5	S	O	11/17/2015	<5.88 U	<5.4 U	<5.45 U	<7.06 U	<0.0137 U	<0.0185 U	0.0206 J	--	--	0.0862 J	0.0509 J	0.0248 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-105	111715937	SBR-SD-105 2.5-3.5	2.5	3.5	SS	O	11/17/2015	<5.5 U	<5.05 U	<5.1 U	<6.6 U	<0.0256 U	0.27	0.0319 J	--	--	0.327 J	0.339	0.0996 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-105	111715938	SBR-SD-105 3.5-4.5	3.5	4.5	SS	O	11/17/2015	<4.64 U	<4.26 U	<4.3 U	<5.56 U	<0.0108 U	<0.0145 U	<0.0131 U	--	--	<0.0567 U	<0.0143 U	<0.0169 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-106	100915219	SBR-SD-106 0-0.5	0.0	0.5	S	O	10/9/2015	<9.56 U	<8.79 U	<8.86 U	<11.5 U	<0.0223 U	<0.03 U	0.125	--	--	<0.117 U	<0.0295 U	<0.0349 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-106	100915221	SBR-SD-106 1.5-2.5	1.5	2.5	SS	O	10/9/2015	<8.17 U	<7.51 U	<7.57 U	<9.81 U	<0.019 U	<0.0256 U	0.868	--	--	<0.0999 U	0.0731 J	0.0448 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-106	100915225	SBR-SD-106 5.5-6.5	5.5	6.5	SS	O	10/9/2015	<8.01 U	<7.36 U	<7.42 U	<9.61 U	0.069	0.0301 J	0.113	--	--	0.745	1.12	0.412	--	--	--	--	--	--	--	--	--	--
SBR-SD-106	100915228	SBR-SD-106 8.5-9.5	8.5	9.5	SS	O	10/9/2015	<9.99 U	<9.17 U	<9.25 U	<12 U	0.128	0.0425 J	0.107 J	--	--	0.223 J	0.397	0.0754 J	--	--	--	--	--	--	--	--	--	--

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Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Phenol	Phenol	Phenol	Phenol	BTEX	BTEX	BTEX	BTEX	BTEX	BTEX	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC
								2,4-Dimethylphenol	2-Methylphenol	3 & 4-Methylphenol	Phenol	Benzene	Ethylbenzene	Toluene	Xylenes, m + p	Xylene, o	Xylenes, Total	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	cis-Decalin	Heptadecane	Isopropylbenzene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	Styrene	tert-Butylbenzene	trans-Decalin
		Reporting Units:						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		EC20 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		EC50 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit					Result rejected during data validation							Not analyzed								
SBR-SD-107	111715917	SBR-SD-107 0-0.5	0.0	0.5	S	O	11/17/2015	<10.4 U	<9.56 U	<9.65 U	<12.5 U	<0.0242 U	<0.0327 U	0.208	--	--	<0.127 U	0.0346 J	<0.038 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-107	111715920	SBR-SD-107 2.5-3.5	2.5	3.5	SS	O	11/17/2015	<9.69 U	<8.9 U	<8.98 U	<11.6 U	<0.0225 U	<0.0304 U	0.247	--	--	<0.118 U	0.0791 J	0.0355 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-107	111715923	SBR-SD-107 5.5-6.5	5.5	6.5	SS	O	11/17/2015	<6.77 U	<6.22 U	<6.27 U	<8.12 U	0.0722	0.0769 J	0.0558 J	--	--	0.762	1.42	0.22	--	--	--	--	--	--	--	--	--	--
SBR-SD-107	111715926	SBR-SD-107 8.5-9.5	8.5	9.5	SS	O	11/17/2015	<9.42 U	<8.65 U	<8.73 U	<11.3 U	0.0595	0.0305 J	0.0958 J	--	--	0.178 J	0.228	0.0708 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-107	111715928	SBR-SD-107 10.5-11.5	10.5	11.5	SS	O	11/17/2015	<8.86 U	<8.14 U	<8.21 U	<10.6 U	0.0421 J	0.0434 J	0.0471 J	--	--	0.365	0.754	0.18	--	--	--	--	--	--	--	--	--	--
SBR-SD-107	111715929	SBR-SD-107 11.5-12.5	11.5	12.5	SS	O	11/17/2015	<4.46 U	<4.1 U	<4.13 U	<5.35 U	<0.104 U	0.254 J	<0.126 U	--	--	2.41	0.691	0.207 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-107	111715931	SBR-SD-107 13.5-14.5	13.5	14.5	SS	O	11/17/2015	<4.48 U	<4.12 U	<4.16 U	<5.38 U	<0.0104 U	<0.0141 U	<0.0127 U	--	--	<0.0548 U	0.04 J	<0.0164 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-108	100915198	SBR-SD-108 0-0.5	0.0	0.5	S	O	10/9/2015	<13.5 U	<12.4 U	<12.5 U	<16.2 U	<0.0314 U	<0.0423 U	0.466	--	--	<0.165 U	0.0796 J	<0.0492 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-108	100915200	SBR-SD-108 1.5-2.5	1.5	2.5	SS	O	10/9/2015	<8.1 U	<7.44 U	<7.51 U	<9.72 U	<0.0189 U	<0.0254 U	0.263	--	--	<0.099 U	0.198	0.095 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-108	100915202	SBR-SD-108 3.5-4.5	3.5	4.5	SS	O	10/9/2015	<5.22 U	<4.79 U	<4.83 U	<6.26 U	<0.0121 U	<0.0164 U	0.0715	--	--	<0.0638 U	0.0559 J	0.0232 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-108	100915205	SBR-SD-108 6.5-7.5	6.5	7.5	SS	O	10/9/2015	<7.66 U	<7.03 U	<7.1 U	<9.19 U	0.0732	0.0374 J	0.2	--	--	1.09	1.25	0.461	--	--	--	--	--	--	--	--	--	--
SBR-SD-108	100915208	SBR-SD-108 9.5-10	9.5	10.0	SS	O	10/9/2015	<7.8 U	<7.17 U	<7.23 U	<9.36 U	0.0702	0.0885 J	0.39	--	--	1.51	1.47	0.581	--	--	--	--	--	--	--	--	--	--
SBR-SD-109	111615902	SBR-SD-109 0-0.5	0.0	0.5	S	O	11/16/2015	<12 U	<11 U	<11.1 U	<14.4 U	<0.0279 U	<0.0375 U	0.782	--	--	<0.146 U	0.0414 J	<0.0437 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-109	111615904	SBR-SD-109 1.5-2.5	1.5	2.5	SS	O	11/16/2015	<8.4 U	<7.72 U	<7.79 U	<10.1 U	0.108	0.125	0.0938 J	--	--	1.55	2.02	0.468	--	--	--	--	--	--	--	--	--	--
SBR-SD-109	111615909 / 111615915 (N)	SBR-SD-109 6.5-7.5 (N)	6.5	7.5	SS	O	11/16/2015	<9.15 U	<8.4 U	<8.48 U	<11 U	0.445	2.57	<0.104 U	--	--	2.55	3.57	0.803	--	--	--	--	--	--	--	--	--	--
SBR-SD-109	111615910	SBR-SD-109 7.5-8.3	7.5	8.3	SS	O	11/16/2015	<5.88 U	<5.41 U	<5.45 U	<7.06 U	<1.37 U	33.5	1.72 J	--	--	32.6	26.3	6.59 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-109	111615911	SBR-SD-109 8.3-9.5	8.3	9.5	SS	O	11/16/2015	<4.77 U	<4.38 U	<4.42 U	<5.72 U	<2.22 U	24.4	<2.7 U	--	--	17.7 J	17.5	5.9 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-109	111615912	SBR-SD-109 9.5-10.5	9.5	10.5	SS	A1	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-109	111615913	SBR-SD-109 10.5-11.5	10.5	11.5	SS	A2	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-109	111615914	SBR-SD-109 11.5-12.5	11.5	12.5	SS	A2	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-110	100915186	SBR-SD-110 0-0.5	0.0	0.5	S	O	10/9/2015	<8.81 U	<8.09 U	<8.16 U	<10.6 U	<0.0205 U	<0.0276 U	0.364	--	--	<0.108 U	0.0658 J	<0.0322 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-110	100915187	SBR-SD-110 0.5-1.5	0.5	1.5	SS	O	10/9/2015	<9.24 U	<8.49 U	<8.56 U	<11.1 U	<0.0215 U	<0.029 U	0.379	--	--	<0.113 U	0.053 J	<0.0337 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-110	100915192	SBR-SD-110 5.5-6.5	5.5	6.5	SS	O	10/9/2015	<8.22 U	<7.55 U	<7.62 U	<9.87 U	0.0557	0.0387 J	0.202	--	--	0.673	1.11	0.434	--	--	--	--	--	--	--	--	--	--
SBR-SD-110	100915193	SBR-SD-110 6.5-7.5	6.5	7.5	SS	O	10/9/2015	<7.98 U	<7.33 U	<7.4 U	<9.58 U	0.0718	0.0715 J	0.173	--	--	0.71	1.03	0.396	--	--	--	--	--	--	--	--	--	--
SBR-SD-110	100915196	SBR-SD-110 9.5-10.3	9.5	10.3	SS	O	10/9/2015	<8.8 U	<8.08 U	<8.15 U	<10.6 U	0.413	0.106 J	0.276	--	--	0.642	0.216	0.0814 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-111	100815158	SBR-SD-111 0-0.5	0.0	0.5	S	O	10/8/2015	<0.743 U	<0.682 UJ	<0.688 UJ	<0.891 U	<0.0207 U	<0.028 U	0.143	--	--	<0.109 U	<0.0275 U	<0.0325 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-111	100815160	SBR-SD-111 1.5-2.5	1.5	2.5	SS	O	10/8/2015	<8.4 U	<7.72 UJ	<7.78 UJ	<10.1 U	0.0287 J	<0.0316 U	0.544	--	--	<0.123 U	0.0674 J	<0.0368 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-111	100815162	SBR-SD-111 3.5-4.5	3.5	4.5	SS	O	10/8/2015	<0.904 U	<0.831 U	<0.838 U	<1.08 U	<0.0126 U	<0.017 U	0.105	--	--	0.0796 J	0.306	0.16	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-111	100815165	SBR-SD-111 6.5-7	6.5	7.0	SS	O	10/8/2015	<1.04 U	<0.959 UJ	<0.968 UJ	<1.25 U	0.0565	0.0268 J	0.117	--	--	0.314	0.403	0.0586 J	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-112	100815178	SBR-SD-112 0-0.5	0.0	0.5	S	O	10/8/2015	<11.3 U	<10.4 U	<10.5 U	<13.6 U	<0.0264 U	<0.0356 U	0.443	--	--	<0.139 U	0.0662 J	<0.0414 U	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-112	100815180	SBR-SD-112 1.5-2.5	1.5	2.5	SS	O	10/8/2015	<8.43 U	<7.75 U	<7.82 U	<10.1 U	0.0416 J	0.03 J	0.212	--	--	0.421	0.886	0.367	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-112	100815184	SBR-SD-112 5.5-6.5	5.5	6.5	SS	O	10/8/2015	<10.4 U	<9.55 U	<9.64 U	<12.5 U	0.186	0.0528 J	0.173	--	--	0.275 J	0.417	0.171	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-112	100815185	SBR-SD-112 6.5-7.6	6.5	7.6	SS	O	10/8/2015	<11.8 U	<10.8 U	<10.9 U	<14.1 U	0.642	0.303	0.209	--	--	0.691	0.571	0.23	--	--	--	--	--	--	--	--	--	--	--

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Phenol	Phenol	Phenol	Phenol	BTEX	BTEX	BTEX	BTEX	BTEX	BTEX	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC
								2,4-Dimethylphenol	2-Methylphenol	3 & 4-Methylphenol	Phenol	Benzene	Ethylbenzene	Toluene	Xylenes, m + p	Xylene, o	Xylenes, Total	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	cis-Decalin	Heptadecane	Isopropylbenzene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	Styrene	tert-Butylbenzene	trans-Decalin
		Reporting Units:						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		EC20 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		EC50 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit					Result rejected during data validation							Not analyzed								
SBR-SD-113	100815166	SBR-SD-113 0-0.5	0.0	0.5	S	O	10/8/2015	<1.31 U	<1.2 UJ	<1.21 UJ	<1.57 U	<0.0183 U	0.0288 J	0.514	--	--	<0.0961 U	0.0925 J	0.0333 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-113	100815170 / 100815177 (N)	SBR-SD-113 3.5-4.5 (N)	3.5	4.5	SS	O	10/8/2015	<1.19 U	<1.1 UJ	<1.11 UJ	<1.43 U	0.0446	0.034 J	0.293	--	--	0.339	0.889 J	0.356 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-113	100815172	SBR-SD-113 5.5-6.5	5.5	6.5	SS	O	10/8/2015	<0.975 U	<0.896 U	<0.904 U	<1.17 U	0.0301	0.0505 J	0.264	--	--	0.666	0.57	0.219	--	--	--	--	--	--	--	--	--	--
SBR-SD-113	100815174	SBR-SD-113 7.5-8.5	7.5	8.5	SS	O	10/8/2015	<8.99 U	<8.26 U	<8.33 U	<10.8 U	0.0591	0.0978 J	0.619	--	--	0.431	0.602	0.23	--	--	--	--	--	--	--	--	--	--
SBR-SD-113	100815176	SBR-SD-113 9.5-10	9.5	10.0	SS	O	10/8/2015	<10.3 U	<9.5 U	<9.58 U	<12.4 U	0.0961	0.128 J	0.86	--	--	0.513	0.751	0.296	--	--	--	--	--	--	--	--	--	--
SBR-SD-114	100815147	SBR-SD-114 0-0.5	0.0	0.5	S	O	10/8/2015	<2.37 U	<2.18 U	<2.2 U	<2.85 U	<0.0332 U	<0.0447 U	0.345	--	--	<0.174 U	0.0479 J	<0.052 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-114	100815148	SBR-SD-114 0.5-1.5	0.5	1.5	SS	O	10/8/2015	<1.69 U	<1.55 UJ	<1.56 UJ	<2.03 U	<0.0236 U	<0.0318 U	0.189	--	--	<0.124 U	0.0315 J	<0.037 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-114	100815155	SBR-SD-114 7.5-8.5	7.5	8.5	SS	O	10/8/2015	<0.829 U	<0.762 UJ	<0.768 UJ	<0.995 U	0.0405 J	<0.0312 U	0.141	--	--	0.154 J	0.0802 J	<0.0363 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-114	100815156	SBR-SD-114 8.5-9.5	8.5	9.5	SS	O	10/8/2015	<0.907 U	<0.833 UJ	<0.84 UJ	<1.09 U	0.0748	<0.0341 U	0.0583 J	--	--	<0.133 U	<0.0335 U	<0.0397 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-114	100815157	SBR-SD-114 9.5-10.4	9.5	10.4	SS	O	10/8/2015	<0.531 U	<0.488 UJ	<0.492 UJ	<0.637 U	0.0334	0.0279 J	0.0912	--	--	0.198 J	0.154	0.0461 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-115	111615867	SBR-SD-115 0-0.5	0.0	0.5	S	O	11/16/2015	<11.7 U	<10.8 U	<10.9 U	<14.1 U	<0.0273 U	<0.0368 U	0.14 J	--	--	<0.144 U	<0.148 U	<0.0429 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-115	111615871	SBR-SD-115 3.5-4.5	3.5	4.5	SS	O	11/16/2015	<9.52 U	<8.75 U	<8.82 U	<11.4 U	<0.0222 U	<0.0299 U	0.138	--	--	<0.116 U	<0.0293 U	<0.0348 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-115	111615875	SBR-SD-115 7.5-8.5	7.5	8.5	SS	O	11/16/2015	<7.69 U	<7.07 U	<7.13 U	<9.23 U	0.0193 J	<0.0241 U	0.497	--	--	<0.0941 U	0.131 J	<0.0971 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-115	111615878	SBR-SD-115 10.5-11.5	10.5	11.5	SS	O	11/16/2015	<7.47 U	<6.87 U	<6.93 U	<8.97 U	<0.0174 U	<0.0234 U	0.0776 J	--	--	0.258 J	0.367 J	0.137 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-115	111615879	SBR-SD-115 11.5-12.5	11.5	12.5	SS	O	11/16/2015	<10.1 U	<9.28 U	<9.36 U	<12.1 U	0.0328 J	0.0638 J	0.293	--	--	0.271 J	0.501 J	0.185 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-115	111615882	SBR-SD-115 14.5-15.5	14.5	15.5	SS	O	11/16/2015	<8.89 U	<8.16 U	<8.24 U	<10.7 U	0.0457	0.0593 J	0.319	--	--	0.308 J	0.468 J	0.185 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-115	111615883	SBR-SD-115 15.5-16.5	15.5	16.5	SS	O	11/16/2015	<7.36 U	<6.76 U	<6.82 U	<8.83 U	0.203	0.157	0.414	--	--	0.346	0.313 J	0.107 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-115	111615884	SBR-SD-115 16.5-17.5	16.5	17.5	SS	O	11/16/2015	<4.48 U	<4.11 U	<4.15 U	<5.37 U	0.0555	0.309	0.0238 J	--	--	0.196	0.159 J	<0.0565 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-115	111615885	SBR-SD-115 17.5-18.5	17.5	18.5	SS	O	11/16/2015	<4.35 U	<3.99 U	<4.03 U	<5.22 U	<0.0101 U	<0.0136 U	<0.0123 U	--	--	<0.0532 U	<0.0134 U	<0.0159 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-115.X	100715110	SBR-SD-115.X 0-0.5	0.0	0.5	S	O	10/7/2015	<2.49 U	<2.29 UJ	<2.31 UJ	<2.99 U	<0.0347 U	<0.0468 U	0.257	--	--	<0.182 U	0.0976 J	<0.0545 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-115.X	100715113	SBR-SD-115.X 2.5-3.5	2.5	3.5	SS	O	10/7/2015	<8.16 U	<7.49 UJ	<7.56 UJ	<9.79 U	0.0413 J	<0.0307 U	0.835	--	--	<0.12 U	0.0739 J	0.0433 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-115.X	100715114	SBR-SD-115.X 3.5-4.5	3.5	4.5	SS	O	10/7/2015	<4 U	<3.68 UJ	<3.71 UJ	<4.8 U	0.0328 J	<0.0314 U	0.75	--	--	<0.122 U	0.15	0.0816 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-115.X	100715116	SBR-SD-115.X 5.5-6.5	5.5	6.5	SS	O	10/7/2015	<1.4 U	<1.28 UJ	<1.29 UJ	<1.67 U	0.0213 J	<0.0263 U	0.266	--	--	0.151 J	0.614	0.326	--	--	--	--	--	--	--	--	--	--
SBR-SD-115.X	100715118	SBR-SD-115.X 7.5-8.6	7.5	8.6	SS	O	10/7/2015	<0.579 U	<0.532 UJ	<0.537 UJ	<0.695 U	0.0311 J	<0.0218 U	0.0661 J	--	--	0.214 J	0.322	0.168	--	--	--	--	--	--	--	--	--	--
SBR-SD-116	100815119 / 100815130 (N)	SBR-SD-116 0-0.5 (N)	0.0	0.5	S	O	10/8/2015	<0.648 U	<0.595 UJ	<0.6 UJ	<0.777 U	<0.0172 U	<0.0232 U	0.201	--	--	<0.0903 U	0.0546 J	<0.027 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-116	100815122	SBR-SD-116 2.5-3.5	2.5	3.5	SS	O	10/8/2015	<3.88 U	<3.56 UJ	<3.59 UJ	<4.65 U	<0.0217 U	<0.0292 U	0.306	--	--	<0.114 U	0.0761 J	<0.034 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-116	100815126	SBR-SD-116 6.5-7.5	6.5	7.5	SS	O	10/8/2015	<0.632 U	<0.581 U	<0.586 U	<0.758 U	0.03 J	<0.0238 U	0.101	--	--	0.331	0.601	0.252	--	--	--	--	--	--	--	--	--	--
SBR-SD-116	100815127	SBR-SD-116 7.5-8.5	7.5	8.5	SS	O	10/8/2015	<0.69 U	<0.634 UJ	<0.639 UJ	<0.828 U	0.0451	0.0669 J	0.251	--	--	0.334	0.573	0.224	--	--	--	--	--	--	--	--	--	--
SBR-SD-116	100815129	SBR-SD-116 9.5-10.4	9.5	10.4	SS	O	10/8/2015	<1.76 U	<1.62 U	<1.63 U	<2.12 U	0.195	0.0889 J	0.509	--	--	0.403	0.615	0.239	--	--	--	--	--	--	--	--	--	--
SBR-SD-117	111315856	SBR-SD-117 0-0.5	0.0	0.5	S	O	11/13/2015	<4.57 U	<4.2 U	<4.24 U	<5.49 U	<0.0106 U	<0.0143 U	1.43	--	--	0.0762 J	0.0679 J	<0.0577 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-117	111315859	SBR-SD-117 2.5-3.6	2.5	3.6	SS	O	11/13/2015	<5.12 U	<4.7 U	<4.74 U	<6.14 U	<0.0119 U	<0.0161 U	0.0509 J	--	--	<0.0626 U	<0.0646 U	<0.0187 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-117	111315860	SBR-SD-117 3.6-4.6	3.6	4.6	SS	O	11/13/2015	<5.04 U	<4.63 U	<4.67 U	<6.05 U	<0.0117 U	<0.0158 U	<0.0143 U	--	--	<0.0617 U	<0.0637 U	<0.0184 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-117	111315861 / 111315866 (N)	SBR-SD-117 4.6-5.6 (N)	4.6	5.6	SS	O	11/13/2015	<4.59 U	<4.22 U	<4.26 U	<5.51 U	0.0258 J	0.0178 J	0.0691	--	--	<0.0561 U	<0.058 U	<0.058 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-117	111315863	SBR-SD-117 6.6-7.6	6.6	7.6	SS	O	11/13/2015	<4.47 U	<4.11 U	<4.14 U	<5.37 U	<0.0104 U	<0.014 U	<0.0127 U	--	--	<0.0547 U	<0.0138 U	<0.0163 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-118	100715091	SBR-SD-118 0-0.5	0.0	0.5	S	O	10/7/2015	<0.152 U	<0.14 U	<0.141 U	<0.182 U	<0.0214 U	<0.0289 U	0.16	--	--	<0.113 U	<0.116 U	<0.0336 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-118	100715094	SBR-SD-118 2.5-3.5	2.5	3.5	SS	O	10/7/2015	<3.07 U	<2.82 UJ	<2.85 UJ	<3.69 U	<0.0172 U	<0.0231 U	0.408	--	--	<0.0902 U	<0.0931 U	<0.0269 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-118	100715096	SBR-SD-118 4.5-5.5	4.5	5.5	SS	O	10/7/2015	<0.677 U	<0.622 U	<0.627 U	<0.812 U	0.0257 J	<0.0255 U	0.0909 J	--	--	0.342	1	0.397	--	--	--	--	--	--	--	--	--	--
SBR-SD-118	100715097	SBR-SD-118 5.5-6.8	5.5	6.8	SS	O	10/7/2015	<0.65 U	<0.598 U	<0.603 U	<0.781 U	<0.0182 U	<0.0245 U	0.057 J	--	--	0.135 J	<0.0985 U	0.0298 J	--	--	--	--	--	--	--	--	--	--

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

								Phenol	Phenol	Phenol	Phenol	BTEX	BTEX	BTEX	BTEX	BTEX	BTEX	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC
Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	2,4-Dimethylphenol	2-Methylphenol	3 & 4-Methylphenol	Phenol	Benzene	Ethylbenzene	Toluene	Xylenes, m + p	Xylene, o	Xylenes, Total	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	cis-Decalin	Heptadecane	Isopropylbenzene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	Styrene	tert-Butylbenzene	trans-Decalin
Reporting Units:								mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EC20 for TPAH(13):								NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EC50 for TPAH(13):								NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Value exceeds EC20 or EC50			Detected below EC20						Not detected above reported limit					Result rejected during data validation				Not analyzed										
SBR-SD-118.4	1218151561	SBR-SD-118.4 0-0.5	0.0	0.5	S	O	12/18/2015	<9.91 U	<9.1 U	<9.18 U	<11.9 U	<0.0231 U	<0.0311 U	0.195	--	--	<0.121 U	0.165	0.118 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-118.4	1218151565	SBR-SD-118.4 5.5-6.5	5.5	6.5	SS	O	12/18/2015	<8.46 U	<7.78 U	<7.84 U	<10.2 U	0.0245 J	<0.0266 U	0.0993 J	--	--	0.297 J	0.659	0.32	--	--	--	--	--	--	--	--	--	--
SBR-SD-118.4	1218151567	SBR-SD-118.4 7.5-8.5	7.5	8.5	SS	O	12/18/2015	<7.53 U	<6.92 U	<6.98 U	<9.04 U	0.0394	<0.0236 U	0.058 J	--	--	0.315	0.477	0.237	--	--	--	--	--	--	--	--	--	--
SBR-SD-118.4	1218151570	SBR-SD-118.4 10.5-11.5	10.5	11.5	SS	O	12/18/2015	<9.43 U	<8.67 U	<8.74 U	<11.3 U	0.032 J	<0.0296 U	0.0991 J	--	--	0.31 J	0.989	0.449	--	--	--	--	--	--	--	--	--	--
SBR-SD-118.4	1218151571	SBR-SD-118.4 11.5-12.5	11.5	12.5	SS	O	12/18/2015	<7.83 U	<7.19 U	<7.25 U	<9.39 U	0.0542	<0.0246 U	0.051 J	--	--	0.197 J	0.254	0.182	--	--	--	--	--	--	--	--	--	--
SBR-SD-118.4	1218151572	SBR-SD-118.4 12.5-13.5	12.5	13.5	SS	O	12/18/2015	<7.69 U	<7.07 U	<7.13 U	<9.23 U	0.0274 J	<0.0241 U	0.0645 J	--	--	0.289 J	0.771	0.332	--	--	--	--	--	--	--	--	--	--
SBR-SD-118.4	1218151575	SBR-SD-118.4 15.5-16.5	15.5	16.5	SS	O	12/18/2015	<5.08 UJ	<4.67 UJ	<4.71 UJ	<6.1 UJ	<0.0473 U	<0.0637 U	<0.0575 U	--	--	3.21	1.38	0.475	--	--	--	--	--	--	--	--	--	--
SBR-SD-119	100715088	SBR-SD-119 0-0.5	0.0	0.5	S	O	10/7/2015	<1.95 U	<1.79 U	<1.8 U	<2.34 U	<0.0388 U	<0.0523 U	0.16 J	--	--	<0.204 U	0.0692 J	<0.0609 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-119	100715090	SBR-SD-119 1.5-2.9	1.5	2.9	SS	O	10/7/2015	<0.722 U	<0.663 U	<0.669 U	<0.867 U	<0.0183 U	<0.0247 U	0.191	--	--	<0.0963 U	<0.0994 U	<0.0288 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-120	100715085	SBR-SD-120 0-0.5	0.0	0.5	S	O	10/7/2015	<0.0416 U	<0.0382 U	<0.0385 U	<0.0499 U	<0.0116 U	<0.0157 U	<0.0141 U	--	--	<0.061 U	0.0197 J	<0.0182 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-120	100715086	SBR-SD-120 0.5-1.4	0.5	1.4	SS	O	10/7/2015	<0.0429 U	<0.0395 U	<0.0398 U	<0.0515 U	<0.0124 U	<0.0167 U	<0.015 U	--	--	<0.065 U	<0.0671 U	<0.0194 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-1014	101315338	SBR-SD-1014 0-0.5	0.0	0.5	S	O	10/13/2015	<11.1 U	<10.2 U	<10.3 U	<13.3 U	<0.0258 U	<0.0347 U	0.567	--	--	<0.135 U	0.0665 J	<0.0404 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-1014	101315339	SBR-SD-1014 0.5-1.5	0.5	1.5	SS	O	10/13/2015	<10.7 U	<9.85 U	<9.94 U	<12.9 U	<0.025 U	<0.0336 U	1.06	--	--	<0.131 U	0.0853 J	<0.0391 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-1014	101315344	SBR-SD-1014 5.5-6.5	5.5	6.5	SS	O	10/13/2015	<8.3 U	<7.62 U	<7.69 U	<9.96 U	0.0344 J	0.0416 J	0.197	--	--	0.668	1.1	0.416	--	--	--	--	--	--	--	--	--	--
SBR-SD-1014	101315347	SBR-SD-1014 8.5-9.5	8.5	9.5	SS	O	10/13/2015	<7.54 U	<6.93 U	<6.99 U	<9.05 U	0.0786	0.0344 J	0.192	--	--	0.691	1.07	0.424	--	--	--	--	--	--	--	--	--	--
SBR-SD-1014	101315348 / 101315349 (N)	SBR-SD-1014 9.5-10.5 (N)	9.5	10.5	SS	O	10/13/2015	<7.61 U	<6.99 U	<7.05 U	<9.14 U	0.125 J	0.0274 J	0.193	--	--	0.548	0.867	0.323	--	--	--	--	--	--	--	--	--	--
SBR-SD-1015	101315289	SBR-SD-1015 0-0.5	0.0	0.5	S	O	10/13/2015	<9.48 U	<8.71 U	<8.78 U	<11.4 U	<0.0221 U	<0.0297 U	0.875	--	--	<0.116 U	0.0826 J	<0.0346 U	--	--	--	--	--	--	--	--	--	--
SBR-SD-1015	101315291	SBR-SD-1015 1.5-2.5	1.5	2.5	SS	O	10/13/2015	<8.89 U	<8.17 U	<8.24 U	<10.7 U	0.0225 J	<0.0279 U	1.74	--	--	<0.109 U	0.0847 J	0.0412 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-1015	101315293	SBR-SD-1015 3.5-4.5	3.5	4.5	SS	O	10/13/2015	<8.14 U	<7.48 U	<7.54 U	<9.77 U	<0.0189 U	<0.0255 U	0.494	--	--	0.185 J	0.562	0.245	--	--	--	--	--	--	--	--	--	--
SBR-SD-1015	101315295	SBR-SD-1015 5.5-6.5	5.5	6.5	SS	O	10/13/2015	<8.12 U	<7.46 U	<7.52 U	<9.74 U	0.0517	0.167	0.831	--	--	0.902	1.49	0.54	--	--	--	--	--	--	--	--	--	--
SBR-SD-1015	101315297	SBR-SD-1015 7.5-8.5	7.5	8.5	SS	O	10/13/2015	<7.79 U	<7.16 U	<7.22 U	<9.35 U	0.0569	0.0615 J	0.645	--	--	0.656	0.957	0.372	--	--	--	--	--	--	--	--	--	--
SBR-SD-1015	101315300	SBR-SD-1015 10.5-11.3	10.5	11.3	SS	O	10/13/2015	<11.1 UJ	<10.2 UJ	<10.2 UJ	<13.3 UJ	0.0975	0.0811 J	0.194	--	--	0.445	0.538	0.188	--	--	--	--	--	--	--	--	--	--
SBR-SD-1016	100815140	SBR-SD-1016 0-0.5	0.0	0.5	S	O	10/8/2015	<1.62 U	<1.48 U	<1.5 U	<1.94 U	0.0251 J	0.0311 J	0.185	--	--	0.559	1.12	0.426	--	--	--	--	--	--	--	--	--	--
SBR-SD-1016	100815142	SBR-SD-1016 1.5-2.5	1.5	2.5	SS	O	10/8/2015	<0.74 U	<0.68 U	<0.686 U	<0.888 U	0.0318 J	0.0549 J	0.218	--	--	0.584	0.81	0.315	--	--	--	--	--	--	--	--	--	--
SBR-SD-1016	100815143	SBR-SD-1016 2.5-3.5	2.5	3.5	SS	O	10/8/2015	<0.986 U	<0.906 U	<0.914 U	<1.18 U	0.0556	0.0431 J	0.151	--	--	0.516	0.498	0.201	--	--	--	--	--	--	--	--	--	--
SBR-SD-1016	100815144	SBR-SD-1016 3.5-4.5	3.5	4.5	SS	A1	10/8/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1016	100815146	SBR-SD-1016 5.5-6.9	5.5	6.9	SS	O	10/8/2015	<0.822 U	<0.755 U	<0.761 U	<0.986 U	0.57	0.208	0.165	--	--	0.557	0.25	0.112 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-1017	111615891	SBR-SD-1017 0-0.5	0.0	0.5	S	O	11/16/2015	<9.86 U	<9.05 U	<9.13 U	<11.8 U	<0.0229 U	<0.0309 U	0.0594 J	--	--	0.132 J	0.124	0.0516 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-1017	111615892	SBR-SD-1017 0.5-1.5	0.5	1.5	SS	A2	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1017	111615893	SBR-SD-1017 1.5-2.5	1.5	2.5	SS	A2	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1017	111615894	SBR-SD-1017 2.5-3.5	2.5	3.5	SS	A2	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1017	111615895	SBR-SD-1017 3.5-4.5	3.5	4.5	SS	O	11/16/2015	<5.61 U	<5.16 U	<5.2 U	<6.74 U	0.0265 J	0.0364 J	0.0409 J	--	--	0.253	0.127	0.042 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-1017	111615896	SBR-SD-1017 4.5-5.5	4.5	5.5	SS	O	11/16/2015	<5.05 U	<4.64 U	<4.68 U	<6.07 U	1.38	19.6	<0.716 U	--	--	15	14.3	3.79	--	--	--	--	--	--	--	--	--	--
SBR-SD-1017	111615897	SBR-SD-1017 5.5-6.5	5.5	6.5	SS	O	11/16/2015	<4.69 U	<4.31 U	<4.34 U	<5.63 U	2.65	23.7	1.7 J	--	--	18.9	6.9	1.79 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-1017	111615898	SBR-SD-1017 6.5-7.5	6.5	7.5	SS	O	11/16/2015	<4.69 U	<4.31 U	<4.34 U	<5.62 U	7.47	56.1	<2.66 U	--	--	45.9	21.6	5 J	--	--	--	--	--	--	--	--	--	--
SBR-SD-1017	111615899	SBR-SD-1017 7.5-8.5	7.5	8.5	SS	A1	11/16/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Phenol	Phenol	Phenol	Phenol	BTEX	BTEX	BTEX	BTEX	BTEX	BTEX	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC
								2,4-Dimethylphenol	2-Methylphenol	3 & 4-Methylphenol	Phenol	Benzene	Ethylbenzene	Toluene	Xylenes, m + p	Xylene, o	Xylenes, Total	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	cis-Decalin	Heptadecane	Isopropylbenzene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	Styrene	tert-Butylbenzene	trans-Decalin
		Reporting Units:						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		EC20 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		EC50 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SBR-SD-1018	100815132	SBR-SD-1018 0-0.5	0.0	0.5	S	O	10/8/2015	<3.48 U	<3.19 U	<3.22 U	<4.17 U	0.0524 J	<0.0654 U	1.67	--	--	<0.255 U	0.294	0.169 J	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1018	100815134	SBR-SD-1018 1.5-2.5	1.5	2.5	SS	O	10/8/2015	<0.731 U	<0.671 U	<0.677 U	<0.877 U	<0.0204 U	<0.0275 U	0.192	--	--	<0.107 U	0.268	0.139	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1018	100815137	SBR-SD-1018 4.5-5.5	4.5	5.5	SS	O	10/8/2015	<0.671 U	<0.616 U	<0.622 U	<0.805 U	0.0226 J	0.0296 J	0.61	--	--	0.224 J	0.518	0.224	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1018	100815139	SBR-SD-1018 6.5-7.7	6.5	7.7	SS	O	10/8/2015	<0.62 U	<0.57 U	<0.575 U	<0.745 U	0.027 J	0.0247 J	0.532	--	--	0.305	0.637	0.28	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1019	100715098	SBR-SD-1019 0-0.5	0.0	0.5	S	O	10/7/2015	<2.11 U	<1.94 UJ	<1.95 UJ	<2.53 U	<0.0331 UJ	<0.0446 UJ	0.165 J	--	--	<0.174 UJ	<0.0438 UJ	<0.0519 UJ	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1019	100715103	SBR-SD-1019 4.5-5.5	4.5	5.5	SS	O	10/7/2015	<3.65 U	<3.36 UJ	<3.38 UJ	<4.38 U	<0.0204 U	<0.0275 U	0.139	--	--	<0.107 U	0.406 J	0.215	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1019	100715104	SBR-SD-1019 5.5-6.5	5.5	6.5	SS	A1	10/7/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1019	100715105	SBR-SD-1019 6.5-7.5	6.5	7.5	SS	O	10/7/2015	<0.641 U	<0.589 U	<0.594 U	<0.769 U	0.0521	<0.0241 U	0.0557 J	--	--	0.365	0.459 J	0.137	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1019	100715106	SBR-SD-1019 7.5-8.5	7.5	8.5	SS	O	10/7/2015	<0.681 U	<0.626 UJ	<0.631 UJ	<0.817 U	0.0501	0.037 J	0.0636 J	--	--	0.701	1.01	0.469	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1019	100715107	SBR-SD-1019 8.5-9.5	8.5	9.5	SS	O	10/7/2015	<0.711 U	<0.653 UJ	<0.659 UJ	<0.853 U	0.0447	0.0678 J	0.215	--	--	0.37	0.699	0.26	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-1019	100715109	SBR-SD-1019 10.5-11.5	10.5	11.5	SS	O	10/7/2015	<0.771 U	<0.709 UJ	<0.715 UJ	<0.926 U	0.0492	0.0656 J	0.512	--	--	0.321 J	0.57 J	0.218	--	--	--	--	--	--	--	--	--	--	--
SSCD-RSB-001	111814063	SSCD-RSB-001-001	13.0	13.5	SS	O	10/20/2006	--	--	--	--	7.44	36.4	3.37 J	26	11.1	--	22.4	8.86	3.07	<1.06 U	6.4	4.28	1.27	1.59	<1.06 U	3.3	<1.06 U	1.57
SSCD-RSB-005	111814064 (N)	SSCD-RSB-005-001 (N)	8.5	9.0	SS	O	10/30/2006	--	--	--	--	89	267	83.8	290	103	--	149	78	12.8	<7.19 U	20	19.6	4.54 J	6.01 J	<7.19 U	17.5	<7.55 U	<7.19 U
SSCD-RSB-006	111814066	SSCD-RSB-006A-001	8.0	8.5	SS	O	10/31/2006	--	--	--	--	3.21	10.4	2.36	10.2	3.64	--	11.3	4.36	1.7	0.249 J	6.64	1.65	1.28	1.07	<0.361 U	10	<0.361 U	2.51
SSCD-RSB-008	111814067	SSCD-RSB-008-001	8.0	9.0	SS	O	10/31/2006	--	--	--	--	28.9	196	13.7 J	122	69.1	--	133	40.9	33.8	<4.23 U	4.5	29.2	24.8	11.2	<4.23 U	14.2	<4.23 U	3.26 J
SSCD-RSB-010	111814068	SSCD-RSB-010-001	16.0	16.5	SS	O	11/1/2006	--	--	--	--	<0.048 U	0.043	<0.048 U	0.042	0.019	--	0.034	0.017	0.007 J	0.007 J	1.36	0.006 J	<0.0096 U	<0.0096 U	<0.0096 U	0.01	<0.0096 U	0.045
SSCD-RSB-011	111814069	SSCD-RSB-011-001	12.0	12.5	SS	O	11/1/2006	--	--	--	--	5.19	89.8	5.71	82.2	34.6	--	65	23.2	7.83	<0.777 U	11.9	10.8	4.88	4.72	0.405 J	6.11	<0.777 U	1.16
		Total Number of Samples Analyzed:						232	232	232	232	274	274	274	42	42	232	274	274	42	42	42	42	42	42	42	42	42	42
		Number of Detections:						0	0	0	0	163	153	246	42	42	138	247	193	42	33	29	42	41	41	37	42	4	41
		Min:						0	0	0	0	0.0193	0.0178	0.0144	0.042	0.019	0.0578	0.0151	0.017	0.007	0.007	1.34	0.006	0.23	0.102	0.049	0.01	0.139	0.045
		Max:						0.00	0.00	0.00	0.00	89.00	337.00	83.80	290.00	112.00	49.30	291.00	78.00	61	1	37	66	61	22	2	20	1	28
		Mean:						n/a	n/a	n/a	n/a	1.66	14.69	1.42	31.40	16.57	2.94	7.66	3.03	9	0	10	8	6	3	1	3	0	6
		Median:						n/a	n/a	n/a	n/a	0.0889	0.141	0.232	9.15	3.955	0.438	0.622	0.308	4.645	0.468	7.13	1.93	2.83	1.37	0.485	0.814	0.467	4.23
		EC20 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Number of Surface Samples that exceed EC20 for TPAH(13):						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		EC50 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Number of Surface Samples that exceed EC50 for TPAH(13):						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Value exceeds EC20 or EC50 | Detected below EC20 | Not detected above reported limit | Result rejected during data validation | Not analyzed

Notes:
Italic = result exceeds EC20
BOLD = result exceeds EC50
< = Concentration is less than reported limit
-- = Analysis not performed
U = Not detected
J = Concentration estimated
R = Result rejected during validation
NS = No Standard
(N) = Normalized sample locations created from combining parent and field duplicate samples following USEPA protocol
SL = Screening Level
Non-detected results were not included in the calculations of the the mean and median.

Surface sediment = bottom of interval depth is less than or equal to 6 inches (0.5 feet) below top of sediment
mg/kg = milligrams per kilogram
Alk PAHs = Alkylated PAHs
BTEX = Benzene, Toluene, Ethylbenzene and Xylene
GEO = Geotechnical Property
PAH = Polycyclic Aromatic Hydrocarbon
TPAH = Total PAHs
VOC = Volatile Organic Compound
EC20 = 20% Effects Concentration (only appliable to Depths 0.0 top 0.5 feet)
EC50 = 50% Effects Concentration (only appliable to Depths 0.0 top 0.5 feet)
EC20 and EC50 from Hawthorne, S., Azzolina, N., Neuhauser, E., and Kreitinger, J. Predicting Bioavailability of Sediment Polycyclic Aromatic Hydrocarbons to Hyallella Azteca using Equilibrium Partitioning Supercritical Fluid Extraction, and Pore Water Concentrations. Grand Forks, North Dakota. Environmental Science Technology, 2007, 41, 6297-6304.

1. The following rules apply to the summation of Total PAH (13) calculated by Natural Resource Technology, Inc. (NRT):
   a. Where no detections were observed, the maximum individual reported detection limit is presented.
   b. Where detections were observed, ½ the reported detection limit for non-detects was used in the summation
   c. The list of Total PAH (13) is as follows: Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Fluoranthene, Fluorene, Naphthalene, Phenanthrene and Pyrene.
   d. R flagged results were not included in calculations.

Non-detected results were not included in the calculations of the the mean and median.
Analysis Runs..... O = Original Run (fall 2015)
A1 = 1st Archive Run (August 2016)
A2 = 2nd Archive Run (October 2016)
Depth Gradient..... S = Surface
SS = Subsurface

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
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								Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Cyanide	Organics	Organics	GEO
Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Aluminum, Total	Antimony, Total	Arsenic, Total	Barium, Total	Cadmium, Total	Chromium, Total	Copper, Total	Iron, Total	Lead, Total	Manganese, Total	Mercury, Total	Nickel, Total	Selenium, Total	Silver, Total	Vanadium, Total	Zinc, Total	Cyanide, Total	Carbon, Black	Carbon, Total Organic	Percent Moisture
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%
							EC20 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit					Result rejected during data validation					Not analyzed							
PCS-RSB-005B	111814025 (N)	PCS-RSB-005B-001 (N)	3.5	4.0	SS	O	7/13/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-005B	111814027	PCS-RSB-005B-002	8.0	9.3	SS	O	7/13/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-007B	111814023	PCS-RSB-007B-001	0.0	2.0	SS	O	7/12/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-008B	111814024	PCS-RSB-008B-001	7.3	8.0	SS	O	7/12/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-017	111814008	PCS-RSB-017-001	2.0	4.0	SS	O	6/29/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-021	111814009	PCS-RSB-021-001	2.0	4.0	SS	O	6/30/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-025	111814012 (N)	PCS-RSB-025-001 (N)	3.0	4.0	SS	O	7/6/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-027B	111814016 (N)	PCS-RSB-027B-001 (N)	8.5	9.5	SS	O	7/7/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-032	111814019	PCS-RSB-032-001	5.0	6.0	SS	O	7/11/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-032	111814020	PCS-RSB-032-002	13.0	14.0	SS	O	7/11/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-035	111814021	PCS-RSB-035-001	8.0	9.0	SS	O	7/11/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-037B	111814018	PCS-RSB-037B-001	5.0	6.0	SS	O	7/7/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-040B	111814028	PCS-RSB-040B-001	10.0	10.5	SS	O	7/13/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-042B	111814029	PCS-RSB-042B-001	7.5	8.0	SS	O	7/14/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-046	111814010	PCS-RSB-046-001	6.0	6.5	SS	O	6/30/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-047	111814011	PCS-RSB-047-001	5.0	6.0	SS	O	7/5/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-048	111814014	PCS-RSB-048-001	5.0	6.0	SS	O	7/6/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-048	111814015	PCS-RSB-048-002	8.0	9.0	SS	O	7/6/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-050	111814022	PCS-RSB-050-001	7.0	8.0	SS	O	7/12/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-051	111814030	PCS-RSB-051-001	8.0	8.3	SS	O	10/4/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-052	111814031	PCS-RSB-052-001	6.0	7.0	SS	O	10/5/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-054	111814033	PCS-RSB-054-001	12.0	13.0	SS	O	10/5/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-055	111814034	PCS-RSB-055-001	1.0	2.0	SS	O	10/5/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-055	111814032	PCS-RSB-055-002	5.0	6.0	SS	O	10/5/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-056	111814036 (N)	PCS-RSB-056-001 (N)	4.5	5.5	SS	O	10/6/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-056	111814035	PCS-RSB-056-002	6.0	7.0	SS	O	10/6/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-058	111814038	PCS-RSB-058-001	4.0	5.0	SS	O	10/9/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-059	111814041	PCS-RSB-059-001	10.0	11.0	SS	O	10/10/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-060	111814045	PCS-RSB-060-001	3.0	4.0	SS	O	10/10/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-060	111814046	PCS-RSB-060-002	8.0	8.5	SS	O	10/10/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-061	111814047	PCS-RSB-061-001	6.0	7.0	SS	O	10/10/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-061	111814048	PCS-RSB-061-002	10.0	10.5	SS	O	10/10/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-062	111814039 (N)	PCS-RSB-062-001 (N)	2.0	3.0	SS	O	10/10/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-062	111814042	PCS-RSB-062-002	6.5	7.5	SS	O	10/10/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-063	111814043	PCS-RSB-063-001	2.0	3.0	SS	O	10/10/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCS-RSB-063	111814044	PCS-RSB-063-002	6.0	7.0	SS	O	10/10/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBR-SD-072	1120151046 / 1120151061 (N)	SBR-SD-072 0-0.5 (N)	0.0	0.5	S	O	11/20/2015	14,300	2.5 J	8.1 J	260	8.8 J	113	281	25,100	335	375	1	46.9	2.1 J	12.1 J	36.5	837	6.5 J	--	--	60.7
SBR-SD-072	1120151050	SBR-SD-072 3.5-4.5	3.5	4.5	SS	O	11/20/2015	17,900	4.9 J	18.7	367	26.9	380	307	49,600	779	373	3.9	89.4	3.3 J	13.4	77.7	1,820	1.4	--	--	46.2
SBR-SD-072	1120151053	SBR-SD-072 6.5-7.5	6.5	7.5	SS	A1	11/20/2015	15,100	8.7 J	20.4	394	29.8	437	351	36,900	1,080	337	5.4	108	5 J	15.3	23.9	2,010	--	--	--	45.5
SBR-SD-072	1120151054	SBR-SD-072 7.5-8.5	7.5	8.5	SS	O	11/20/2015	4,810	2.5 J	15.3	271	4.7 J	95.5	252	20,600	419	194	3	95.3	2.3 J	10	24.6	1,520	0.68 J	--	91,000	39.2
SBR-SD-072	1120151055	SBR-SD-072 8.5-9.5	8.5	9.5	SS	A1	11/20/2015	13,100	5.4 J	18.3	346	20.1	347	268	34,500	739	272	6.9	89.4	4.3 J	11.1	23.5	1,990	--	--	--	38.4
SBR-SD-072	1120151056	SBR-SD-072 9.5-10.5	9.5	10.5	SS	O	11/20/2015	10,300	<1.1 U	19.7	286	2 J	66.5	156	22,600	358	358	4.9	26.7	2.2 J	3.7 J	30.4	820	1.1 J	--	--	46.5
SBR-SD-072	1120151057	SBR-SD-072 10.5-11.3	10.5	11.3	SS	O	11/20/2015	12,900	<1 U	17.3	210	1.3 J	65.7	131	22,900	262	371	3.1	30.8	1.9 J	2.6 J	33.4	566	0.92 J	--	101,000	36.5
SBR-SD-072	1120151058	SBR-SD-072 11.3-12.5	11.3	12.5	SS	O	11/20/2015	18,100	<0.71 U	10.3	58.2	<0.71 U	31.8	27.7	26,500	25.3	406	0.012	38.3	1.7 J	<0.35 U	37.3	127 J	<0.13 U	--	17,100	15.4

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
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Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Metals: Aluminum, Total	Metals: Antimony, Total	Metals: Arsenic, Total	Metals: Barium, Total	Metals: Cadmium, Total	Metals: Chromium, Total	Metals: Copper, Total	Metals: Iron, Total	Metals: Lead, Total	Metals: Manganese, Total	Metals: Mercury, Total	Metals: Nickel, Total	Metals: Selenium, Total	Metals: Silver, Total	Metals: Vanadium, Total	Metals: Zinc, Total	Cyanide: Cyanide, Total	Organics: Carbon, Black	Organics: Carbon, Total Organic	GEO: Percent Moisture
		Reporting Units:						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%
		EC20 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		EC50 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50							Not detected above reported limit					Result rejected during data validation					Not analyzed							
		Detected below EC20																									
SBR-SD-073	1120151025	SBR-SD-073 0-0.5	0.0	0.5	S	O	11/20/2015	15,700	3.6 J	9.4 J	274 J	8.5 J	113	283	23,200	329	354 J	1.1	44.1	2.5 J	8 J	37.8	933	1.1 J	--	101,000	60.1
SBR-SD-073	1120151028	SBR-SD-073 2.5-3.5	2.5	3.5	SS	O	11/20/2015	16,200	2.9 J	10.5 J	329	11.9 J	151	292	24,400	511	370	1.4	53.1	3.7 J	12.6	44.5	1,040	0.86 J	--	--	58.1
SBR-SD-073	1120151031	SBR-SD-073 5.5-6.5	5.5	6.5	SS	O	11/20/2015	15,900	19.7	14.4	469	37.6	425	418	30,200	1,560	407	3.6	127	3 J	47.5	74.1	1,820	5.5	--	--	53.8
SBR-SD-073	1120151034	SBR-SD-073 8.5-9.5	8.5	9.5	SS	O	11/20/2015	16,500	22.6	23	548	66.3	556	512	35,100	1,620	420	3.7	188	4.3 J	49.8	96.8	3,130	1.7 J	--	120,000	56.6
SBR-SD-073	1120151038	SBR-SD-073 12.5-13.5	12.5	13.5	SS	A1	11/20/2015	13,800	12.3 J	36.1	492	53.1	4,290	492	37,500	1,370	248	7	280	7.4 J	17.1	<42.2 U	5,940	--	--	--	55.4
SBR-SD-073	1120151039	SBR-SD-073 13.5-14.5	13.5	14.5	SS	O	11/20/2015	9,580	2.1 J	19.8	299	3.8 J	187	177	21,500	991	292	15.4	36.1	2.3 J	3.7 J	40.7	1,130	1.3 J	--	--	47.3
SBR-SD-073	1120151040	SBR-SD-073 14.5-16.1	14.5	16.1	SS	O	11/20/2015	9,660	1.1 J	18.4	260	2.3 J	78.2	137	22,600	349	290	3.5	27.3	2.1 J	3 J	31.4	809	3.1	--	110,000	45.3
SBR-SD-073	1120151041	SBR-SD-073 16.1-16.5	16.1	16.5	SS	O	11/20/2015	8,230	<0.7 U	14.5	24.6	<0.09 U	15.9	35.3	21,800	19.5	472	0.015	31.6	1.7 J	<0.35 U	20.5	48.8 J	0.13 J	--	33,200	15.9
SBR-SD-073	1120151042	SBR-SD-073 16.5-17.5	16.5	17.5	SS	A2	11/20/2015	7,990	2 J	10.2	184	13.1	406	190	24,200	370	159	0.036 J	75.4	2.4	4.3	13.2	1000	--	--	--	19
SBR-SD-073.4 MOB	1217151520	SBR-SD-073.4 MOB 0-0.5	0.0	0.5	S	O	12/17/2015	16,300	2.8 J	9.8 J	250	9.3 J	111	286	24,200	282	367	1.3 J-	40.6	2.9 J	5.8 J	31.5	862	0.95 J	--	112,000 J	63.5
SBR-SD-073.4 MOB	1217151523	SBR-SD-073.4 MOB 2.5-3.5	2.5	3.5	SS	O	12/17/2015	15,600	2.1 J	9.1 J	288	11.7 J	131	297	26,400	362	399	1.3	46	3.3 J	9.5	34	991	0.98 J	--	--	60.8
SBR-SD-073.4 MOB	1217151529	SBR-SD-073.4 MOB 8.5-9.5	8.5	9.5	SS	O	12/17/2015	15,100	7.4 J	16.3	393	42.6	391	352	37,200	961	386	4.4	118	3.5 J	15	55.8	1,760	3.4	--	--	47.8
SBR-SD-073.4 MOB	1217151531	SBR-SD-073.4 MOB 10.5-11.5	10.5	11.5	SS	A1	12/17/2015	16,600	13.6	25.5	502	57.6	577	460	42,200	1,710	382	5.2	147	6	25.6	24.6	2,620	--	--	--	46.1
SBR-SD-073.4 MOB	1217151532 / 1217151539 (N)	SBR-SD-073.4 MOB 11.5-12.5 (N)	11.5	12.5	SS	O	12/17/2015	16,800	6.8 J	25.1	401	32.5	1,540 J	364	41,800	911	282	4 J	132	4.5 J	14.8	100	3,270	2.1 J+	--	139,000	50
SBR-SD-073.4 MOB	1217151533	SBR-SD-073.4 MOB 12.5-13.5	12.5	13.5	SS	O	12/17/2015	14,300	10.6 J	20.1	422	35.5	445	380	32,800	1,220	328	5.6	110	3.9 J	21.7	57.3	2,050	2.4	--	--	49.3
SBR-SD-073.4 MOB	1217151534	SBR-SD-073.4 MOB 13.5-14.5	13.5	14.5	SS	O	12/17/2015	14,300	20.3	25.9	547	31.7	560	421	31,900	1,790	295	7.1	132	4.2 J	22.9	61.5	3,070	2	--	144,000	48.8
SBR-SD-073.4 MOB	1217151535	SBR-SD-073.4 MOB 14.5-16.5	14.5	16.5	SS	O	12/17/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	35.3
SBR-SD-073.4 MOB	1217151536	SBR-SD-073.4 MOB 16.5-17.5	16.5	17.5	SS	O	12/17/2015	7,390	<0.71 U	12.3	25.5	<0.71 U	15.2	31	18,800	18.4	371	0.13	26.1	1.5 J	<0.35 U	18.1	44 J	<0.087 U	--	30,400	8.8
SBR-SD-074	101315350	SBR-SD-074 0-0.5	0.0	0.5	S	O	10/13/2015	17,600	3	11.3	256	8.4	105	267	23,700	436	353	1.4	49.8	3	12.8	38.2	966	1.4 J	37,500	114,000	68.1
SBR-SD-074	101315352	SBR-SD-074 1.5-2.5	1.5	2.5	SS	O	10/13/2015	14,900	3.8	11.3	294	8.4	127	216	20,900	524	335	1.5	47.5	2.8	10.3	37.9	868	4.9	--	--	57.9
SBR-SD-074	101315355	SBR-SD-074 4.5-5.5	4.5	5.5	SS	O	10/13/2015	16,500	6.7	13.6	403	25.1	254	319	23,100	950	338	1.9	103	4.5	17.6	53.8	1,370	5.5	--	--	57.8
SBR-SD-074	101315359	SBR-SD-074 8.5-9.3	8.5	9.3	SS	O	10/13/2015	16,400	8.9	21.1	404	42.7	521	394	38,600	1,080	401	6.7	123	4.3	20.3	87.5	2,100	5.2	--	144,000	49.1
SBR-SD-075	111915982	SBR-SD-075 0-0.5	0.0	0.5	S	O	11/19/2015	9,330	1.9 J	6.5 J	141	2.5 J	54.7	137	15,300	250	245	0.84	31.3	<1.3 U	3.7 J	18.8	583	<2.3 U	--	76,400	52.6
SBR-SD-075	111915983	SBR-SD-075 1.5-2.5	1.5	2.5	SS	A1	11/19/2015	30,500	2.6 J	7.3 J	137	2.5 J	62.8	159	15,500	251	238	0.75	46.1	2 J	2.8 J	16	552	--	--	--	45.9
SBR-SD-075	111915985	SBR-SD-075 3.5-4.5	3.5	4.5	SS	O	11/19/2015	13,100	39	17.3	486	37.8	562	439	25,200	2,680	366	5.2	132	3.3 J	75.7	79.7	2,080	8.8	--	94,300	56.1
SBR-SD-075	111915989	SBR-SD-075 7.5-8.5	7.5	8.5	SS	O	11/19/2015	13,500	16.9	32	605	35.1	1,850	565	37,800	1,680	270	5.6	253	5.9 J	28.8	179	5,330	5	--	--	58.3
SBR-SD-075	111915991	SBR-SD-075 9.5-10.5	9.5	10.5	SS	O	11/19/2015	11,400	16.7 J	48.7	544	53.6	5,960	589	38,500	1,600	206	6.2	356	6.6 J	19.6	541	11,500	1.8	--	--	66.9
SBR-SD-075	111915992	SBR-SD-075 10.5-11.5	10.5	11.5	SS	A1	11/19/2015	15,300	17.6	28.7	554	40.7	839	474	34,800	1,760	339	6.6	184	6.1 J	35.3	12.2 J	3,630	--	--	--	56.8
SBR-SD-075	111915993	SBR-SD-075 11.5-12.5	11.5	12.5	SS	O	11/19/2015	8,160	4.9 J	23.2	931	18.9	1,390	406	24,700	3,080	277	15.2	139	3.5 J	6.9	135	5,520	9.1	--	125,000	56.7
SBR-SD-075	111915994	SBR-SD-075 12.5-13.8	12.5	13.8	SS	O	11/19/2015	7,750	1.7 J	20	262	1.8 J	50.7	136	21,100	374	307	3.9	29.1	2.3 J	2.6 J	24.3	906	2.9	--	118,000	47.5
SBR-SD-075	111915995	SBR-SD-075 13.8-14.5	13.8	14.5	SS	O	11/19/2015	6,510	<0.72 U	6.5 J	19.6	<0.72 U	16.3	15.1	15,200	16.3	896	0.049 J	19.2	1.3 J	<0.36 U	15.6	44.3 J	0.27 J	--	14,000	10.2
SBR-SD-075	111915997	SBR-SD-075 15.5-16.5	15.5	16.5	SS	O	11/19/2015	6,420	<0.65 U	16.2	21.4	<0.65 U	13	40.6	22,800	22.1	454	0.061	32.1	1.8 J	<0.33 U	15.9	46.8 J	<0.084 U	--	--	13.4

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
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								Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Cyanide	Organics	Organics	GEO
Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Aluminum, Total	Antimony, Total	Arsenic, Total	Barium, Total	Cadmium, Total	Chromium, Total	Copper, Total	Iron, Total	Lead, Total	Manganese, Total	Mercury, Total	Nickel, Total	Selenium, Total	Silver, Total	Vanadium, Total	Zinc, Total	Cyanide, Total	Carbon, Black	Carbon, Total Organic	Percent Moisture
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%
							EC20 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit					Result rejected during data validation					Not analyzed							
SBR-SD-078	1123151066	SBR-SD-078 0-0.5	0.0	0.5	S	O	11/23/2015	14,500	2.1 J	8.7 J	245	8.6 J	109	315 J	23,100	303	344	0.84 J+	44.4	2 J	6.5 J	33.2	841	0.77 J	--	88,700 J	61.9
SBR-SD-078	1123151071	SBR-SD-078 5.5-6.5	5.5	6.5	SS	O	11/23/2015	18,300	6 J	20.7	391	35.4	365	318	47,700	860	340	3	111	3.8 J	17.8	74.7	1,860	1.2 J	--	--	45.7
SBR-SD-078	1123151073	SBR-SD-078 7.5-8.5	7.5	8.5	SS	O	11/23/2015	15,200	6.2 J	23.1	387	32.4	479	349	51,400	909	412	4.1	129	3.7 J	19.2	79.2	2,220	2.2	--	--	47.3
SBR-SD-078	1123151074	SBR-SD-078 8.5-9.5	8.5	9.5	SS	A1	11/23/2015	15,100	7.6 J	17.1	399	47.9	545	366	34,100	931	318	3.2	114	4.7 J	24	17.6	1,930	--	--	--	48
SBR-SD-078	1123151075 / 1123151082 (N)	SBR-SD-078 9.5-10.5 (N)	9.5	10.5	SS	O	11/23/2015	9,060	2.1 J	24.4	371	3.2 J	73.8	225	24,700	516	376 J	4.9	28.9	2.3 J	3.3 J	28.4	995	0.8 J	--	--	52.1
SBR-SD-078	1123151076	SBR-SD-078 10.5-12.1	10.5	12.1	SS	O	11/23/2015	10,300	<1.1 U	19.5	244	1.9 J	60.5	166	23,000	420	381	5.2	28.2	2.2 J	3.1 J	30.2	814	3.3	--	116,000	45.2
SBR-SD-078	1123151077	SBR-SD-078 12.1-12.5	12.1	12.5	SS	O	11/23/2015	10,900	<0.69 U	9.1	35.3	<0.69 U	23.4	24.8	19,300	19.7	338	0.22	26.5	1.2 J	<0.34 U	23.9	54.3 J	<0.1 U	--	31,300	12.1
SBR-SD-079	101315313	SBR-SD-079 0-0.5	0.0	0.5	S	O	10/13/2015	16,700	3.5	9.9	199	4.1	83.7	266	20,400	256	283	0.84	38.7	2.7	4.1	33.4	787	<3.5 U	34,400	--	71.1
SBR-SD-079	101315315	SBR-SD-079 1.5-2.5	1.5	2.5	SS	O	10/13/2015	25,100	4.6	16.3	251	6.5	99.1	308	24,300	338	376	1.3	46.7	3.1	5.4	40.3	985	<3.7 U	--	143,000	70.3
SBR-SD-079	101315317	SBR-SD-079 3.5-4.5	3.5	4.5	SS	O	10/13/2015	20,400	3.5	12	287	8.8	123	314	23,500	329	373	1.2	43.4	3.3	8.1	40.4	1,020	<1.8 U	--	--	62.4
SBR-SD-079	101315321	SBR-SD-079 7.5-8.5	7.5	8.5	SS	O	10/13/2015	15,300	5.7	12.2	351	15.2	178	313	23,800	750	346	1.4	103	3	18.5	47.1	1,220	3.1 J	--	--	58.7
SBR-SD-079	101315324	SBR-SD-079 10.5-11.9	10.5	11.9	SS	O	10/13/2015	15,800	23.7	20.9	543	51.2	632	483	39,300	1,880	399	3.5	154	4.9	56.1	96	2,400	3.1 J	--	131,000	52.8
SBR-SD-080	111915998	SBR-SD-080 0-0.5	0.0	0.5	S	O	11/19/2015	21,700	2.9 J	11.2 J	215	4.6 J	82.1	263	22,300	266	326	1.4	43.1	2.5 J	4.4 J	32.7	778	0.76 J	--	99,300	74.6
SBR-SD-080	111915999	SBR-SD-080 0.5-1.5	0.5	1.5	SS	A1	11/19/2015	128,000	17.6 J	74.5 J	1,440	33.2 J	579	1,750	133,000	1,790	1,910	6	270	22.2 J	26.9 J	196	5,220	--	--	--	94.2
SBR-SD-080	1119151000	SBR-SD-080 1.5-2.5	1.5	2.5	SS	O	11/19/2015	18,900	3.8 J	11.4 J	262	6.7 J	100	263	21,800	324	361	1.8	41.7	3 J	6.8 J	34.3	929	1.2 J	--	102,000	65.8
SBR-SD-080	1119151001	SBR-SD-080 2.5-3.5	2.5	3.5	SS	A1	11/19/2015	16,600	4 J	10.8 J	253	7.4 J	110	257	20,100	344	315	2	47.1	3.6 J	7.4 J	28.5	919	--	--	--	59.3
SBR-SD-080	1119151003	SBR-SD-080 4.5-5.5	4.5	5.5	SS	O	11/19/2015	19,500	4 J	11.9 J	285	9.4 J	126	285	22,900	446	367	1.4	56.4	2.7 J	8.6	36.8	1,040	1.5 J	--	--	62.8
SBR-SD-080	1119151007	SBR-SD-080 8.5-9.5	8.5	9.5	SS	O	11/19/2015	14,800	17	16.2	550	73.2	653	533	27,500	1,930	371	3.1	142	3.7 J	52.2	89.3	2,340	17	--	--	55
SBR-SD-080	1119151011	SBR-SD-080 12.5-13.5	12.5	13.5	SS	O	11/19/2015	14,500	12.4 J	38.1	494	43.2	5,530	520	39,600	1,470	238	5.9	283	6.5	15.6	522	5,770	1.6 J	--	149,000	61.7
SBR-SD-080	1119151013	SBR-SD-080 14.5-15.5	14.5	15.5	SS	O	11/19/2015	13,000	9 J	39.7	557	43.1	4,560	614	33,500	1,330	252	11	177	5.3	14.3	428	7,660	11.6	--	--	62.1
SBR-SD-080	1119151015	SBR-SD-080 16.5-17.5	16.5	17.5	SS	A1	11/19/2015	12,600	1.9 J	28.9	450	3.8 J	205	246	24,700	581	385	8	33.8	4.1 J	5.8 J	26.3	1,260	--	--	--	50.2
SBR-SD-080	1119151016	SBR-SD-080 17.5-18.5	17.5	18.5	SS	O	11/19/2015	9,220	1.5 J	24	369	2.4 J	78.8	193	21,600	432	323	5.6	25.2	2.2	4.5 J	28.5	914	1.1 J	--	107,000	45.9
SBR-SD-080	1119151017	SBR-SD-080 18.5-19.3	18.5	19.3	SS	O	11/19/2015	10,700	<1.1 U	21.1	259	1.8 J	74.7	149	21,500	340	364	3.1	27.8	2.2	3.4 J	29.5	801	0.18 J	--	74,800	44.2
SBR-SD-080	1119151018	SBR-SD-080 19.3-20.5	19.3	20.5	SS	O	11/19/2015	10,400	<0.7 U	13	27.1	<0.7 U	18.4	29.6	22,900	18.3	405	0.049 J	31.8	1.4	<0.02 U	21.3	59.8 J	<0.053 U	--	18,300	10.4
SBR-SD-081	111815964 / 111815981 (N)	SBR-SD-081 0-0.5 (N)	0.0	0.5	S	O	11/18/2015	19,500	4.1 J	12.6 J	291	9.3 J	123	260	23,800	476	374	1.9	50	3.4 J	12.3 J	40	999	2.8 J	--	104,000	63.4
SBR-SD-081	111815966	SBR-SD-081 1.5-2.5	1.5	2.5	SS	O	11/18/2015	13,900	8.9 J	13.4 J	342	20.1	232	289	24,100	790	334	4.2	90.4	3.3 J	19.6	49.1	1,390	1.8 J	--	--	54.3
SBR-SD-081	111815968	SBR-SD-081 3.5-4.5	3.5	4.5	SS	O	11/18/2015	14,500	23.4	22.8	546	40.1	593	484	31,400	1,870	358	6.3	162	4.6 J	43.6	87.8	2,680	2.8 J	--	--	53.8
SBR-SD-081	111815972	SBR-SD-081 7.5-8.5	7.5	8.5	SS	O	11/18/2015	13,800	14.6 J	36.5	541	37.5	5,320	526	40,600	1,680	258	7.8	306	6.8 J	17.8	491	6,460	4.5 J	--	--	64.5
SBR-SD-081	111815974	SBR-SD-081 9.5-10.5	9.5	10.5	SS	A2	11/18/2015	22,200	4 J	26.6	405	27.9	438	394	60,600	855	542	7.2	106	6.7	17.1	40.1	1,640	--	--	--	67.3
SBR-SD-081	111815976	SBR-SD-081 11.5-12.5	11.5	12.5	SS	O	11/18/2015	4,800	1.8 J	11.7	177	4.1 J	407	121	12,200	323	162	3.6	29.5	1.4 J	2.8 J	45.5	940	<0.96 U	--	--	4.2
SBR-SD-081	111815977	SBR-SD-081 12.5-13.7	12.5	13.7	SS	O	11/18/2015	10,700	1.9 J	26.6	409	3.6 J	173	213	24,500	509	361	10.4	33.1	2.8 J	4.9 J	39.4	1,330	<1.4 U	--	151,000	51.5
SBR-SD-081	111815978	SBR-SD-081 13.7-14.5	13.7	14.5	SS	O	11/18/2015	6,740	<0.64 U	8.2	27.1	<0.64 U	24	16.9	15,600	19.7	338	0.083	18.9	1 J	<0.32 U	17.8	49.4 J	<0.52 U	--	16,000	10.6

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Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Cyanide	Organics	Organics	GEO
								Aluminum, Total	Antimony, Total	Arsenic, Total	Barium, Total	Cadmium, Total	Chromium, Total	Copper, Total	Iron, Total	Lead, Total	Manganese, Total	Mercury, Total	Nickel, Total	Selenium, Total	Silver, Total	Vanadium, Total	Zinc, Total	Cyanide, Total	Carbon, Black	Carbon, Total Organic	Percent Moisture
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%
							EC20 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit					Result rejected during data validation					Not analyzed							
SBR-SD-084	1123151083	SBR-SD-084 0-0.5	0.0	0.5	S	O	11/23/2015	15,700	4.1 J	11 J	305	14.9 J	164	323	24,500	524	344	2.6	66.7	3 J	10.6	40.6	1,180	2.3 J	--	127,000	70.4
SBR-SD-084	1123151086	SBR-SD-084 2.5-3.5	2.5	3.5	SS	O	11/23/2015	11,500	20.4	16	444	42.8	387	413	26,500	1,550	329	3.8	122	2.8 J	30.1	64.4	1,880	7.6	--	--	54.7
SBR-SD-084	1123151091	SBR-SD-084 7.5-8.5	7.5	8.5	SS	O	11/23/2015	14,900	8 J	20.1	391	34.6	436	348	39,600	1,080	354	4.9	102	3.4 J	18.1	76.1	1,860	1.9	--	--	47.5
SBR-SD-084	1123151093	SBR-SD-084 9.5-10.5	9.5	10.5	SS	O	11/23/2015	16,900	8 J	24	449	29.9	409	332	44,200	1,180	292	3.5	116	4.4 J	21.4	76.6	2,610	1.6 J	--	--	47.4
SBR-SD-084	1123151095	SBR-SD-084 11.5-12.5	11.5	12.5	SS	O	11/23/2015	6,690	2 J	17.3	277	3.8 J	93.3	172	19,200	471	239	13.9	27.8	1.9 J	3.9 J	27.4	798	1.3 J	--	--	56
SBR-SD-084	1123151096	SBR-SD-084 12.5-13.5	12.5	13.5	SS	A1	11/23/2015	6,990	1.8 J	18.4	251	3 J	84.5	161	17,900	395	226	3.9	28.3	2.3 J	3 J	19.3	745	--	--	--	51.9
SBR-SD-084	1123151097	SBR-SD-084 13.5-14.2	13.5	14.2	SS	O	11/23/2015	7,200	2.7 J	16.8	265	2.9 J	79	221	21,200	452	325	3.6	31.3	1.7 J	2.5 J	27.4	854	0.5 J	--	124,000	49.2
SBR-SD-084	1123151098	SBR-SD-084 14.2-15.5	14.2	15.5	SS	O	11/23/2015	15,800	<0.72 U	8.5	63.8	<0.72 U	32.8	55.2	24,700	48.5	399	0.037	34.2	1.3 J	1.2	32.8	111 J	<0.11 U	--	31,100	19.2
SBR-SD-085	101315301	SBR-SD-085 0-0.5	0.0	0.5	S	O	10/13/2015	11,100	3.3	6.4	175	3.8	70.2	209	16,300	276	283	2.2	32.5	1.8	4.1 J	21.7	654	<2.1 U	--	68,600	56.6
SBR-SD-085	101315306	SBR-SD-085 4.5-5.5	4.5	5.5	SS	O	10/13/2015	9,880	6.9	27.2	408	31.5	2,330	375	31,700	1,030	199	4.5	172	4.3	10.2	105	5,460	2.5 J	--	--	54.6
SBR-SD-085	101315308	SBR-SD-085 6.5-7.5	6.5	7.5	SS	O	10/13/2015	6,840	6.9	20.7	320	8.1	411	272	25,500	739	236	3.3	196	3.1	8.3	56.3	2,430	1.5 J	--	45,400	55.1
SBR-SD-085	101315311	SBR-SD-085 9.5-10.5	9.5	10.5	SS	O	10/13/2015	5,830	6.5	30.6	291	3.6	76.4	380	26,800	927	258	3.7	68.7	2.3	5.4	24.4	1,390	<1.2 U	--	--	47.3
SBR-SD-085	101315312	SBR-SD-085 10.5-11.7	10.5	11.7	SS	O	10/13/2015	11,700	2.9	19.7	270	3	139	314	28,600	611	319	3.6	53.4	2.3	6.9	38.9	1,120	2.2 J	--	58,300	45.7
SBR-SD-086	101315325	SBR-SD-086 0-0.5	0.0	0.5	S	O	10/13/2015	10,400	3	7.4	240	6.6	117	225	19,200	453	335	0.98	55	1.9	7.1	31.9	762	<1.6 U	--	48,800	52.7
SBR-SD-086	101315328	SBR-SD-086 2.5-3.5	2.5	3.5	SS	O	10/13/2015	15,900	4.3	11.2	362	19.3	191	307	24,100	658	364	1.4	105	3	16.7	47.6	1,260	1.6 J	--	108,000	57.3
SBR-SD-086	101315332	SBR-SD-086 6.5-7.5	6.5	7.5	SS	O	10/13/2015	16,000	11	21.4	460	65.2	550	489	38,200	1,290	394	4.3	143	3.9	25.9	89.4	2,370	3.6 J	--	--	48.5
SBR-SD-086	101315335	SBR-SD-086 9.5-10.5	9.5	10.5	SS	O	10/13/2015	15,000	16.9	22.1	434	37.5	511	420	39,700	1,350	363	2.8	117	4.1	19.7	83.3	2,240	1.8 J	--	--	46.2
SBR-SD-086	101315336 / 101315337 (N)	SBR-SD-086 10.5-11.8 (N)	10.5	11.8	SS	O	10/13/2015	15,700	15.5	23.5	446	30.7	472	368	44,800	1,440	337	3.9 J+	120	4.4	22.9	81.5	2,890	2 J	--	149,000	46.5
SBR-SD-087	101215266	SBR-SD-087 0-0.5	0.0	0.5	S	O	10/12/2015	15,100	6.4	9.6	349	13.9	163	315	22,800	626	345	2.1	93.6	2.6	10.4	36.1	1,160	<3.9 U	25,800	119,000	69.2
SBR-SD-087	101215267	SBR-SD-087 0.5-1.5	0.5	1.5	SS	O	10/12/2015	16,700	5.5	11.3	405	32.4	291	383	24,200	915	294	1.4	129	3	16.9	44.5	1,530	3.1 J	--	--	66.3
SBR-SD-087	101215269 / 101215270 (N)	SBR-SD-087 2.5-3.9 (N)	2.5	3.9	SS	O	10/12/2015	17,000	15.1 J	17.8	479	93.1	654	512	30,400	1,450	343	5.5	143	4	35.3	70.3	2,380	17.8 J	--	130,000	58
SBR-SD-097	101215264	SBR-SD-097 0-0.5	0.0	0.5	S	O	10/12/2015	14,700	2.7	11.4	205	3.9	72.4	223	18,900	353	270	0.79	38.8	1.8	7.7 J	29.1	753	1.9 J	27,600	96,700	66.8
SBR-SD-097	101215265	SBR-SD-097 0.5-1.4	0.5	1.4	SS	O	10/12/2015	17,200	4.4	13	363	9.9	164	291	25,600	739	410	1.4	58	2.8	12.1	44.6	1,140	1.7 J	--	115,000	64.8
SBR-SD-098	101215271	SBR-SD-098 0-0.5	0.0	0.5	S	O	10/12/2015	15,400	3.1	9.7	165	2 J	67.7	179	18,100	303	271	0.43	33	2.4	2 J	26.5	693	<3.3 U	--	75,700	69.7
SBR-SD-098	101215274	SBR-SD-098 2.5-3.5	2.5	3.5	SS	O	10/12/2015	15,000	4.6	10.6	295	6.4	154	216	22,400	747	357	0.96	55.5	2.7	9.1	37.2	946	<2.6 U	--	--	58.5
SBR-SD-098	101215275	SBR-SD-098 3.5-4.5	3.5	4.5	SS	O	10/12/2015	14,700	9.7	13.7	419	22	317	366	23,300	1,490	296	1.4	141	3.5	23	47.6	1,690	<2.3 U	--	136,000	59.6
SBR-SD-098	101215278	SBR-SD-098 6.5-7.8	6.5	7.8	SS	O	10/12/2015	12,200	104	23.3	548	28	905	633	25,600	4,410	314	7.4	137	4.4	61.6	76.9	2,890	2.4 J	--	163,000	54.9
SBR-SD-099	111815945	SBR-SD-099 0-0.5	0.0	0.5	S	O	11/18/2015	9,660	5.9 J	8 J	188 J	2.8 J	67.5	156	20,300	292 J	229	1.6 J-	41.9	2.3 J	2.8 J	22.8	719	<1.2 U	--	51,900	54
SBR-SD-099	111815946	SBR-SD-099 2.5-3.5	2.5	3.5	SS	O	11/18/2015	16,800	8.3 J	12 J	239	3.6 J	70.6	192	18,600	290	245	0.8	35.9	3.3 J	2.9 J	40.4	682	<3.4 U	--	--	68.4
SBR-SD-099	111815950	SBR-SD-099 6.5-7.5	6.5	7.5	SS	O	11/18/2015	10,900	13.3 J	8.8 J	213	4.6 J	69.9	228	18,700	358	253	2.4	37.5	2 J	10.2	25.1	766	<2.3 U	--	--	59.8
SBR-SD-099	111815953 / 111815961 (N)	SBR-SD-099 9.5-10.5 (N)	9.5	10.5	SS	O	11/18/2015	10,800	16.5 J	40.5	460	42.7	6,150	536	35,900	1,420	217	7.2	311	6.1 J	14.2	561	10,200	6 J	--	185,000	67.1
SBR-SD-099	111815956	SBR-SD-099 12.5-13.5	12.5	13.5	SS	O	11/18/2015	9,300	13.8 J	34.3	460	33	5,020	483	33,700	1,320	206	7.6	220	5.9 J	14.2	460	9,200	6.5 J	--	--	64.8
SBR-SD-099	111815957	SBR-SD-099 13.5-14.5	13.5	14.5	SS	O	11/18/2015	7,060	13.5 J	26.1	339	17.4	3,010	335	30,000	880	198	10.8	154	3.8 J	7.2	280	4,680	3.2 J	--	164,000	61.1
SBR-SD-099	111815958	SBR-SD-099	17.0	18.0	SS	O	11/18/2015	12,200	<0.71 U	19.3	43.3	<0.71 U	50.9	42.7	50,900	39.5	502	0.18	43.2	2.1 J	<0.35 U	30.2	117 J	<0.8 U	--	28,000	17

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								Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Cyanide	Organics	Organics	GEO
Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Aluminum, Total	Antimony, Total	Arsenic, Total	Barium, Total	Cadmium, Total	Chromium, Total	Copper, Total	Iron, Total	Lead, Total	Manganese, Total	Mercury, Total	Nickel, Total	Selenium, Total	Silver, Total	Vanadium, Total	Zinc, Total	Cyanide, Total	Carbon, Black	Carbon, Total Organic	Percent Moisture
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%
							EC20 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit						Result rejected during data validation					Not analyzed							
SBR-SD-100	101215279	SBR-SD-100 0-0.5	0.0	0.5	S	O	10/12/2015	13,200	4.4	9.9	197	4.2	76	192	18,200	401	276	1.1	40.7	2.3	18.8	26.9	717	<3 U	--	110,000	60.5
SBR-SD-100	101215283	SBR-SD-100 3.5-4.5	3.5	4.5	SS	O	10/12/2015	12,000	18.8	32.6	564	28.4	726	406	29,000	1,920	259	6.9	193	4.8	35.7	66.7	4,370	3.2 J	--	--	55.6
SBR-SD-100	101215285	SBR-SD-100 5.5-6.5	5.5	6.5	SS	O	10/12/2015	11,100	15.4	40.8	471	40.8	5,720	538	35,900	1,560	225	5.3	315	6.4	19.2	228	9,420	4.1 J	--	--	66.7
SBR-SD-100	101215287	SBR-SD-100 7.5-8.2	7.5	8.2	SS	O	10/12/2015	8,740	11.4	36.1	472	26	5,350	645	32,800	1,230	207	11.1	188	5.8	10.1	214	10,100	3.6 J	--	164,000	65.2
SBR-SD-101	101215253	SBR-SD-101 0-0.5	0.0	0.5	S	O	10/12/2015	13,300	3.1	11.1	314	5.5	156	222	22,500	791	341	1.5	43.5	2.5	8	42	1000	2.8	--	--	59.9
SBR-SD-101	101215255	SBR-SD-101 1.5-2.5	1.5	2.5	SS	O	10/12/2015	11,300	40.6	24.3	511	26.2	381	433	26,300	1,880	330	8.4	175	3.7	51.4	68.2	2,880	3.6	--	--	55.2
SBR-SD-101	101215256	SBR-SD-101 2.5-3.5	2.5	3.5	SS	O	10/12/2015	11,600	23.5	27.1	654	25.4	443	419	25,500	2,240	332	12.6	148	3.8	36.5	78	3,020	7.1	--	136,000	53.6
SBR-SD-101	101215262	SBR-SD-101 8.5-9.5	8.5	9.5	SS	O	10/12/2015	9,320	11.6	37.9	539	26.4	5,710	516	36,000	1,230	225	14.6	209	5.4	10.9	552	9,040	3.1 J	--	--	66
SBR-SD-101	101215263	SBR-SD-101 9.5-10.4	9.5	10.4	SS	O	10/12/2015	6,790	3.6	18.1	284	7.5	1,610	233	32,400	735	445	4.1	160	2	3.4 J	152	2,730	0.47 J	--	93,300	46.4
SBR-SD-102	101215242	SBR-SD-102 0-0.5	0.0	0.5	S	O	10/12/2015	27,800	1.4 J	14	134	1.7 J	48.5	148	19,800	150	268	0.39	27	1.7 J	1.9	29.5	510	0.75 J	22,900	84,100	68.6
SBR-SD-102	101215244	SBR-SD-102 1.5-2.5	1.5	2.5	SS	O	10/12/2015	19,000	4.5	15.1	320	6.5	112	264	30,100	596	393	1.3	68.1	3.5	15.2	45.7	1,190	0.7 J	--	--	60.3
SBR-SD-102	101215247 / 101215252 (N)	SBR-SD-102 4.5-5.5 (N)	4.5	5.5	SS	O	10/12/2015	11,900	54.6 J	28.2	577	31 J	461	494	26,100	1,780	369 J	7.9 J	215 J	4.3	66.8 J	96.2 J	3,470	5.3 J-	--	133,000	54.4
SBR-SD-102	101215249	SBR-SD-102 6.5-7.5	6.5	7.5	SS	O	10/12/2015	11,400	19.1	51.6	583	49.2	11,100	673	48,100	1,930	250	5	442	7.4	17.9	1,480	13,000	3.7	--	--	67.9
SBR-SD-102	101215251	SBR-SD-102 8.5-9.5	8.5	9.5	SS	O	10/12/2015	10,400	15	48.7	595	35.8	7,810	831	43,100	1,660	252	7.6	421	7.5	13.9	1,040	12,600	4.2	--	--	66.7
SBR-SD-103	100915209 / 100915218 (N)	SBR-SD-103 0-0.5 (N)	0.0	0.5	S	O	10/9/2015	14,700 J	5.7 J	11	270	4.5	82.1	236	22,900	445	337	1.2	41.6	3	10.6 J	35.7	971 J	0.42 J	30,000	84,900	57.7
SBR-SD-103	100915210	SBR-SD-103 0.5-1.5	0.5	1.5	SS	O	10/9/2015	20,200	4.1	15.1	293	12.1	111	252	25,900	536	376	1.3	56.3	3.5	18.6	43.3	1,200	1.2 J	--	77,700	60.1
SBR-SD-103	100915213	SBR-SD-103 3.5-4.5	3.5	4.5	SS	O	10/9/2015	11,200	21.8 J	33.9	627	32.4	753	437	29,400	2,320	260	7.4	287 J	5.1	41.7	134	5,160	2.7 J-	--	173,000	58.5
SBR-SD-103	100915215	SBR-SD-103 5.5-6.5	5.5	6.5	SS	O	10/9/2015	10,300	17.9	39.2	548	35.5	6,820	557	42,900	1,610	241	8.9	359	6.8	16.2	905	9,590	1.7 J	--	--	60
SBR-SD-103	100915217	SBR-SD-103 7.5-8.5	7.5	8.5	SS	O	10/9/2015	11,000	17.4	46.8	598	31.7	8,110	652	44,400	1,660	267	16.4	262	6.1	12.4	1,080	11,300	3.4	--	176,000	67.1
SBR-SD-104	101215230	SBR-SD-104 0-0.5	0.0	0.5	S	O	10/12/2015	12,900	6.5	11.2	241	3.9	98.6	202	21,400	441	338	0.77	40.2	2.4	8.3	35.4	763	0.88 J	--	90,000	55.9
SBR-SD-104	101215233	SBR-SD-104 2.5-3.5	2.5	3.5	SS	O	10/12/2015	18,800	4.7	14.6	405	7.9	182	282	28,000	727	434	0.94	91.2	3.2	16.1	56	1,290	1.3 J	--	--	60.5
SBR-SD-104	101215235	SBR-SD-104 4.5-5.5	4.5	5.5	SS	O	10/12/2015	12,900	94.2	23.7	561	25	591	493	32,400	3,220	457	2.3	160	4.4	110	115	2,750	1.5	--	--	50.3
SBR-SD-104	101215237	SBR-SD-104 6.5-7.5	6.5	7.5	SS	A1	10/12/2015	14,900	17.7	27.4	628	39.6	632	487	27,500	1,830	335	9.7	192	5.5	35.7	26.1	3,670	--	--	--	50.3
SBR-SD-104	101215238	SBR-SD-104 7.5-8.5	7.5	8.5	SS	O	10/12/2015	11,600	18	47.7	624	35.8	7,080	650	39,800	1,750	252	12	247	7.4	21.1	944	12,400	2.8 J	--	--	62.1
SBR-SD-104	101215239	SBR-SD-104 8.5-9.5	8.5	9.5	SS	A1	10/12/2015	11,300	14.3	35.5	622	30.5	859	482	27,800	1,860	223	6.4	294	6.6	26.2	12.1	5,620	--	--	--	53.4
SBR-SD-104	101215241	SBR-SD-104 10.5-11.9	10.5	11.9	SS	O	10/12/2015	12,100	20.4	51	581	46.8	11,900	645	44,600	1,940	246	4.5	396	8.1	19.1	1,570	13,000	6.5	--	208,000	65.2
SBR-SD-105	111715934	SBR-SD-105 0-0.5	0.0	0.5	S	O	11/17/2015	11,200	6.7 J	15.3	153	6.5 J	143	129	23,900	968	427	3	60.7	1.8	13.7	39.8	798	1.2	--	33,000	32.7
SBR-SD-105	111715937	SBR-SD-105 2.5-3.5	2.5	3.5	SS	O	11/17/2015	7,540	4.9 J	15.9	118	4.7 J	99.4	92.1	32,100	450	644	0.87	45.9	1.3	5	28.9	763	<1 U	--	--	28
SBR-SD-105	111715938	SBR-SD-105 3.5-4.5	3.5	4.5	SS	O	11/17/2015	15,500	<0.71 U	10.8	53.1	<0.71 U	27.7	29.2	25,400	24.7	405	0.052 J	36.4	1.9 J	<0.35 U	32.8	73.4 J	<0.14 U	--	--	14.6
SBR-SD-106	100915219	SBR-SD-106 0-0.5	0.0	0.5	S	O	10/9/2015	12,600	5.2	8.7	178	2.8	69.8	236	20,700	291	317	0.51	38.1	2	5.5 J	28.3	719	1.4 J	--	59,800	58.6
SBR-SD-106	100915221	SBR-SD-106 1.5-2.5	1.5	2.5	SS	O	10/9/2015	12,500	16	11.5	308	5.4	125	453	25,500	578	423	7.7	63.6	2.4	11.3	40.6	1,110	1.8	--	--	51.5
SBR-SD-106	100915225	SBR-SD-106 5.5-6.5	5.5	6.5	SS	O	10/9/2015	14,700	44.8	33.3	916	32.4	605	548	37,900	2,560	498	9.8	209	5.7	45.4	123	4,130	3.3	--	138,000	50.5
SBR-SD-106	100915228	SBR-SD-106 8.5-9.5	8.5	9.5	SS	O	10/9/2015	8,980	13.7	40.6	596	28.6	7,620	978	50,400	1,370	365	6.2	264	6.4	11.2	1000	10,000	4.1	--	153,000	60.3

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
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Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Metals: Aluminum, Total	Metals: Antimony, Total	Metals: Arsenic, Total	Metals: Barium, Total	Metals: Cadmium, Total	Metals: Chromium, Total	Metals: Copper, Total	Metals: Iron, Total	Metals: Lead, Total	Metals: Manganese, Total	Metals: Mercury, Total	Metals: Nickel, Total	Metals: Selenium, Total	Metals: Silver, Total	Metals: Vanadium, Total	Metals: Zinc, Total	Cyanide: Cyanide, Total	Organics: Carbon, Black	Organics: Carbon, Total Organic	GEO: Percent Moisture
		Reporting Units:						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%
		EC20 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		EC50 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50							Not detected above reported limit					Result rejected during data validation					Not analyzed							
		Detected below EC20																									
SBR-SD-107	111715917	SBR-SD-107 0-0.5	0.0	0.5	S	O	11/17/2015	12,700	7.5 J	10 J	191	3.2 J	75.8	204	17,200	327	255	5.4	38.1	1.3 J	22.7	28.2	695	0.75 J	--	--	61.9
SBR-SD-107	111715920	SBR-SD-107 2.5-3.5	2.5	3.5	SS	O	11/17/2015	12,500	4.9 J	14.1 J	258	5.4 J	186	200	25,200	691	375	2.5	48.1	2.3	12.2	42.6	1,060	0.96 J	--	--	59.1
SBR-SD-107	111715923	SBR-SD-107 5.5-6.5	5.5	6.5	SS	O	11/17/2015	8,640	5.5 J	20.5	151	7.3 J	407	203	28,000	803	467	4	63.4	2.1	5 J	63.8	1,610	0.69 J	--	91,900	41.5
SBR-SD-107	111715926	SBR-SD-107 8.5-9.5	8.5	9.5	SS	O	11/17/2015	8,100	12.7 J	34.7	411	27.3	6,900	445	29,400	1,370	174	6.5	264	4.7	11	771	7,790	6.2	--	--	57.9
SBR-SD-107	111715928	SBR-SD-107 10.5-11.5	10.5	11.5	SS	O	11/17/2015	9,460	9.8 J	29.2	450	21.9	5,080	377	36,200	1,280	322	5.5	235	4.1	9.1	576	5,480	5.9	--	177,000	55.3
SBR-SD-107	111715929	SBR-SD-107 11.5-12.5	11.5	12.5	SS	O	11/17/2015	11,100	<0.72 U	12.3	30.9	<0.72 U	29.2	36	22,300	20.8	433	0.063	33	1.1	<0.36 U	25.4	83.4 J	0.092 J	--	25,500	11.2
SBR-SD-107	111715931	SBR-SD-107 13.5-14.5	13.5	14.5	SS	O	11/17/2015	11,200	<0.68 U	12.3	36.4	<0.68 U	24.9	33.7	24,200	24.4	445	0.072	32.6	1.3	<0.34 U	24.8	77.2 J	<0.094 U	--	--	11.7
SBR-SD-108	100915198	SBR-SD-108 0-0.5	0.0	0.5	S	O	10/9/2015	15,000	4.3	9.9	181	3.1	64.8	182	18,200	338	296	1.6	32.5	2.6	7.7 J	28.9	670	1.6 J	38,000	81,000	70.6
SBR-SD-108	100915200	SBR-SD-108 1.5-2.5	1.5	2.5	SS	O	10/9/2015	12,600	3.6	9.7	228	8.9	105	198	20,200	487	306	1.2	46.1	2.4	10.9	34.7	784	0.64 J	--	79,800	51.1
SBR-SD-108	100915202	SBR-SD-108 3.5-4.5	3.5	4.5	SS	O	10/9/2015	9,100	0.36 J	6.7	48.1	0.49 J	19.9	33.2	17,400	74.4	539	0.044	23	1.7	0.81 J	20.9	105	<0.12 U	--	--	24.1
SBR-SD-108	100915205	SBR-SD-108 6.5-7.5	6.5	7.5	SS	O	10/9/2015	11,000	30.3	27.7	540	26.7	780	508	28,700	2,020	375	9.9	165	4.1	48.4	137	3,600	4.3	--	135,000	48.3
SBR-SD-108	100915208	SBR-SD-108 9.5-10	9.5	10.0	SS	O	10/9/2015	12,100	32.4	35.6	690	30	506	465	40,400	2,570	363	9.5	178	4.8	25.2	101	5,250	2.1 J-	--	--	49.2
SBR-SD-109	111615902	SBR-SD-109 0-0.5	0.0	0.5	S	O	11/16/2015	16,300	11.4 J	12.1 J	309	5.2 J	125	227	24,300	623	384	1.7	53.1	2.2	9.4	40.6	927	1.3 J	--	--	66.9
SBR-SD-109	111615904	SBR-SD-109 1.5-2.5	1.5	2.5	SS	O	11/16/2015	11,900	24.9	24.8	572	21.3	618	445	30,500	1,950	395	6.3	160	2.9	33.6	93.1	2,910	3.4	--	--	52.9
SBR-SD-109	111615909 / 111615915 (N)	SBR-SD-109 6.5-7.5 (N)	6.5	7.5	SS	O	11/16/2015	9,100	20.4	27.2	1,440	19.6	5,810	2,420	45,900	1,280	481	14.9	250	3.2	11	641	5,740	4.4	--	--	62.9
SBR-SD-109	111615910	SBR-SD-109 7.5-8.3	7.5	8.3	SS	O	11/16/2015	3,660	3.4 J	11.1	201	2.5 J	95.2	144	14,600	398	171	2.3	27	2.1	1.7 J	20.7	922	0.41 J	--	82,300	32.7
SBR-SD-109	111615911	SBR-SD-109 8.3-9.5	8.3	9.5	SS	O	11/16/2015	11,600	<0.71 U	13.5	43.9	<0.71 U	39.7	39.3	24,900	38.5	422	0.58	34.4	1.2	<0.36 U	27.8	151	0.24 J	--	32,800	16.9
SBR-SD-109	111615912	SBR-SD-109 9.5-10.5	9.5	10.5	SS	A1	11/16/2015	13,100 J	<0.72 U	21.8	28.2	<0.72 U	29.2	46.2	30,400	27	397	0.038 J	44.9	3.2 J	<0.36 U	31.5	139	--	--	--	15.9
SBR-SD-109	111615913	SBR-SD-109 10.5-11.5	10.5	11.5	SS	A2	11/16/2015	8,400	<0.65 U	13	81.3	<0.65 U	24	55.9	26,200	86.5	362	0.46	26.2	1.8 J	<0.46 U	22.6	212	--	--	--	13.8
SBR-SD-109	111615914	SBR-SD-109 11.5-12.5	11.5	12.5	SS	A2	11/16/2015	14,100	<0.73 U	17.2	36.1	<0.73 U	25	43	28,900	21.7	503	<0.013 u	41.2	3.4	<0.5 U	33.1	84.1	--	--	--	18.2
SBR-SD-110	100915186	SBR-SD-110 0-0.5	0.0	0.5	S	O	10/9/2015	8,220	2	6.5	115	1.8	43.5	224	16,100	281	243	0.88	26.9	1.6	3 J	20.4	498	0.91 J	--	48,400	55
SBR-SD-110	100915187	SBR-SD-110 0.5-1.5	0.5	1.5	SS	O	10/9/2015	8,810	2.6	7.8	167	2.6	62.2	176	17,100	353	257	1.2	29.3	1.8	5.5 J	25.7	618	0.65 J	--	--	57.1
SBR-SD-110	100915192	SBR-SD-110 5.5-6.5	5.5	6.5	SS	O	10/9/2015	9,760	34.9	24.6	487	20.8	593	409	27,500	1,820	357	9.1	153	4.1	39.7	110	2,960	8.8	--	108,000	51.8
SBR-SD-110	100915193	SBR-SD-110 6.5-7.5	6.5	7.5	SS	O	10/9/2015	10,700	16.3	28.9	575	27.9	927	500	29,600	1,790	314	16.6	205	4.6	27	155	4,450	3.3	--	--	50.4
SBR-SD-110	100915196	SBR-SD-110 9.5-10.3	9.5	10.3	SS	O	10/9/2015	6,850	9.4	29.8	498	13.6	2,540	405	27,300	1,050	168	44.1	152	5.9	10.1	358	4,870	0.7 J	--	168,000	55
SBR-SD-111	100815158	SBR-SD-111 0-0.5	0.0	0.5	S	O	10/8/2015	13,100	3.7	8.1	132	1.9	43.7	161	14,500	200	225	0.71	24.2	1.5	2.5 J	20.2	514	0.59 J	25,600	48,000	55.6
SBR-SD-111	100815160	SBR-SD-111 1.5-2.5	1.5	2.5	SS	O	10/8/2015	19,000	4.6	12.8	231	5.2	89.4	216	22,600	445	318	1.5	41.6	2.7	10.6	38.8	871	0.62 J	--	98,700	60.7
SBR-SD-111	100815162	SBR-SD-111 3.5-4.5	3.5	4.5	SS	O	10/8/2015	3,420	1.9	3.5	75.3	2	48.2	60.8	6,570	227	160	0.74	19.2	0.71 J	3.3 J	11.5	314	0.14 J	--	61,300	27
SBR-SD-111	100815165	SBR-SD-111 6.5-7	6.5	7.0	SS	O	10/8/2015	8,410	11.6	21.9	349	15.4	671	295	40,800	1,280	484	3.2	112	2.6	14.8	87.7	2,410	0.26 J-	--	--	36.8
SBR-SD-112	100815178	SBR-SD-112 0-0.5	0.0	0.5	S	O	10/8/2015	13,200	2.7	8.6	143	1.9	56.8	161	16,800	233	234	0.73	30.4	2	6.5 J	27.3	546	0.93 J	--	--	65.1
SBR-SD-112	100815180	SBR-SD-112 1.5-2.5	1.5	2.5	SS	O	10/8/2015	9,940	34.2	23.9	471	22	449	440	25,400	2,180	349	3.7	140	4.4	46.2	90.5	2,780	1.8	--	84,500	53
SBR-SD-112	100815184	SBR-SD-112 5.5-6.5	5.5	6.5	SS	O	10/8/2015	8,630	22.2	34.1	466	29.7	5,100	506	33,400	1,680	217	4.8	308	6	15.9	684	6,210	1.5 J	--	176,000	61.9
SBR-SD-112	100815185	SBR-SD-112 6.5-7.6	6.5	7.6	SS	O	10/8/2015	10,500	25.9	44.3	567	42.5	7,330	787	40,000	1,950	223	9.8	383	7.9	18.8	973	8,680	1.7 J	--	--	66.4

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Aluminum, Total	Antimony, Total	Arsenic, Total	Barium, Total	Cadmium, Total	Chromium, Total	Copper, Total	Iron, Total	Lead, Total	Manganese, Total	Mercury, Total	Nickel, Total	Selenium, Total	Silver, Total	Vanadium, Total	Zinc, Total	Cyanide, Total	Carbon, Black	Carbon, Total Organic	Percent Moisture
								Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Cyanide	Organics	Organics	GEO
							Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%
							EC20 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
							EC50 for TPAH(13):	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50		Detected below EC20					Not detected above reported limit					Result rejected during data validation				Not analyzed								
SBR-SD-113	100815166	SBR-SD-113 0-0.5	0.0	0.5	S	O	10/8/2015	6,580	2.9	6.4	170	2.2	43.8	192	17,800	269	238	9.1	31.7	1.8	4.8 J	17.9	632	1.4 J	--	42,200	49.6
SBR-SD-113	100815170 / 100815177 (N)	SBR-SD-113 3.5-4.5 (N)	3.5	4.5	SS	O	10/8/2015	7,100	19.4	10.1	1,130 J	5	620 J	208	22,200	2,720 J	319	1.7 J	61.8	2.3	23.5 J	100 J	1,290 J	1.9	--	71,800	52.6
SBR-SD-113	100815172	SBR-SD-113 5.5-6.5	5.5	6.5	SS	O	10/8/2015	7,160	27.5 J	20.5	360	15.9	251 J	296	20,300	1,520	262 J	5.7	120	3	27.9	56.9	2,680	3.9	--	--	32.3
SBR-SD-113	100815174	SBR-SD-113 7.5-8.5	7.5	8.5	SS	O	10/8/2015	10,100	17.8	33.8	588	29.9	1,230	539	31,600	1,820	213	5.4	273	5.8	28.8	195	6,040	3.6	--	199,000	55.9
SBR-SD-113	100815176	SBR-SD-113 9.5-10	9.5	10.0	SS	O	10/8/2015	10,200	20.8	36.2	499	27.8	6,670	513	37,800	1,870	224	4.3	352	6.2	16.4	904	6,620	1.5 J	--	--	61.7
SBR-SD-114	100815147	SBR-SD-114 0-0.5	0.0	0.5	S	O	10/8/2015	17,000	2.2	10.2	151	1.6 J	64.9	185	19,300	224	285	1.2	30.2	2.2	2.5 J	28.2	669	0.54 J	25,800	83,600	72.2
SBR-SD-114	100815148	SBR-SD-114 0.5-1.5	0.5	1.5	SS	O	10/8/2015	13,300	2.7 J	9.2	159	1.8	53.6	187	17,200	293 J	269 J	0.71	30.3	1.6 J	2.8 J	25.2	590	0.57 J	--	--	60.9
SBR-SD-114	100815155	SBR-SD-114 7.5-8.5	7.5	8.5	SS	O	10/8/2015	10,600	19.9	34.4	506	27.2	4,730	462	37,700	1,630	358	25.2	229	5.1	23.8	462	6,910	0.74 J	--	145,000	60.2
SBR-SD-114	100815156	SBR-SD-114 8.5-9.5	8.5	9.5	SS	O	10/8/2015	8,880	13.6	35	527	27.8	5,040	504	37,900	1,260	349	26.5	195	5.6	12	483	11,000	1.3 J-	--	--	63.6
SBR-SD-114	100815157	SBR-SD-114 9.5-10.4	9.5	10.4	SS	O	10/8/2015	6,200	4.8	20.1	228	11	2,350	223	25,600	632	284	4.8	86.3	2.8	4.2 J	230	4,080	0.61 J	--	87,000	37.8
SBR-SD-115	111615867	SBR-SD-115 0-0.5	0.0	0.5	S	O	11/16/2015	16,600	<1.7 U	9.8 J	141	<1.7 U	41.6	124	16,500	157	249	0.55	25.2	<1.7 U	1.6 J	22.3	464	1.1 J	--	52,800	66.3
SBR-SD-115	111615871	SBR-SD-115 3.5-4.5	3.5	4.5	SS	O	11/16/2015	13,600	52.7	11.3 J	187	3.1 J	71.1	186	20,300	316	428	0.82	37.3	2.3 J	5.6 J	28.6	811	1.3 J	--	--	58.4
SBR-SD-115	111615875	SBR-SD-115 7.5-8.5	7.5	8.5	SS	O	11/16/2015	9,050	24.9	11.9 J	271	6.6 J	150	224	21,700	914	320	2.3	70.9	2.3 J	21.9	34.6	1,060	0.77 J	--	--	48.5
SBR-SD-115	111615878	SBR-SD-115 10.5-11.5	10.5	11.5	SS	O	11/16/2015	7,750	12.1 J	23.8 J	421	20.6 J	1,190	340	26,300	1,400	207	3.6	205	4.4 J	22.2	129	4,200	0.58 J	--	--	47
SBR-SD-115	111615879	SBR-SD-115 11.5-12.5	11.5	12.5	SS	O	11/16/2015	10,400	15.6 J	34.4 J	667	32.8 J	1,780	533	33,500	1,960	241	7.2	313	6.5 J	30.4	191	6,670	1.8 J	--	208,000 J	60.8
SBR-SD-115	111615882	SBR-SD-115 14.5-15.5	14.5	15.5	SS	O	11/16/2015	8,700	12.8 J	27 J	546	26.4 J	1,920	465	27,200	1,590	187	5.6	260	4.4 J	24.1	194	5,430	6.1	--	--	55.4
SBR-SD-115	111615883	SBR-SD-115 15.5-16.5	15.5	16.5	SS	O	11/16/2015	5,200	3.3 J	17.7 J	275	4.9 J	160	263	32,700	749	316	4.2	129	2.4 J	3.5 J	34.2 J	2,090	2	--	97,600	46.2
SBR-SD-115	111615884	SBR-SD-115 16.5-17.5	16.5	17.5	SS	O	11/16/2015	12,500	<0.75 U	14.5	31.3	<0.75 U	26.2	35.2	27,200	21.7	431	0.12	38.6	2 J	<0.38 U	28.2	66 J	<0.14 U	--	26,300	11.5
SBR-SD-115	111615885	SBR-SD-115 17.5-18.5	17.5	18.5	SS	O	11/16/2015	11,900	<0.65 U	15.5	36.6	<0.65 U	30.9	39.3	26,200	27.1	394	0.015	40.1	1.9 J	<0.32 U	28.8	84.4 J	<0.15 U	--	--	8.9
SBR-SD-115.X	100715110	SBR-SD-115.X 0-0.5	0.0	0.5	S	O	10/7/2015	20,800	2.3	12.4	134	1.8 J	57	173	19,200	240	273	0.75	36.4	1.9 J	2	29.2	679	1.3 J	21,000	--	73.5
SBR-SD-115.X	100715113	SBR-SD-115.X 2.5-3.5	2.5	3.5	SS	O	10/7/2015	15,000	3.6	11.3	177	2.7	56	158	20,200	443	276	0.97	31.8	1.9	8.6	25.9	642	0.37 J	--	--	59.5
SBR-SD-115.X	100715114	SBR-SD-115.X 3.5-4.5	3.5	4.5	SS	O	10/7/2015	12,500	20.9	9.7	198	3.1	84.5	204	20,100	371	283	1.5	38.1	2.2	5.8	30.8	734	0.46 J	--	89,500	58.8
SBR-SD-115.X	100715116	SBR-SD-115.X 5.5-6.5	5.5	6.5	SS	O	10/7/2015	9,900	4.7	10.1	259	5.6	120	187	24,700	621	305	1.3	70.2	1.9	11.3	36.6	882	0.57 J	--	--	52.7
SBR-SD-115.X	100715118	SBR-SD-115.X 7.5-8.6	7.5	8.6	SS	O	10/7/2015	7,940	19.6	22.2	402	14.7	304	296	32,900	1,480	359	4.5	136	3.2	20	56.2	2,530	0.74	--	94,600	43
SBR-SD-116	100815119 / 100815130 (N)	SBR-SD-116 0-0.5 (N)	0.0	0.5	S	O	10/8/2015	8,890	1.3	5.9	114	1.2	40.6	172 J	12,000	151	227	3 J	23.5	1.2	1.6	16.2	383	0.37 J	--	52,400	49
SBR-SD-116	100815122	SBR-SD-116 2.5-3.5	2.5	3.5	SS	O	10/8/2015	16,300	3.5	10.8	171	2.3	62.2	164	18,900	346	244	0.81	28.8	2.6	3.5	26.7	662	0.33 J	--	--	57.4
SBR-SD-116	100815126	SBR-SD-116 6.5-7.5	6.5	7.5	SS	O	10/8/2015	9,270	25.1	26.2	446	20.1	352	359	35,400	1,710	435	9.8	162	3.5	36.7	64.6	3,140	2.4	--	129,000	47.8
SBR-SD-116	100815127	SBR-SD-116 7.5-8.5	7.5	8.5	SS	O	10/8/2015	8,790	17.2	28.6	524	26.4	1,100	435	30,300	1,580	215	7.8	238	4.5	24.2	139	5,200	0.49 J	--	--	52.2
SBR-SD-116	100815129	SBR-SD-116 9.5-10.4	9.5	10.4	SS	O	10/8/2015	10,300	20.6	38.1	495 J	31.4	6,300	570	35,400	1,930	218	6.9 J+	326	6.7	19	1,230	6,800	0.99 J-	--	170,000	62.6
SBR-SD-117	111315856	SBR-SD-117 0-0.5	0.0	0.5	S	O	11/13/2015	5,730	1.3 J	7.8 J	48.9 J	0.83 J	68.7 J	162 J	223,000	54.5 J	3,020	0.089 J+	29.8	2.3 j	0.5 J	118 J	161 J	0.15 R	--	40,400	13.4
SBR-SD-117	111315859	SBR-SD-117 2.5-3.6	2.5	3.6	SS	O	11/13/2015	5,470	2.5 J	13.6	131	2.8 J	437	2,300	74,000	485	1,840	0.63	41.2	2 J	2.7 J	90.8	932	0.41 J	--	--	22.6
SBR-SD-117	111315860	SBR-SD-117 3.6-4.6	3.6	4.6	SS	O	11/13/2015	8,530	1 J	10.6	79.9	0.9 J	55.2	72.8	49,700	158	793	0.52	33.6	1.6 J	0.45 J	31.3	309	<0.14 U	--	41,300	21.5
SBR-SD-117	111315861 / 111315866 (N)	SBR-SD-117 4.6-5.6 (N)	4.6	5.6	SS	O	11/13/2015	17,500	<0.74 U	18.6 J	74.3 J	0.19 J	32.2	45.5	36,900	57.3	476	0.15 J	44.3	2.1 J	<0.37 U	37.4	116 J	<0.092 U	--	--	27
SBR-SD-117	111315863	SBR-SD-117 6.6-7.6	6.6	7.6	SS	O	11/13/2015	12,400	<0.68 U	15.1	39.7	<0.68 U	26.3	44	35,900	105	528	0.015	40.9	1.9 J	<0.34 U	30	151	0.17 J	--	23,500	11.4
SBR-SD-118	100715091	SBR-SD-118 0-0.5	0.0	0.5	S	O	10/7/2015	11,300	1.9	7.7 J	121	1.3 J	38	120	16,000	199	221	0.57	21.2	1.1 J	1.2 J	19	451	0.33 J	--	--	56.5
SBR-SD-118	100715094	SBR-SD-118 2.5-3.5	2.5	3.5	SS	O	10/7/2015	11,500	3.5	9.8 J	194	2.8	62.4	149	20,900	339	328	19.6	33.6	1.7	8.1	25.3	682	0.32 J	--	61,700	46.3
SBR-SD-118	100715096	SBR-SD-118 4.5-5.5	4.5	5.5	SS	O	10/7/2015	10,800	51.6	18.1	428	15.4	288	302	30,700	1,810	416	3.3	132	3	50	53.7	1,870	0.37 J	--	--	51.2
SBR-SD-118	100715097	SBR-SD-118 5.5-6.8	5.5	6.8	SS	O	10/7/2015	7,620	19.5	27.5	482	20	628	282	31,700	1,830	291	7.7	156	3.6	25.9	84.4	5,290	0.17 J	--	180,000	49.2

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Metals: Aluminum, Total	Metals: Antimony, Total	Metals: Arsenic, Total	Metals: Barium, Total	Metals: Cadmium, Total	Metals: Chromium, Total	Metals: Copper, Total	Metals: Iron, Total	Metals: Lead, Total	Metals: Manganese, Total	Metals: Mercury, Total	Metals: Nickel, Total	Metals: Selenium, Total	Metals: Silver, Total	Metals: Vanadium, Total	Metals: Zinc, Total	Cyanide: Cyanide, Total	Organics: Carbon, Black	Organics: Carbon, Total Organic	GEO: Percent Moisture
Reporting Units:								mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%
EC20 for TPAH(13):								NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EC50 for TPAH(13):								NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Value exceeds EC20 or EC50			Detected below EC20						Not detected above reported limit					Result rejected during data validation					Not analyzed							
SBR-SD-118.4	1218151561	SBR-SD-118.4 0-0.5	0.0	0.5	S	O	12/18/2015	9,750	17.4	6.5	113	1.6 J	41.5	121	13,600	201	241	0.6 J+	40.1	1.8	1.9 J	16.9	465	0.81 J	--	44,400	60
SBR-SD-118.4	1218151565	SBR-SD-118.4 5.5-6.5	5.5	6.5	SS	O	12/18/2015	11,700	55.3	21.5	499	20.4	399	419	25,500	2,640	302	7.7	179	3.9	80.3	51.6	2,220	4.8 J-	--	--	53.2
SBR-SD-118.4	1218151567	SBR-SD-118.4 7.5-8.5	7.5	8.5	SS	O	12/18/2015	7,790	24.1	25.8	425	19.5	453	295	26,600	1,990	289	7.4	145	5.9	23.4	49.6	3,750	2.9	--	--	47.4
SBR-SD-118.4	1218151570	SBR-SD-118.4 10.5-11.5	10.5	11.5	SS	O	12/18/2015	9,730	15.5	34.1	581	30.4	1,270	459	29,500	2,010	212	6.9	265	5.3	30.6	73.4	6,110	1.6 J	--	189,000	58
SBR-SD-118.4	1218151571	SBR-SD-118.4 11.5-12.5	11.5	12.5	SS	O	12/18/2015	6,580	9.1 J	20.5	335	14	5,400	314	41,900	974	271	3	240	3	5.7 J	318	3,350	2.6	--	117,000	49.4
SBR-SD-118.4	1218151572	SBR-SD-118.4 12.5-13.5	12.5	13.5	SS	O	12/18/2015	7,710	8.6 J	27.5	366	14.9	743	291	32,100	2,460	274	4.5	148	3.9 J	13.5	52.4	3,320	1.6 J	--	--	48.5
SBR-SD-118.4	1218151575	SBR-SD-118.4 15.5-16.5	15.5	16.5	SS	O	12/18/2015	12,500	<0.73 U	10.1	50.8	<0.73 U	24.8	47.9	25,100	50.6	372	0.34	37.8	2 J	<0.37 U	28	109 J	<0.093 U	--	--	22
SBR-SD-119	100715088	SBR-SD-119 0-0.5	0.0	0.5	S	O	10/7/2015	24,800	2.1 J	14.9 J	136	1.4 J	44.5	201	18,000 J	147	239	0.76	28.8	1.2 J	1.4 J	30.2	571	0.3 J	--	--	76.3
SBR-SD-119	100715090	SBR-SD-119 1.5-2.9	1.5	2.9	SS	O	10/7/2015	9,620	15.3	7.1 J	124	1.7	48.1	99	14,200	185	221	0.66	23.6	1.5	1.8 J	20.6	470	0.49 J	--	--	49.7
SBR-SD-120	100715085	SBR-SD-120 0-0.5	0.0	0.5	S	O	10/7/2015	14,100	0.22 J	10	43.6	0.26 J	25.6	28.8	28,800	25.4	462	0.079	31.6	1.2	<0.39 U	30.9	92.8	0.12 J	16,500	--	20.6
SBR-SD-120	100715086	SBR-SD-120 0.5-1.4	0.5	1.4	SS	O	10/7/2015	12,400	0.51 J	15.8	54 J	2.5	27.5	32.1	28,000	92.3 J	426	0.097 J+	32.2	1.5	0.15 J	30.9	496	<0.087 U	--	--	23.1
SBR-SD-1014	101315338	SBR-SD-1014 0-0.5	0.0	0.5	S	O	10/13/2015	14,800	3.4 J	10.1	226	5.3	88.7	218	20,800	405 J	349	0.91	42.1	2.7	9.2 J	32.8	787	3.6	--	69,000	64.2
SBR-SD-1014	101315339	SBR-SD-1014 0.5-1.5	0.5	1.5	SS	O	10/13/2015	17,800	3.4	11.4	262	7.1	99.3	241	22,900	404	358	2.7	44.9	2.9	8.1 J	36.5	945	1.5 J	--	--	63.1
SBR-SD-1014	101315344	SBR-SD-1014 5.5-6.5	5.5	6.5	SS	O	10/13/2015	13,000	105	18.2	501	37.7	589	441	24,400	2,780	342	3.8	129	3.5	121	86.8	2,100	19.5	--	--	52.3
SBR-SD-1014	101315347	SBR-SD-1014 8.5-9.5	8.5	9.5	SS	O	10/13/2015	14,600	18	22.4	491	48.3	476	425	33,400	1,590	372	10.1	157	4.1	40.6	87.1	2,920	3.6	--	141,000	47.5
SBR-SD-1014	101315348 / 101315349 (N)	SBR-SD-1014 9.5-10.5 (N)	9.5	10.5	SS	O	10/13/2015	14,800	16.3	26.3	603	40.3	522	440	33,800	1,930	379	7	152	4.4	37	87.6	2,930	3.5	--	148,000	48.7
SBR-SD-1015	101315289	SBR-SD-1015 0-0.5	0.0	0.5	S	O	10/13/2015	15,500	3.5	10.9	248	6.2	98.9	236	21,200	456	351	1.3	50.1	2.6	13	33	875	<2.4 U	--	75,400	58.2
SBR-SD-1015	101315291	SBR-SD-1015 1.5-2.5	1.5	2.5	SS	O	10/13/2015	15,000	3.8	11.9	299	7.6	138	233	23,000	708	370	1.6	58.4	3.1	10.2	36	1,020	<1.3 U	--	--	55.5
SBR-SD-1015	101315293	SBR-SD-1015 3.5-4.5	3.5	4.5	SS	O	10/13/2015	13,200	6.5	11.2	357	14.5	190	270	20,900	906	416	0.83	89	2.9	18	34.3	1,220	4.4 J	--	131,000	51.3
SBR-SD-1015	101315295	SBR-SD-1015 5.5-6.5	5.5	6.5	SS	O	10/13/2015	12,000	69.3	19.1	514	29.2	585	425	23,600	3,210	327	2.5	146	3.8	53.1	59.4	2,050	11.3 J	--	147,000	51.2
SBR-SD-1015	101315297	SBR-SD-1015 7.5-8.5	7.5	8.5	SS	O	10/13/2015	12,300	28.8	19.6	512	45.9	422	423	26,200	1,860	332	6.7	130	3.8	46.7	53.7	2,220	10.5 J	--	--	49.2
SBR-SD-1015	101315300	SBR-SD-1015 10.5-11.3	10.5	11.3	SS	O	10/13/2015	13,300	13	39.8	527	53.3	5,960	573	39,500	1,450	232	8.4	295	7.1	16.7	240	8,680	2.3 J	--	205,000	64.2
SBR-SD-1016	100815140	SBR-SD-1016 0-0.5	0.0	0.5	S	O	10/8/2015	11,000	10.7	13.7	392	9.6	327	282	22,600	2,080	350	15.1	86.4	3.1	23.6	57.4	1,450	0.91 J-	--	103,000	59.1
SBR-SD-1016	100815142	SBR-SD-1016 1.5-2.5	1.5	2.5	SS	O	10/8/2015	9,810	73.2	20.3	526	19.3	585	487	24,700	3,400	295	23.3	146	3.9	100	86.2	2,190	0.61 J	--	--	55.4
SBR-SD-1016	100815143	SBR-SD-1016 2.5-3.5	2.5	3.5	SS	O	10/8/2015	6,200	26.7	16.2	319	15.3	209	241	24,200	1,170	271	15.6	101	2.4	41.8	42	1,780	1.2	--	130,000	33.1
SBR-SD-1016	100815144	SBR-SD-1016 3.5-4.5	3.5	4.5	SS	A1	10/8/2015	8,680	27.3	27.6	431	18.3	432	342	25,600	1,720	242	8.1	151	4.9	63.5	23.1	2,690	--	--	--	51
SBR-SD-1016	100815146	SBR-SD-1016 5.5-6.9	5.5	6.9	SS	O	10/8/2015	8,610	18.1	34.8	445	29	6,870	423	39,400	1,440	279	20.1	286	5.4	12.4	651	7,710	1.6	--	--	59.8
SBR-SD-1017	111615891	SBR-SD-1017 0-0.5	0.0	0.5	S	O	11/16/2015	15,600	22.6 J	18.4	295 J	13 J	231 J	258 J	23,800	1,090	271 J	3.8	101	1.9	35.6	47.8	1,900	2.2	--	108,000 J	59.8
SBR-SD-1017	111615892	SBR-SD-1017 0.5-1.5	0.5	1.5	SS	A2	11/16/2015	12,400	5.4 J	10.1 J	148	4.2 J	111	136	14,900	432	201	1.6	48.1	2 J	7	17.1	810	--	--	--	52.6
SBR-SD-1017	111615893	SBR-SD-1017 1.5-2.5	1.5	2.5	SS	A2	11/16/2015	8,110	20.3 J	16.6	318	12.4	221	285	20,400	1,240	274	3.3	110	3 J	10.5 J	20.7	1,860	--	--	--	46
SBR-SD-1017	111615894	SBR-SD-1017 2.5-3.5	2.5	3.5	SS	A2	11/16/2015	13,500	<1.2 U	31.3	33.2	<0.16 U	24.5	70.9	44,600	37.7	866	1.4	60.4	4.4	<0.61 U	34.1	80.3	--	--	--	51.8
SBR-SD-1017	111615895	SBR-SD-1017 3.5-4.5	3.5	4.5	SS	O	11/16/2015	10,900	1.5 J	7.8 J	54.9	1.3 J	37.4	38.5	20,700	81	237	0.37	28.3	2.4	1.3 J	25.2	169	0.74 J	--	77,200	29.5
SBR-SD-1017	111615896	SBR-SD-1017 4.5-5.5	4.5	5.5	SS	O	11/16/2015	4,780	1.7 J	8.5	116	1.7 J	60.4	123	15,100	470	173	1.5	22.9	1.1	1.4 J	16.5	681	1.5	--	172,000	21.6
SBR-SD-1017	111615897	SBR-SD-1017 5.5-6.5	5.5	6.5	SS	O	11/16/2015	12,600	<0.69 U	17.7	31.3	<0.69 U	22.4	41.6	28,200	30.7	423	0.053 J	42.2	1.6	<0.35 U	28.2	86.3 J	0.15 J	--	37,800	15.5
SBR-SD-1017	111615898	SBR-SD-1017 6.5-7.5	6.5	7.5	SS	O	11/16/2015	13,100	<0.68 U	17.8	28.4	<0.68 U	22.7	46.2	28,800	25.9	406	0.2	45.7	1.9	<0.34 U	30.3	118 J	0.19 J	--	--	15.5
SBR-SD-1017	111615899	SBR-SD-1017 7.5-8.5	7.5	8.5	SS	A1	11/16/2015	11,400	<0.76 U	18.2	38.2	<0.76 U	21.4	43.5	30,500	25	415	0.073	40.2	3.2 J	<0.38 U	28.5	88.5	--	--	--	12.5

Table 2. Bubbly Creek Investigative Area Sediment Analytical Data
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Location Name	9-digit sample code	Sample ID	Top Sample Depth (feet)	Bottom Sample Depth (feet)	Surface (S) or Subsurface (SS)	Analysis Run	Sample Date	Metals: Aluminum, Total	Metals: Antimony, Total	Metals: Arsenic, Total	Metals: Barium, Total	Metals: Cadmium, Total	Metals: Chromium, Total	Metals: Copper, Total	Metals: Iron, Total	Metals: Lead, Total	Metals: Manganese, Total	Metals: Mercury, Total	Metals: Nickel, Total	Metals: Selenium, Total	Metals: Silver, Total	Metals: Vanadium, Total	Metals: Zinc, Total	Cyanide: Cyanide, Total	Organics: Carbon, Black	Organics: Carbon, Total Organic	GEO: Percent Moisture
		Reporting Units:						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%
		EC20 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		EC50 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Value exceeds EC20 or EC50																									
		Detected below EC20																									
		Not detected above reported limit																									
		Result rejected during data validation																									
		Not analyzed																									
SBR-SD-1018	100815132	SBR-SD-1018 0-0.5	0.0	0.5	S	O	10/8/2015	22,300	8	12.7	163	1.8 J	67.1	215	20,500	208	273	0.92	36	2.2 J	3.1	31	700	1.3 J	--	--	81
SBR-SD-1018	100815134	SBR-SD-1018 1.5-2.5	1.5	2.5	SS	O	10/8/2015	13,600	4	11.1	247	4.1	90.5	199	22,000	470	351	1.6	41.5	2.6	7.3	34.7	831	0.46 J	--	118,000	54.8
SBR-SD-1018	100815137	SBR-SD-1018 4.5-5.5	4.5	5.5	SS	O	10/8/2015	10,500	4.8	10.1	278	6.9	112	212	21,900	621	302	6	68.4	2.3	13.4	36.1	945	0.23 J	--	--	50.8
SBR-SD-1018	100815139	SBR-SD-1018 6.5-7.7	6.5	7.7	SS	O	10/8/2015	10,700	25.1	16.3	416	13.8	281	324	25,200	1,500	306	34.9	129	3.5	32.2	54.9	1,850	0.74	--	111,000	46.8
SBR-SD-1019	100715098	SBR-SD-1019 0-0.5	0.0	0.5	S	O	10/7/2015	16,000	4	10.4 J	179	1.6 J	44.5	173	17,600	246	259	0.31	42.4	1.5 J	2.4 J	24	663	0.83 J	--	63,800	68.7
SBR-SD-1019	100715103	SBR-SD-1019 4.5-5.5	4.5	5.5	SS	O	10/7/2015	10,800	2.8	10.1 J	245	4.5	126	165	20,700	587	333	1.5	56.1	1.9	10.9	33.4	798	0.94 J-	--	79,000	54.8
SBR-SD-1019	100715104	SBR-SD-1019 5.5-6.5	5.5	6.5	SS	A1	10/7/2015	13,300	63.6	23.1	524	20.7	404	408	25,500	2,280	320	2.1	171	4.9	72.8	30.2	2,430	--	--	--	51.7
SBR-SD-1019	100715105	SBR-SD-1019 6.5-7.5	6.5	7.5	SS	O	10/7/2015	9,960	15.8	24.9	512	23.9	371	368	27,000	1,750	414	8.3	150	3.4	26.4	60.8	3,190	2.6	--	--	48.5
SBR-SD-1019	100715106	SBR-SD-1019 7.5-8.5	7.5	8.5	SS	O	10/7/2015	9,250	17.5	29.8	498	23.7	361	316	32,500	1,960	380	7.8	176	4	29.5	65.2	6,400	0.76 J	--	--	51.5
SBR-SD-1019	100715107	SBR-SD-1019 8.5-9.5	8.5	9.5	SS	O	10/7/2015	8,630	13.5	29.7	481	25	642	363	31,300	1,700	242	4.3	225	4	26.3	84.9	5,620	0.84 J	--	175,000	53.6
SBR-SD-1019	100715109	SBR-SD-1019 10.5-11.5	10.5	11.5	SS	O	10/7/2015	9,750	14.7	32.1	626	31.6	1,750	455	34,600	1,690	232	27.8	276	5.2	27.3	195	6,200	0.98 J	--	189,000	57.2
SSCD-RSB-001	111814063	SSCD-RSB-001-001	13.0	13.5	SS	O	10/20/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SSCD-RSB-005	111814064 (N)	SSCD-RSB-005-001 (N)	8.5	9.0	SS	O	10/30/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SSCD-RSB-006	111814066	SSCD-RSB-006A-001	8.0	8.5	SS	O	10/31/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SSCD-RSB-008	111814067	SSCD-RSB-008-001	8.0	9.0	SS	O	10/31/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SSCD-RSB-010	111814068	SSCD-RSB-010-001	16.0	16.5	SS	O	11/1/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SSCD-RSB-011	111814069	SSCD-RSB-011-001	12.0	12.5	SS	O	11/1/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Total Number of Samples Analyzed:						256	256	256	256	256	256	256	256	256	256	256	256	256	256	256	232	11	126	257
		Number of Detections:						256	225	256	256	230	256	256	256	256	256	255	256	254	230	255	194	11	126	257
		Min:						3,420	0.22	3.5	19.6	0.19	13	15.1	6,570	16.3	159	0.012	18.9	0.71	0.15	11.5	44	0.092	16,500	14,000	4.2
		Max:						128,000	105	74.50	1,440	93.10	11,900	2,420	223,000	4,410	3,020	44.10	442	22.20	121	1,570	13,000	19.50	38,000	208,000	94.20
		Mean:						12,805	13.26	19.51	337	18.20	1,021	316	28,845	950	352	4.68	110	3.40	18.07	126	2,455	2.48	27,736	103,005	50.05
		Median:						12,050	8	17.25	311.5	13.7	180	282	25,500	731	331	3.2	68.55	3	12.35	40	1,210	1.55	25,800	101,500	53.6
		EC20 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Number of Surface Samples that exceed EC20 for TPAH(13):						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		EC50 for TPAH(13):						NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		Number of Surface Samples that exceed EC50 for TPAH(13):						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

[O:ECK 1/4/17][U:ECK 1/5/17][U:ECK 1/6/17][U:ECK 1/9/17]

Notes:
Italic = result exceeds EC20
BOLD = result exceeds EC50
< = Concentration is less than reported limit
-- = Analysis not performed
U = Not detected
J = Concentration estimated
R = Result rejected during validation
NS = No Standard
(N) = Normalized sample locations created from combining parent and field duplicate samples following USEPA protocol
SL = Screening Level
Non-detected results were not included in the calculations of the the mean and median.

Surface sediment = bottom of interval depth is less than or equal to 6 inches (0.5 feet) below top of sediment
mg/kg = milligrams per kilogram
Alk PAHs = Alkylated PAHs
BTEX = Benzene, Toluene, Ethylbenzene and Xylene
GEO = Geotechnical Property
PAH = Polycyclic Aromatic Hydrocarbon
TPAH = Total PAHs
VOC = Volatile Organic Compound
EC20 = 20% Effects Concentration (only appliable to Depths 0.0 top 0.5 feet)
EC50 = 50% Effects Concentration (only appliable to Depths 0.0 top 0.5 feet)
EC20 and EC50 from Hawthorne, S., Azzolina, N., Neuhauser, E., and Kreitinger, J. Predicting Bioavailability of Sediment Polycyclic Aromatic Hydrocarbons to Hyallella Azteca using Equilibrium Partitioning Supercritical Fluid Extraction, and Pore Water Concentrations. Grand Forks, North Dakota. Environmental Science Technology, 2007, 41, 6297-6304.

1. The following rules apply to the summation of Total PAH (13) calculated by Natural Resource Technology, Inc. (NRT):
   a. Where no detections were observed, the maximum individual reported detection limit is presented.
   b. Where detections were observed, ½ the reported detection limit for non-detects was used in the summation
   c. The list of Total PAH (13) is as follows: Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Fluoranthene, Fluorene, Naphthalene, Phenanthrene and Pyrene.
   d. R flagged results were not included in calculations.

Non-detected results were not included in the calculations of the the mean and median.
Analysis Runs…… O = Original Run (fall 2015)
A1 = 1st Archive Run (August 2016)
A2 = 2nd Archive Run (October 2016)
Depth Gradient……. S = Surface
SS = Subsurface

Table 3 - Bubbly Creek Borings and Samples
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Unique Sample ID	Sample Date	Boring ID	X	Y	Sample Top Depth	Sample Bottom Depth	Surface or Subsurface	River Segment	Ambient Area	Location-Interval ID	Field Sample ID	Solid Interval Type	Visual Observation/Odors	PID	Laboratory Analysis							
1120151046	11/20/2015	SBR-SD-072	1166569.738	1886549.455	0	0.5	Surface	Bubbly Creek	no	SBR-SD-072 A	SBR-SD-072 A 0-0.5	Surface	None	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1120151047	11/20/2015	SBR-SD-072	1166569.738	1886549.455	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-072 B	SBR-SD-072 B 0.5-1.5	Other Sediment	None	0	Archive							
1120151048	11/20/2015	SBR-SD-072	1166569.738	1886549.455	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-072 C	SBR-SD-072 C 1.5-2.5	Other Sediment	None	0	Archive							
1120151049	11/20/2015	SBR-SD-072	1166569.738	1886549.455	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-072 D	SBR-SD-072 D 2.5-3.5	Other Sediment	None	0.3	Archive							
1120151050	11/20/2015	SBR-SD-072	1166569.738	1886549.455	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-072 E	SBR-SD-072 E 3.5-4.5	Other Sediment	None	5.3	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1120151051	11/20/2015	SBR-SD-072	1166569.738	1886549.455	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-072 F	SBR-SD-072 F 4.5-5.5	Other Sediment	None	5.9	Archive							
1120151052	11/20/2015	SBR-SD-072	1166569.738	1886549.455	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-072 G	SBR-SD-072 G 5.5-6.5	Other Sediment	None	3	Archive							
1120151053	11/20/2015	SBR-SD-072	1166569.738	1886549.455	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-072 H	SBR-SD-072 H 6.5-7.5	Other Sediment	None	1.4	PAHs	Metals						
1120151054	11/20/2015	SBR-SD-072	1166569.738	1886549.455	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-072 I	SBR-SD-072 I 7.5-8.5	Other Sediment	Petro-like odor	8.2	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1120151055	11/20/2015	SBR-SD-072	1166569.738	1886549.455	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-072 J	SBR-SD-072 J 8.5-9.5	Other Sediment	Petro-like odor	4.7	PAHs	Metals						
1120151056	11/20/2015	SBR-SD-072	1166569.738	1886549.455	9.5	10.5	Subsurface	Bubbly Creek	no	SBR-SD-072 K	SBR-SD-072 K 9.5-10.5	Other Sediment	None	4.8	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1120151057	11/20/2015	SBR-SD-072	1166569.738	1886549.455	10.5	11.3	Subsurface	Bubbly Creek	no	SBR-SD-072 L	SBR-SD-072 L 10.5-11.3	Sediment Bottom	None	4.2	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1120151058	11/20/2015	SBR-SD-072	1166569.738	1886549.455	11.3	12.5	Subsurface	Bubbly Creek	no	SBR-SD-072 M	SBR-SD-072 M 11.3-12.5	Other Clay	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1120151059	11/20/2015	SBR-SD-072	1166569.738	1886549.455	12.5	13.5	Subsurface	Bubbly Creek	no	SBR-SD-072 N	SBR-SD-072 N 12.5-13.5	Other Clay	None	0	Archive							
1120151060	11/20/2015	SBR-SD-072	1166569.738	1886549.455	13.5	14.5	Subsurface	Bubbly Creek	no	SBR-SD-072 O	SBR-SD-072 O 13.5-14.5	Clay Bottom	None	0	Archive							
1120151061	11/20/2015	DUP-29	1166569.738	1886549.455	0	0.5	Surface	Bubbly Creek	no	DUP-29 --	SBR-SD-072 O 13.5-14.5 DUP-29 --	Surface	None	N/A	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1120151025	11/20/2015	SBR-SD-073	1166708.335	1886419.753	0	0.5	Surface	Bubbly Creek	no	SBR-SD-073 A	SBR-SD-073 A 0-0.5	Surface	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1120151026	11/20/2015	SBR-SD-073	1166708.335	1886419.753	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-073 B	SBR-SD-073 B 0.5-1.5	Other Sediment	None	0	Archive							
1120151027	11/20/2015	SBR-SD-073	1166708.335	1886419.753	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-073 C	SBR-SD-073 C 1.5-2.5	Other Sediment	None	0	Archive							
1120151028	11/20/2015	SBR-SD-073	1166708.335	1886419.753	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-073 D	SBR-SD-073 D 2.5-3.5	Other Sediment	None	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1120151029	11/20/2015	SBR-SD-073	1166708.335	1886419.753	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-073 E	SBR-SD-073 E 3.5-4.5	Other Sediment	None	0.8	Archive							
1120151030	11/20/2015	SBR-SD-073	1166708.335	1886419.753	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-073 F	SBR-SD-073 F 4.5-5.5	Other Sediment	None	1.4	Archive							
1120151031	11/20/2015	SBR-SD-073	1166708.335	1886419.753	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-073 G	SBR-SD-073 G 5.5-6.5	Other Sediment	None	0.5	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1120151032	11/20/2015	SBR-SD-073	1166708.335	1886419.753	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-073 H	SBR-SD-073 H 6.5-7.5	Other Sediment	None	0.7	Archive							
1120151033	11/20/2015	SBR-SD-073	1166708.335	1886419.753	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-073 I	SBR-SD-073 I 7.5-8.5	Other Sediment	None	3.3	Archive							
1120151034	11/20/2015	SBR-SD-073	1166708.335	1886419.753	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-073 J	SBR-SD-073 J 8.5-9.5	Other Sediment	None	2	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1120151035	11/20/2015	SBR-SD-073	1166708.335	1886419.753	9.5	10.5	Subsurface	Bubbly Creek	no	SBR-SD-073 K	SBR-SD-073 K 9.5-10.5	Other Sediment	None	11.4	Archive							
1120151036	11/20/2015	SBR-SD-073	1166708.335	1886419.753	10.5	11.5	Subsurface	Bubbly Creek	no	SBR-SD-073 L	SBR-SD-073 L 10.5-11.5	Other Sediment	None	0.8	Archive							
1120151037	11/20/2015	SBR-SD-073	1166708.335	1886419.753	11.5	12.5	Subsurface	Bubbly Creek	no	SBR-SD-073 M	SBR-SD-073 M 11.5-12.5	Other Sediment	None	6.5	Archive							
1120151038	11/20/2015	SBR-SD-073	1166708.335	1886419.753	12.5	13.5	Subsurface	Bubbly Creek	no	SBR-SD-073 N	SBR-SD-073 N 12.5-13.5	Other Sediment	Petro-like odor	2.8	34 PAHs	Metals						
1120151039	11/20/2015	SBR-SD-073	1166708.335	1886419.753	13.5	14.5	Subsurface	Bubbly Creek	no	SBR-SD-073 O	SBR-SD-073 O 13.5-14.5	Other Sediment	None	29.5	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1120151040	11/20/2015	SBR-SD-073	1166708.335	1886419.753	14.5	16.1	Subsurface	Bubbly Creek	no	SBR-SD-073 P	SBR-SD-073 P 14.5-16.1	Sediment Bottom	MGP-odor and oil-wet/coa	55.2	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1120151041	11/20/2015	SBR-SD-073	1166708.335	1886419.753	16.1	16.5	Subsurface	Bubbly Creek	no	SBR-SD-073 Q	SBR-SD-073 Q 16.1-16.5	Other Clay	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1120151042	11/20/2015	SBR-SD-073	1166708.335	1886419.753	16.5	17.5	Subsurface	Bubbly Creek	no	SBR-SD-073 R	SBR-SD-073 R 16.5-17.5	Other Clay	None	0	34 PAHs	Metals						
1120151043	11/20/2015	SBR-SD-073	1166708.335	1886419.753	17.5	18.5	Subsurface	Bubbly Creek	no	SBR-SD-073 S	SBR-SD-073 S 17.5-18.5	Other Clay	None	0	Archive							
1120151044	11/20/2015	SBR-SD-073	1166708.335	1886419.753	18.5	19.5	Subsurface	Bubbly Creek	no	SBR-SD-073 T	SBR-SD-073 T 18.5-19.5	Other Clay	None	0	Archive							
1120151045	11/20/2015	SBR-SD-073	1166708.335	1886419.753	19.5	20.5	Subsurface	Bubbly Creek	no	SBR-SD-073 U	SBR-SD-073 U 19.5-20.5	Clay Bottom	None	0	Archive							
1217151520	12/17/2015	SBR-SD-073.4 MOB	1166721.052	1886467.306	0	0.5	Surface	Bubbly Creek	no	SBR-SD-073.4 MOB A	SBR-SD-073.4 MOB A 0-0.5	Surface	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1217151521	12/17/2015	SBR-SD-073.4 MOB	1166721.052	1886467.306	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-073.4 MOB B	SBR-SD-073.4 MOB B 0.5-1.5	Other Sediment	None	0	Archive							
1217151522	12/17/2015	SBR-SD-073.4 MOB	1166721.052	1886467.306	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-073.4 MOB C	SBR-SD-073.4 MOB C 1.5-2.5	Other Sediment	None	0	Archive							
1217151523	12/17/2015	SBR-SD-073.4 MOB	1166721.052	1886467.306	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-073.4 MOB D	SBR-SD-073.4 MOB D 2.5-3.5	Other Sediment	None	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1217151524	12/17/2015	SBR-SD-073.4 MOB	1166721.052	1886467.306	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-073.4 MOB E	SBR-SD-073.4 MOB E 3.5-4.5	Other Sediment	None	0	Archive							
1217151525	12/17/2015	SBR-SD-073.4 MOB	1166721.052	1886467.306	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-073.4 MOB F	SBR-SD-073.4 MOB F 4.5-5.5	Other Sediment	None	0	Archive							
1217151526	12/17/2015	SBR-SD-073.4 MOB	1166721.052	1886467.306	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-073.4 MOB G	SBR-SD-073.4 MOB G 5.5-6.5	Other Sediment	None	0	Archive							
1217151527	12/17/2015	SBR-SD-073.4 MOB	1166721.052	1886467.306	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-073.4 MOB H	SBR-SD-073.4 MOB H 6.5-7.5	Other Sediment	None	0	Archive							
1217151528	12/17/2015	SBR-SD-073.4 MOB	1166721.052	1886467.306	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-073.4 MOB I	SBR-SD-073.4 MOB I 7.5-8.5	Other Sediment	None	0.9	Archive							
1217151529	12/17/2015	SBR-SD-073.4 MOB	1166721.052	1886467.306	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-073.4 MOB J	SBR-SD-073.4 MOB J 8.5-9.5	Other Sediment	None	4.1	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1217151530	12/17/2015	SBR-SD-073.4 MOB	1166721.052	1886467.306	9.5	10.5	Subsurface	Bubbly Creek	no	SBR-SD-073.4 MOB K	SBR-SD-073.4 MOB K 9.5-10.5	Other Sediment	None	2.6	Archive							
1217151531	12/17/2015	SBR-SD-073.4 MOB	1166721.052	1886467.306	10.5	11.5	Subsurface	Bubbly Creek	no	SBR-SD-073.4 MOB L	SBR-SD-073.4 MOB L 10.5-11.5	Other Sediment	None	0.5	PAHs	Metals						
1217151532	12/17/2015	SBR-SD-073.4 MOB	1166721.052	1886467.306	11.5	12.5	Subsurface	Bubbly Creek	no	SBR-SD-073.4 MOB M	SBR-SD-073.4 MOB M 11.5-12.5	Other Sediment	None	1.8	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1217151533	12/17/2015	SBR-SD-073.4 MOB	1166721.052	1886467.306	12.5	13.5	Subsurface	Bubbly Creek	no	SBR-SD-073.4 MOB N	SBR-SD-073.4 MOB N 12.5-13.5	Other Sediment	None	0.1	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1217151534	12/17/2015	SBR-SD-073.4 MOB	1166721.052	1886467.306	13.5	14.5	Subsurface	Bubbly Creek	no	SBR-SD-073.4 MOB O	SBR-SD-073.4 MOB O 13.5-14.5	Other Sediment	None	1.8	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1217151535	12/17/2015	SBR-SD-073.4 MOB	1166721.052	1886467.306	14.5	16.5	Subsurface	Bubbly Creek	no	SBR-SD-073.4 MOB P	SBR-SD-073.4 MOB P 14.5-16.5	Sediment Bottom	None	N/A	Free Mobility		34 PAHs					
1217151536	12/17/2015	SBR-SD-073.4 MOB	1166721.052	1886467.306	16.5	17.5	Subsurface	Bubbly Creek	no	SBR-SD-073.4 MOB R	SBR-SD-073.4 MOB R 16.5-17.5	Other Clay	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1217151537	12/17/2015	SBR-SD-073.4 MOB	1166721.052	1886467.306	18.5	19.5	Subsurface	Bubbly Creek	no	SBR-SD-073.4 MOB T	SBR-SD-073.4 MOB T 18.5-19.5	Other Clay	None	0	Archive							
1217151538	12/17/2015	SBR-SD-073.4 MOB	1166721.052	1886467.306	19.5	20.5	Subsurface	Bubbly Creek	no	SBR-SD-073.4 MOB U	SBR-SD-073.4 MOB U 19.5-20.5	Clay Bottom	None	0	Archive							
1217151539	12/17/2015	DUP-38	1166721.052	1886467.306	11.5	12.5	Subsurface	Bubbly Creek	no	DUP-38 --	SBR-SD-073.4 MOB U 19.5-20.5 DUP	Other Sediment	None	N/A	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101315350	10/13/2015	SBR-SD-074	1166706.66	1886338.332	0	0.5	Surface	Bubbly Creek	no	SBR-SD-074 A	SBR-SD-074 A 0-0.5	Surface	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	Black Carbon
101315351	10/13/2015	SBR-SD-074	1166706.66	1886338.332	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-074 B	SBR-SD-074 B 0.5-1.5	Other Sediment	None	0	Archive							
101315352	10/13/2015	SBR-SD-074	1166706.66	1886338.332	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-074 C	SBR-SD-074 C 1.5-2.5	Other Sediment	None	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
101315353	10/13/2015	SBR-SD-074	1166706.66	1886338.332	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-074 D	SBR-SD-074 D 2.5-3.5	Other Sediment	None	0	Archive							
101315354	10/13/2015	SBR-SD-074	1166706.66	1886338.332	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-074 E	SBR-SD-074 E 3.5-4.5	Other Sediment	None	1	Archive							
101315355	10/13/2015	SBR-SD-074	1166706.66	1886338.332	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-074 F	SBR-SD-074 F 4.5-5.5	Other Sediment	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids		
101315356	10/13/2015	SBR-SD-074	1166706.66	1886338.332	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-074 G	SBR-SD-074 G 5.5-6.5	Other Sediment	None	4.9	Archive							
101315357	10/13/2015	SBR-SD-074	1166706.66	1886338.332	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-074 H	SBR-SD-074 H 6.5-7.5	Other Sediment	None	6.1	Archive							
101315358	10/13/2015	SBR-SD-074	1166706.66	1886338.332	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-074 I	SBR-SD-074 I 7.5-8.5	Other Sediment	None	10.4	Archive							
101315359	10/13/2015	SBR-SD-074	1166706.66	1886338.332	8.5	9.3	Subsurface	Bubbly Creek	no	SBR-SD-074 J	SBR-SD-074 J 8.5-9.3	Sediment Bottom	None	14.6	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111915982	11/19/2015	SBR-SD-075	1166595.027	1886162.695	0	0.5	Surface	Bubbly Creek	no	SBR-SD-075 A	SBR-SD-075 A 0-0.5	Surface	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111915983	11/19/2015	SBR-SD-075	1166595.027	1886162.695	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-075 C	SBR-SD-075 C 1.5-2.5	Other Sediment	None	0	PAHs	Metals						
111915984	11/19/2015	SBR-SD-075	1166595.027	1886162.695	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-075 D	SBR-SD-075 D 2.5-3.5	Other Sediment	None	0.8	Archive							
111915985	11/19/2015	SBR-SD-075	1166595.027	1886162.695	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-075 E	SBR-SD-075 E 3.5-4.5	Other Sediment	None	3.5	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111915986	11/19/2015	SBR-SD-075	1166595.027	1886162.695	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-075 F	SBR-SD-075 F 4.5-5.5	Other Sediment	None	0.6	Archive							
111915987	11/19/2015	SBR-SD-075	1166595.027	1886162.695	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-075 G	SBR-SD-075 G 5.5-6.5	Other Sediment	None	2.5	Archive							
111915988	11/19/2015	SBR-SD-075	1166595.027	1886162.695	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-075 H	SBR-SD-075 H 6.5-7.5	Other Sediment	None	3.5	Archive							
111915989	11/19/2015	SBR-SD-075	1166595.027	1886162.695	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-075 I	SBR-SD-075 I 7.5-8.5	Other Sediment	None	2.4	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111915990	11/19/2015	SBR-SD-075	1166595.027	1886162.695	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-075 J	SBR-SD-075 J 8.5-9.5	Other Sediment	None	6.2	Archive							
111915991	11/19/2015	SBR-SD-075	1166595.027	1886162.695	9.5	10.5	Subsurface	Bubbly Creek	no	SBR-SD-075 K	SBR-SD-075 K 9.5-10.5	Other Sediment	None	10.2	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111915992	11/19/2015	SBR-SD-075	1166595.027	1886162.695	10.5	11.5	Subsurface	Bubbly Creek	no	SBR-SD-075 L	SBR-SD-075 L 10.5-11.5	Other Sediment	None	5.6	34 PAHs	Metals						
111915993	11/19/2015	SBR-SD-075	1166595.027	1886162.695	11.5	12.5	Subsurface	Bubbly Creek	no	SBR-SD-075 M	SBR-SD-075 M 11.5-12.5	Other Sediment	None	2.4	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111915994	11/19/2015	SBR-SD-075	1166595.027	1886162.695	12.5	13.8	Subsurface	Bubbly Creek	no	SBR-SD-075 N	SBR-SD-075 N 12.5-13.8	Sediment Bottom	MGP-like odor	5.5	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111915995	11/19/2015	SBR-SD-075	1166595.027	1886162.695	13.8	14.5	Subsurface	Bubbly Creek	no	SBR-SD-075 O	SBR-SD-075 O 13.8-14.5	Other Clay	None	0.4	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111915996	11/19/2015	SBR-SD-075	1166595.027	1886162.695	14.5	15.5	Subsurface	Bubbly Creek	no	SBR-SD-075 P	SBR-SD-075 P 14.5-15.5	Other Clay	None	0.1	Archive							
111915997	11/19/2015	SBR-SD-075	1166595.027	1886162.695	15.5	16.5	Subsurface	Bubbly Creek	no	SBR-SD-075 Q	SBR-SD-075 Q 15.5-16.5	Clay Bottom	None	0.1	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1123151066	11/23/2015	SBR-SD-078	1166544.452	1886551.415	0	0.5	Surface	Bubbly Creek	no	SBR-SD-078 A	SBR-SD-078 A 0-0.5	Surface	None	0.2	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1123151067	11/23/2015	SBR-SD-078	1166544.452	1886551.415	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-078 B	SBR-SD-078 B 0.5-1.5	Other Sediment	None	0	Archive							
1123151068	11/23/2015	SBR-SD-078	1166544.452	1886551.415	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-078 D	SBR-SD-078 D 2.5-3.5	Other Sediment	None	0	Archive							
1123151069	11/23/2015	SBR-SD-078	1166544.452	1886551.415	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-078 E	SBR-SD-078 E 3.5-4.5	Other Sediment	None	0	Archive							
1123151070	11/23/2015	SBR-SD-078	1166544.452	1886551.415	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-078 F	SBR-SD-078 F 4.5-5.5	Other Sediment	None	0.2	Archive							
1123151071	11/23/2015	SBR-SD-078	1166544.452	1886551.415	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-078 G	SBR-SD-078 G 5.5-6.5	Other Sediment	None	0.1	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1123151072	11/23/2015	SBR-SD-078	1166544.452	1886551.415	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-078 H	SBR-SD-078 H 6.5-7.5	Other Sediment	None	1.8	Archive							
1123151073	11/23/2015	SBR-SD-078	1166544.452	1886551.415	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-078 I	SBR-SD-078 I 7.5-8.5	Other Sediment	None	0.6	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1123151074	11/23/2015	SBR-SD-078	1166544.452	1886551.415	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-078 J	SBR-SD-078 J 8.5-9.5	Other Sediment	None	5.3	PAHs	Metals						
1123151075	11/23/2015	SBR-SD-078	1166544.452	1886551.415	9.5	10.5	Subsurface	Bubbly Creek	no	SBR-SD-078 K	SBR-SD-078 K 9.5-10.5	Other Sediment	Petro-like odor	10.7	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1123151076	11/23/2015	SBR-SD-078	1166544.452	1886551.415	10.5	12.1	Subsurface	Bubbly Creek	no	SBR-SD-078 L	SBR-SD-078 L 10.5-12.1	Sediment Bottom	None	28.5	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1123151077	11/23/2015	SBR-SD-078	1166544.452	1886551.415	12.1	12.5	Subsurface	Bubbly Creek	no	SBR-SD-078 M	SBR-SD-078 M 12.1-12.5	Other Clay	None	24.8	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1123151078	11/23/2015	SBR-SD-078	1166544.452	1886551.415	12.5	13.5	Subsurface	Bubbly Creek	no	SBR-SD-078 N	SBR-SD-078 N 12.5-13.5	Other Clay	None	56.8	Archive							
1123151079	11/23/2015	SBR-SD-078	1166544.452	1886551.415	13.5	14.5	Subsurface	Bubbly Creek	no	SBR-SD-078 O	SBR-SD-078 O 13.5-14.5	Other Clay	None	0.7	Archive							
1123151080	11/23/2015	SBR-SD-078	1166544.452	1886551.415	14.5	15.5	Subsurface	Bubbly Creek	no	SBR-SD-078 P	SBR-SD-078 P 14.5-15.5	Other Clay	None	1.9	Archive							
1123151081	11/23/2015	SBR-SD-078	1166544.452	1886551.415	15.5	16.5	Subsurface	Bubbly Creek	no	SBR-SD-078 Q	SBR-SD-078 Q 15.5-16.5	Clay Bottom	None	1.3	Archive							
1123151082	11/23/2015	DUP-30	1166544.452	1886551.415	9.5	10.5	Subsurface	Bubbly Creek	no	DUP-30 --	SBR-SD-078 Q 15.5-16.5 DUP-30 --	Other Sediment	None	N/A	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
101315313	10/13/2015	SBR-SD-079	1166418.744	1886354.621	0	0.5	Surface	Bubbly Creek	no	SBR-SD-079 A	SBR-SD-079 A 0-0.5	Surface	None	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
101315314	10/13/2015	SBR-SD-079	1166418.744	1886354.621	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-079 B	SBR-SD-079 B 0.5-1.5	Other Sediment	None	0	Archive							
101315315	10/13/2015	SBR-SD-079	1166418.744	1886354.621	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-079 C	SBR-SD-079 C 1.5-2.5	Other Sediment	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101315316	10/13/2015	SBR-SD-079	1166418.744	1886354.621	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-079 D	SBR-SD-079 D 2.5-3.5	Other Sediment	None	0	Archive							
101315317	10/13/2015	SBR-SD-079	1166418.744	1886354.621	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-079 E	SBR-SD-079 E 3.5-4.5	Other Sediment	None	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
101315318	10/13/2015	SBR-SD-079	1166418.744	1886354.621	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-079 F	SBR-SD-079 F 4.5-5.5	Other Sediment	None	0	Archive							
101315319	10/13/2015	SBR-SD-079	1166418.744	1886354.621	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-079 G	SBR-SD-079 G 5.5-6.5	Other Sediment	None	0	Archive							
101315320	10/13/2015	SBR-SD-079	1166418.744	1886354.621	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-079 H	SBR-SD-079 H 6.5-7.5	Other Sediment	None	2	Archive							
101315321	10/13/2015	SBR-SD-079	1166418.744	1886354.621	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-079 I	SBR-SD-079 I 7.5-8.5	Other Sediment	None	9.5	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
101315322	10/13/2015	SBR-SD-079	1166418.744	1886354.621	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-079 J	SBR-SD-079 J 8.5-9.5	Other Sediment	None	5.5	Archive							
101315323	10/13/2015	SBR-SD-079	1166418.744	1886354.621	9.5	10.5	Subsurface	Bubbly Creek	no	SBR-SD-079 K	SBR-SD-079 K 9.5-10.5	Other Sediment	None	17	Archive							
101315324	10/13/2015	SBR-SD-079	1166418.744	1886354.621	10.5	11.9	Subsurface	Bubbly Creek	no	SBR-SD-079 L	SBR-SD-079 L 10.5-11.9	Sediment Bottom	None	17.5	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111915998	11/19/2015	SBR-SD-080	1166489.658	1886244.041	0	0.5	Surface	Bubbly Creek	no	SBR-SD-080 A	SBR-SD-080 A 0-0.5	Surface	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111915999	11/19/2015	SBR-SD-080	1166489.658	1886244.041	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-080 B	SBR-SD-080 B 0.5-1.5	Other Sediment	None	0	PAHs	Metals						
1119151000	11/19/2015	SBR-SD-080	1166489.658	1886244.041	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-080 C	SBR-SD-080 C 1.5-2.5	Other Sediment	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1119151001	11/19/2015	SBR-SD-080	1166489.658	1886244.041	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-080 D	SBR-SD-080 D 2.5-3.5	Other Sediment	None	0	PAHs	Metals						
1119151002	11/19/2015	SBR-SD-080	1166489.658	1886244.041	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-080 E	SBR-SD-080 E 3.5-4.5	Other Sediment	None	0	Archive							
1119151003	11/19/2015	SBR-SD-080	1166489.658	1886244.041	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-080 F	SBR-SD-080 F 4.5-5.5	Other Sediment	None	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1119151004	11/19/2015	SBR-SD-080	1166489.658	1886244.041	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-080 G	SBR-SD-080 G 5.5-6.5	Other Sediment	None	0.4	Archive							
1119151005	11/19/2015	SBR-SD-080	1166489.658	1886244.041	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-080 H	SBR-SD-080 H 6.5-7.5	Other Sediment	None	0	Archive							
1119151006	11/19/2015	SBR-SD-080	1166489.658	1886244.041	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-080 I	SBR-SD-080 I 7.5-8.5	Other Sediment	None	8.1	Archive							
1119151007	11/19/2015	SBR-SD-080	1166489.658	1886244.041	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-080 J	SBR-SD-080 J 8.5-9.5	Other Sediment	None	1.4	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1119151008	11/19/2015	SBR-SD-080	1166489.658	1886244.041	9.5	10.5	Subsurface	Bubbly Creek	no	SBR-SD-080 K	SBR-SD-080 K 9.5-10.5	Other Sediment	None	3.3	Archive							
1119151009	11/19/2015	SBR-SD-080	1166489.658	1886244.041	10.5	11.5	Subsurface	Bubbly Creek	no	SBR-SD-080 L	SBR-SD-080 L 10.5-11.5	Other Sediment	None	1.2	Archive							
1119151010	11/19/2015	SBR-SD-080	1166489.658	1886244.041	11.5	12.5	Subsurface	Bubbly Creek	no	SBR-SD-080 M	SBR-SD-080 M 11.5-12.5	Other Sediment	None	10.7	Archive							
1119151011	11/19/2015	SBR-SD-080	1166489.658	1886244.041	12.5	13.5	Subsurface	Bubbly Creek	no	SBR-SD-080 N	SBR-SD-080 N 12.5-13.5	Other Sediment	None	0.6	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1119151012	11/19/2015	SBR-SD-080	1166489.658	1886244.041	13.5	14.5	Subsurface	Bubbly Creek	no	SBR-SD-080 O	SBR-SD-080 O 13.5-14.5	Other Sediment	None	0.8	Archive							
1119151013	11/19/2015	SBR-SD-080	1166489.658	1886244.041	14.5	15.5	Subsurface	Bubbly Creek	no	SBR-SD-080 P	SBR-SD-080 P 14.5-15.5	Other Sediment	None	0.6	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1119151014	11/19/2015	SBR-SD-080	1166489.658	1886244.041	15.5	16.5	Subsurface	Bubbly Creek	no	SBR-SD-080 Q	SBR-SD-080 Q 15.5-16.5	Other Sediment	None	1.4	Archive							
1119151015	11/19/2015	SBR-SD-080	1166489.658	1886244.041	16.5	17.5	Subsurface	Bubbly Creek	no	SBR-SD-080 R	SBR-SD-080 R 16.5-17.5	Other Sediment	None	0.7	PAHs	Metals						
1119151016	11/19/2015	SBR-SD-080	1166489.658	1886244.041	17.5	18.5	Subsurface	Bubbly Creek	no	SBR-SD-080 S	SBR-SD-080 S 17.5-18.5	Other Sediment	None	1.6	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1119151017	11/19/2015	SBR-SD-080	1166489.658	1886244.041	18.5	19.3	Subsurface	Bubbly Creek	no	SBR-SD-080 T	SBR-SD-080 T 18.5-19.3	Sediment Bottom	None	0.9	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1119151018	11/19/2015	SBR-SD-080	1166489.658	1886244.041	19.3	20.5	Subsurface	Bubbly Creek	no	SBR-SD-080 U	SBR-SD-080 U 19.3-20.5	Other Clay	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1119151019	11/19/2015	SBR-SD-080	1166489.658	1886244.041	20.5	21.5	Subsurface	Bubbly Creek	no	SBR-SD-080 V	SBR-SD-080 V 20.5-21.5	Other Clay	None	0	Archive							
1119151020	11/19/2015	SBR-SD-080	1166489.658	1886244.041	21.5	22.5	Subsurface	Bubbly Creek	no	SBR-SD-080 W	SBR-SD-080 W 21.5-22.5	Clay Bottom	None	0	Archive							
111815964	11/18/2015	SBR-SD-081	1166520.34	1886111.414	0	0.5	Surface	Bubbly Creek	no	SBR-SD-081 A	SBR-SD-081 A 0-0.5	Surface	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111815965	11/18/2015	SBR-SD-081	1166520.34	1886111.414	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-081 B	SBR-SD-081 B 0.5-1.5	Other Sediment	None	0	Archive							
111815966	11/18/2015	SBR-SD-081	1166520.34	1886111.414	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-081 C	SBR-SD-081 C 1.5-2.5	Other Sediment	None	0.2	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111815967	11/18/2015	SBR-SD-081	1166520.34	1886111.414	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-081 D	SBR-SD-081 D 2.5-3.5	Other Sediment	None	0	Archive							
111815968	11/18/2015	SBR-SD-081	1166520.34	1886111.414	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-081 E	SBR-SD-081 E 3.5-4.5	Other Sediment	None	1.9	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111815969	11/18/2015	SBR-SD-081	1166520.34	1886111.414	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-081 F	SBR-SD-081 F 4.5-5.5	Other Sediment	None	0.7	Archive							
111815970	11/18/2015	SBR-SD-081	1166520.34	1886111.414	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-081 G	SBR-SD-081 G 5.5-6.5	Other Sediment	None	3.4	Archive							
111815971	11/18/2015	SBR-SD-081	1166520.34	1886111.414	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-081 H	SBR-SD-081 H 6.5-7.5	Other Sediment	None	6.5	Archive							
111815972	11/18/2015	SBR-SD-081	1166520.34	1886111.414	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-081 I	SBR-SD-081 I 7.5-8.5	Other Sediment	None	2.7	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111815973	11/18/2015	SBR-SD-081	1166520.34	1886111.414	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-081 J	SBR-SD-081 J 8.5-9.5	Other Sediment	None	2.5	Archive							
111815974	11/18/2015	SBR-SD-081	1166520.34	1886111.414	9.5	10.5	Subsurface	Bubbly Creek	no	SBR-SD-081 K	SBR-SD-081 K 9.5-10.5	Other Sediment	Petro-like odor	3.1	34 PAHs	Metals						
111815975	11/18/2015	SBR-SD-081	1166520.34	1886111.414	10.5	11.5	Subsurface	Bubbly Creek	no	SBR-SD-081 L	SBR-SD-081 L 10.5-11.5	Other Sediment	None	0.7	Archive							
111815976	11/18/2015	SBR-SD-081	1166520.34	1886111.414	11.5	12.5	Subsurface	Bubbly Creek	no	SBR-SD-081 M	SBR-SD-081 M 11.5-12.5	Other Sediment	MGP-like odor	0.3	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111815977	11/18/2015	SBR-SD-081	1166520.34	1886111.414	12.5	13.7	Subsurface	Bubbly Creek	no	SBR-SD-081 N	SBR-SD-081 N 12.5-13.7	Sediment Bottom	MGP-like odor	1.2	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111815978	11/18/2015	SBR-SD-081	1166520.34	1886111.414	13.7	14.5	Subsurface	Bubbly Creek	no	SBR-SD-081 O	SBR-SD-081 O 13.7-14.5	Other Clay	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111815979	11/18/2015	SBR-SD-081	1166520.34	1886111.414	14.5	15.5	Subsurface	Bubbly Creek	no	SBR-SD-081 P	SBR-SD-081 P 14.5-15.5	Other Clay	None	0	Archive							
111815980	11/18/2015	SBR-SD-081	1166520.34	1886111.414	15.5	16.5	Subsurface	Bubbly Creek	no	SBR-SD-081 Q	SBR-SD-081 Q 15.5-16.5	Clay Bottom	None	0	Archive							
111815981	11/18/2015	DUP-28	1166520.34	1886111.414	0	0.5	Surface	Bubbly Creek	no	DUP-28 --	SBR-SD-081 Q 15.5-16.5 DUP-28 --	Surface	None	N/A	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1123151083	11/23/2015	SBR-SD-084	1166300.21	1886631.081	0	0.5	Surface	Bubbly Creek	no	SBR-SD-084 A	SBR-SD-084 A 0-0.5	Surface	None	1.1	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1123151084	11/23/2015	SBR-SD-084	1166300.21	1886631.081	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-084 B	SBR-SD-084 B 0.5-1.5	Other Sediment	None	0.1	Archive							
1123151085	11/23/2015	SBR-SD-084	1166300.21	1886631.081	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-084 C	SBR-SD-084 C 1.5-2.5	Other Sediment	None	0.1	Archive							
1123151086	11/23/2015	SBR-SD-084	1166300.21	1886631.081	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-084 D	SBR-SD-084 D 2.5-3.5	Other Sediment	None	4.7	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1123151087	11/23/2015	SBR-SD-084	1166300.21	1886631.081	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-084 E	SBR-SD-084 E 3.5-4.5	Other Sediment	None	3.2	Archive							
1123151088	11/23/2015	SBR-SD-084	1166300.21	1886631.081	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-084 F	SBR-SD-084 F 4.5-5.5	Other Sediment	None	9.1	Archive							
1123151089	11/23/2015	SBR-SD-084	1166300.21	1886631.081	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-084 G	SBR-SD-084 G 5.5-6.5	Other Sediment	None	20.5	Archive							
1123151090	11/23/2015	SBR-SD-084	1166300.21	1886631.081	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-084 H	SBR-SD-084 H 6.5-7.5	Other Sediment	None	8.6	Archive							
1123151091	11/23/2015	SBR-SD-084	1166300.21	1886631.081	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-084 I	SBR-SD-084 I 7.5-8.5	Other Sediment	None	19.5	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1123151092	11/23/2015	SBR-SD-084	1166300.21	1886631.081	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-084 J	SBR-SD-084 J 8.5-9.5	Other Sediment	None	11.3	Archive							
1123151093	11/23/2015	SBR-SD-084	1166300.21	1886631.081	9.5	10.5	Subsurface	Bubbly Creek	no	SBR-SD-084 K	SBR-SD-084 K 9.5-10.5	Other Sediment	None	23.4	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1123151094	11/23/2015	SBR-SD-084	1166300.21	1886631.081	10.5	11.5	Subsurface	Bubbly Creek	no	SBR-SD-084 L	SBR-SD-084 L 10.5-11.5	Other Sediment	None	12.9	Archive							
1123151095	11/23/2015	SBR-SD-084	1166300.21	1886631.081	11.5	12.5	Subsurface	Bubbly Creek	no	SBR-SD-084 M	SBR-SD-084 M 11.5-12.5	Other Sediment	Petro-like odor	17.8	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1123151096	11/23/2015	SBR-SD-084	1166300.21	1886631.081	12.5	13.5	Subsurface	Bubbly Creek	no	SBR-SD-084 N	SBR-SD-084 N 12.5-13.5	Other Sediment	Petro-like odor	9.8	34 PAHs	Metals						
1123151097	11/23/2015	SBR-SD-084	1166300.21	1886631.081	13.5	14.2	Subsurface	Bubbly Creek	no	SBR-SD-084 O	SBR-SD-084 O 13.5-14.2	Sediment Bottom	Petro-like odor	14.8	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1123151098	11/23/2015	SBR-SD-084	1166300.21	1886631.081	14.2	15.5	Subsurface	Bubbly Creek	no	SBR-SD-084 P	SBR-SD-084 P 14.2-15.5	Other Clay	None	3.3	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1123151099	11/23/2015	SBR-SD-084	1166300.21	1886631.081	15.5	16.5	Subsurface	Bubbly Creek	no	SBR-SD-084 Q	SBR-SD-084 Q 15.5-16.5	Other Clay	None	0.5	Archive							
1123151100	11/23/2015	SBR-SD-084	1166300.21	1886631.081	16.5	17.5	Subsurface	Bubbly Creek	no	SBR-SD-084 R	SBR-SD-084 R 16.5-17.5	Other Clay	None	0	Archive							
1123151101	11/23/2015	SBR-SD-084	1166300.21	1886631.081	17.5	18.5	Subsurface	Bubbly Creek	no	SBR-SD-084 S	SBR-SD-084 S 17.5-18.5	Clay Bottom	None	0	Archive							
101315301	10/13/2015	SBR-SD-085	1166227.832	1886428.875	0	0.5	Surface	Bubbly Creek	no	SBR-SD-085 A	SBR-SD-085 A 0-0.5	Surface	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101315302	10/13/2015	SBR-SD-085	1166227.832	1886428.875	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-085 B	SBR-SD-085 B 0.5-1.5	Other Sediment	None	1.7	Archive							
101315303	10/13/2015	SBR-SD-085	1166227.832	1886428.875	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-085 C	SBR-SD-085 C 1.5-2.5	Other Sediment	None	1.8	Archive							
101315304	10/13/2015	SBR-SD-085	1166227.832	1886428.875	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-085 D	SBR-SD-085 D 2.5-3.5	Other Sediment	None	16.3	Archive							
101315305	10/13/2015	SBR-SD-085	1166227.832	1886428.875	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-085 E	SBR-SD-085 E 3.5-4.5	Other Sediment	None	12.2	Archive							
101315306	10/13/2015	SBR-SD-085	1166227.832	1886428.875	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-085 F	SBR-SD-085 F 4.5-5.5	Other Sediment	None	16.4	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
101315307	10/13/2015	SBR-SD-085	1166227.832	1886428.875	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-085 G	SBR-SD-085 G 5.5-6.5	Other Sediment	Petro-like odor	17.3	Archive							
101315308	10/13/2015	SBR-SD-085	1166227.832	1886428.875	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-085 H	SBR-SD-085 H 6.5-7.5	Other Sediment	Petro-like odor	13.7	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101315309	10/13/2015	SBR-SD-085	1166227.832	1886428.875	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-085 I	SBR-SD-085 I 7.5-8.5	Other Sediment	None	9.1	Archive							
101315310	10/13/2015	SBR-SD-085	1166227.832	1886428.875	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-085 J	SBR-SD-085 J 8.5-9.5	Other Sediment	None	25.5	Archive							
101315311	10/13/2015	SBR-SD-085	1166227.832	1886428.875	9.5	10.5	Subsurface	Bubbly Creek	no	SBR-SD-085 K	SBR-SD-085 K 9.5-10.5	Other Sediment	MGP-like odor	9.4	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
101315312	10/13/2015	SBR-SD-085	1166227.832	1886428.875	10.5	11.7	Subsurface	Bubbly Creek	no	SBR-SD-085 L	SBR-SD-085 L 10.5-11.7	Sediment Bottom	MGP-like odor	23.7	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101315325	10/13/2015	SBR-SD-086	1166322.208	1886270.626	0	0.5	Surface	Bubbly Creek	no	SBR-SD-086 A	SBR-SD-086 A 0-0.5	Surface	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101315326	10/13/2015	SBR-SD-086	1166322.208	1886270.626	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-086 B	SBR-SD-086 B 0.5-1.5	Other Sediment	None	0	Archive							
101315327	10/13/2015	SBR-SD-086	1166322.208	1886270.626	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-086 C	SBR-SD-086 C 1.5-2.5	Other Sediment	None	0	Archive							
101315328	10/13/2015	SBR-SD-086	1166322.208	1886270.626	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-086 D	SBR-SD-086 D 2.5-3.5	Other Sediment	None	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101315329	10/13/2015	SBR-SD-086	1166322.208	1886270.626	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-086 E	SBR-SD-086 E 3.5-4.5	Other Sediment	None	0	Archive							
101315330	10/13/2015	SBR-SD-086	1166322.208	1886270.626	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-086 F	SBR-SD-086 F 4.5-5.5	Other Sediment	None	5.3	Archive							
101315331	10/13/2015	SBR-SD-086	1166322.208	1886270.626	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-086 G	SBR-SD-086 G 5.5-6.5	Other Sediment	MGP-like odor	5.1	Archive							
101315332	10/13/2015	SBR-SD-086	1166322.208	1886270.626	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-086 H	SBR-SD-086 H 6.5-7.5	Other Sediment	None	4.6	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids		
101315333	10/13/2015	SBR-SD-086	1166322.208	1886270.626	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-086 I	SBR-SD-086 I 7.5-8.5	Other Sediment	None	11.4	Archive							
101315334	10/13/2015	SBR-SD-086	1166322.208	1886270.626	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-086 J	SBR-SD-086 J 8.5-9.5	Other Sediment	None	13.3	Archive							
101315335	10/13/2015	SBR-SD-086	1166322.208	1886270.626	9.5	10.5	Subsurface	Bubbly Creek	no	SBR-SD-086 K	SBR-SD-086 K 9.5-10.5	Other Sediment	MGP-like odor	22.8	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
101315336	10/13/2015	SBR-SD-086	1166322.208	1886270.626	10.5	11.8	Subsurface	Bubbly Creek	no	SBR-SD-086 L	SBR-SD-086 L 10.5-11.8	Sediment Bottom	None	19.9	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101315337	10/13/2015	DUP-08	1166322.208	1886270.626	10.5	11.8	Subsurface	Bubbly Creek	no	DUP-08 --	SBR-SD-086 L 10.5-11.8 DUP-08 --	Sediment Bottom	None	N/A	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101215266	10/12/2015	SBR-SD-087	1166329.367	1886107.154	0	0.5	Surface	Bubbly Creek	no	SBR-SD-087 A	SBR-SD-087 A 0-0.5	Surface	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	Black Carbon
101215267	10/12/2015	SBR-SD-087	1166329.367	1886107.154	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-087 B	SBR-SD-087 B 0.5-1.5	Other Sediment	None	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
101215268	10/12/2015	SBR-SD-087	1166329.367	1886107.154	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-087 C	SBR-SD-087 C 1.5-2.5	Other Sediment	None	3.1	Archive							
101215269	10/12/2015	SBR-SD-087	1166329.367	1886107.154	2.5	3.9	Subsurface	Bubbly Creek	no	SBR-SD-087 D	SBR-SD-087 D 2.5-3.9	Sediment Bottom	None	4.1	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101215270	10/12/2015	DUP-07	1166329.367	1886107.154	2.5	3.9	Subsurface	Bubbly Creek	no	DUP-07 --	SBR-SD-087 D 2.5-3.9 DUP-07 --	Sediment Bottom	None	N/A	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101215264	10/12/2015	SBR-SD-097	1166435.14	1885858.528	0	0.5	Surface	Bubbly Creek	no	SBR-SD-097 A	SBR-SD-097 A 0-0.5	Surface	None	2.4	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	Black Carbon
101215265	10/12/2015	SBR-SD-097	1166435.14	1885858.528	0.5	1.4	Subsurface	Bubbly Creek	no	SBR-SD-097 B	SBR-SD-097 B 0.5-1.4	Sediment Bottom	None	7	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101215271	10/12/2015	SBR-SD-098	1166531.697	1885805.829	0	0.5	Surface	Bubbly Creek	no	SBR-SD-098 A	SBR-SD-098 A 0-0.5	Surface	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101215272	10/12/2015	SBR-SD-098	1166531.697	1885805.829	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-098 B	SBR-SD-098 B 0.5-1.5	Other Sediment	None	0	Archive							
101215273	10/12/2015	SBR-SD-098	1166531.697	1885805.829	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-098 C	SBR-SD-098 C 1.5-2.5	Other Sediment	None	0	Archive							
101215274	10/12/2015	SBR-SD-098	1166531.697	1885805.829	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-098 D	SBR-SD-098 D 2.5-3.5	Other Sediment	None	3.3	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
101215275	10/12/2015	SBR-SD-098	1166531.697	1885805.829	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-098 E	SBR-SD-098 E 3.5-4.5	Other Sediment	None	1.1	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101215276	10/12/2015	SBR-SD-098	1166531.697	1885805.829	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-098 F	SBR-SD-098 F 4.5-5.5	Other Sediment	None	13	Archive							
101215277	10/12/2015	SBR-SD-098	1166531.697	1885805.829	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-098 G	SBR-SD-098 G 5.5-6.5	Other Sediment	None	20.7	Archive							
101215278	10/12/2015	SBR-SD-098	1166531.697	1885805.829	6.5	7.8	Subsurface	Bubbly Creek	no	SBR-SD-098 H	SBR-SD-098 H 6.5-7.8	Sediment Bottom	None	20.6	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111815945	11/18/2015	SBR-SD-099	1166436.047	1885710.537	0	0.5	Surface	Bubbly Creek	no	SBR-SD-099 A	SBR-SD-099 A 0-0.5	Surface	Sheen	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111815946	11/18/2015	SBR-SD-099	1166436.047	1885710.537	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-099 D	SBR-SD-099 D 2.5-3.5	Other Sediment	Sheen	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111815947	11/18/2015	SBR-SD-099	1166436.047	1885710.537	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-099 E	SBR-SD-099 E 3.5-4.5	Other Sediment	Sheen	0.2	Archive							

Table 3 - Bubbly Creek Borings and Samples
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Unique Sample ID	Sample Date	Boring ID	X	Y	Sample Top Depth	Sample Bottom Depth	Surface or Subsurface	River Segment	Ambient Area	Location-Interval ID	Field Sample ID	Solid Interval Type	Visual Observation/Odors	PID	Laboratory Analysis							
111815948	11/18/2015	SBR-SD-099	1166436.047	1885710.537	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-099 F	SBR-SD-099 F 4.5-5.5	Other Sediment	Sheen	0	Archive							
111815949	11/18/2015	SBR-SD-099	1166436.047	1885710.537	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-099 G	SBR-SD-099 G 5.5-6.5	Other Sediment	Sheen	2.5	Archive							
111815950	11/18/2015	SBR-SD-099	1166436.047	1885710.537	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-099 H	SBR-SD-099 H 6.5-7.5	Other Sediment	Sheen	1	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111815951	11/18/2015	SBR-SD-099	1166436.047	1885710.537	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-099 I	SBR-SD-099 I 7.5-8.5	Other Sediment	Sheen	3.6	Archive							
111815952	11/18/2015	SBR-SD-099	1166436.047	1885710.537	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-099 J	SBR-SD-099 J 8.5-9.5	Other Sediment	Sheen	11.6	Archive							
111815953	11/18/2015	SBR-SD-099	1166436.047	1885710.537	9.5	10.5	Subsurface	Bubbly Creek	no	SBR-SD-099 K	SBR-SD-099 K 9.5-10.5	Other Sediment	Sheen	3.5	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111815954	11/18/2015	SBR-SD-099	1166436.047	1885710.537	10.5	11.5	Subsurface	Bubbly Creek	no	SBR-SD-099 L	SBR-SD-099 L 10.5-11.5	Other Sediment	Sheen	5	Archive							
111815955	11/18/2015	SBR-SD-099	1166436.047	1885710.537	11.5	12.5	Subsurface	Bubbly Creek	no	SBR-SD-099 M	SBR-SD-099 M 11.5-12.5	Other Sediment	Sheen	1.8	Archive							
111815956	11/18/2015	SBR-SD-099	1166436.047	1885710.537	12.5	13.5	Subsurface	Bubbly Creek	no	SBR-SD-099 N	SBR-SD-099 N 12.5-13.5	Other Sediment	Sheen	0.5	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111815957	11/18/2015	SBR-SD-099	1166436.047	1885710.537	13.5	14.5	Subsurface	Bubbly Creek	no	SBR-SD-099 O	SBR-SD-099 O 13.5-14.5	Sediment Bottom	Sheen	0.5	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111815958	11/18/2015	SBR-SD-099	1166436.047	1885710.537	17.0	18.0	Subsurface	Bubbly Creek	no	SBR-SD-099 P	SBR-SD-099 P 17.0-18.0	Other Clay	None	0.4	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111815959	11/18/2015	SBR-SD-099	1166436.047	1885710.537	18.0	19.0	Subsurface	Bubbly Creek	no	SBR-SD-099 Q	SBR-SD-099 Q 18.0-19.0	Other Clay	None	0.4	Archive							
111815960	11/18/2015	SBR-SD-099	1166436.047	1885710.537	19.0	20.0	Subsurface	Bubbly Creek	no	SBR-SD-099 R	SBR-SD-099 R 19.0-20.0	Clay Bottom	None	0	Archive							
111815961	11/18/2015	DUP-27	1166436.047	1885710.537	9.5	10.5	Subsurface	Bubbly Creek	no	DUP-27 --	SBR-SD-099 R 19.0-20.0 DUP-27 --	Other Sediment	Sheen	N/A	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101215279	10/12/2015	SBR-SD-100	1166421.654	1885493.962	0	0.5	Surface	Bubbly Creek	no	SBR-SD-100 A	SBR-SD-100 A 0-0.5	Surface	None	6.9	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101215280	10/12/2015	SBR-SD-100	1166421.654	1885493.962	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-100 B	SBR-SD-100 B 0.5-1.5	Other Sediment	None	0	Archive							
101215281	10/12/2015	SBR-SD-100	1166421.654	1885493.962	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-100 C	SBR-SD-100 C 1.5-2.5	Other Sediment	None	0	Archive							
101215282	10/12/2015	SBR-SD-100	1166421.654	1885493.962	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-100 D	SBR-SD-100 D 2.5-3.5	Other Sediment	Petro-like odor	6.4	Archive							
101215283	10/12/2015	SBR-SD-100	1166421.654	1885493.962	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-100 E	SBR-SD-100 E 3.5-4.5	Other Sediment	Petro-like odor	17.9	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
101215284	10/12/2015	SBR-SD-100	1166421.654	1885493.962	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-100 F	SBR-SD-100 F 4.5-5.5	Other Sediment	Petro-like odor	11.3	Archive							
101215285	10/12/2015	SBR-SD-100	1166421.654	1885493.962	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-100 G	SBR-SD-100 G 5.5-6.5	Other Sediment	Petro-like odor	11.8	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
101215286	10/12/2015	SBR-SD-100	1166421.654	1885493.962	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-100 H	SBR-SD-100 H 6.5-7.5	Other Sediment	Petro-like odor	18.2	Archive							
101215287	10/12/2015	SBR-SD-100	1166421.654	1885493.962	7.5	8.2	Subsurface	Bubbly Creek	no	SBR-SD-100 I	SBR-SD-100 I 7.5-8.2	Sediment Bottom	Petro-like odor	12.6	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101215253	10/12/2015	SBR-SD-101	1166467.716	1885346.932	0	0.5	Surface	Bubbly Creek	no	SBR-SD-101 A	SBR-SD-101 A 0-0.5	Surface	None	1.8	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids		
101215254	10/12/2015	SBR-SD-101	1166467.716	1885346.932	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-101 B	SBR-SD-101 B 0.5-1.5	Other Sediment	None	7.8	Archive							
101215255	10/12/2015	SBR-SD-101	1166467.716	1885346.932	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-101 C	SBR-SD-101 C 1.5-2.5	Other Sediment	None	23.4	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
101215256	10/12/2015	SBR-SD-101	1166467.716	1885346.932	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-101 D	SBR-SD-101 D 2.5-3.5	Other Sediment	None	23.1	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101215257	10/12/2015	SBR-SD-101	1166467.716	1885346.932	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-101 E	SBR-SD-101 E 3.5-4.5	Other Sediment	None	26.1	Archive							
101215258	10/12/2015	SBR-SD-101	1166467.716	1885346.932	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-101 F	SBR-SD-101 F 4.5-5.5	Other Sediment	None	29	Archive							
101215259	10/12/2015	SBR-SD-101	1166467.716	1885346.932	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-101 G	SBR-SD-101 G 5.5-6.5	Other Sediment	None	46.2	Archive							
101215260	10/12/2015	SBR-SD-101	1166467.716	1885346.932	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-101 H	SBR-SD-101 H 6.5-7.5	Other Sediment	MGP-like odor	43.4	Archive							
101215261	10/12/2015	SBR-SD-101	1166467.716	1885346.932	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-101 I	SBR-SD-101 I 7.5-8.5	Other Sediment	MGP-like odor	31.2	Archive							
101215262	10/12/2015	SBR-SD-101	1166467.716	1885346.932	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-101 J	SBR-SD-101 J 8.5-9.5	Other Sediment	MGP-like odor	28.5	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
101215263	10/12/2015	SBR-SD-101	1166467.716	1885346.932	9.5	10.4	Subsurface	Bubbly Creek	no	SBR-SD-101 K	SBR-SD-101 K 9.5-10.4	Sediment Bottom	MGP-like odor	25.3	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101315338	10/13/2015	SBR-SD-1014	1166661.771	1886218.689	0	0.5	Surface	Bubbly Creek	no	SBR-SD-1014 A	SBR-SD-1014 A 0-0.5	Surface	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101315339	10/13/2015	SBR-SD-1014	1166661.771	1886218.689	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-1014 B	SBR-SD-1014 B 0.5-1.5	Other Sediment	None	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
101315340	10/13/2015	SBR-SD-1014	1166661.771	1886218.689	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-1014 C	SBR-SD-1014 C 1.5-2.5	Other Sediment	None	0	Archive							
101315341	10/13/2015	SBR-SD-1014	1166661.771	1886218.689	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-1014 D	SBR-SD-1014 D 2.5-3.5	Other Sediment	None	0	Archive							
101315342	10/13/2015	SBR-SD-1014	1166661.771	1886218.689	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-1014 E	SBR-SD-1014 E 3.5-4.5	Other Sediment	None	0	Archive							
101315343	10/13/2015	SBR-SD-1014	1166661.771	1886218.689	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-1014 F	SBR-SD-1014 F 4.5-5.5	Other Sediment	None	0	Archive							
101315344	10/13/2015	SBR-SD-1014	1166661.771	1886218.689	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-1014 G	SBR-SD-1014 G 5.5-6.5	Other Sediment	None	11.8	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
101315345	10/13/2015	SBR-SD-1014	1166661.771	1886218.689	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-1014 H	SBR-SD-1014 H 6.5-7.5	Other Sediment	None	16.7	Archive							
101315346	10/13/2015	SBR-SD-1014	1166661.771	1886218.689	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-1014 I	SBR-SD-1014 I 7.5-8.5	Other Sediment	None	9.3	Archive							
101315347	10/13/2015	SBR-SD-1014	1166661.771	1886218.689	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-1014 J	SBR-SD-1014 J 8.5-9.5	Other Sediment	None	22.5	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101315348	10/13/2015	SBR-SD-1014	1166661.771	1886218.689	9.5	10.5	Subsurface	Bubbly Creek	no	SBR-SD-1014 K	SBR-SD-1014 K 9.5-10.5	Sediment Bottom	None	13.7	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101315349	10/13/2015	DUP-09	1166661.771	1886218.689	9.5	10.5	Subsurface	Bubbly Creek	no	DUP-09 --	SBR-SD-1014 K 9.5-10.5 DUP-09 --	Sediment Bottom	None	N/A	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101315289	10/13/2015	SBR-SD-1015	1166626.551	1886089.886	0	0.5	Surface	Bubbly Creek	no	SBR-SD-1015 A	SBR-SD-1015 A 0-0.5	Surface	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101315290	10/13/2015	SBR-SD-1015	1166626.551	1886089.886	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-1015 B	SBR-SD-1015 B 0.5-1.5	Other Sediment	None	6	Archive							
101315291	10/13/2015	SBR-SD-1015	1166626.551	1886089.886	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-1015 C	SBR-SD-1015 C 1.5-2.5	Other Sediment	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids		
101315292	10/13/2015	SBR-SD-1015	1166626.551	1886089.886	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-1015 D	SBR-SD-1015 D 2.5-3.5	Other Sediment	None	2.5	Archive							
101315293	10/13/2015	SBR-SD-1015	1166626.551	1886089.886	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-1015 E	SBR-SD-1015 E 3.5-4.5	Other Sediment	None	9.5	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101315294	10/13/2015	SBR-SD-1015	1166626.551	1886089.886	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-1015 F	SBR-SD-1015 F 4.5-5.5	Other Sediment	None	20.7	Archive							
101315295	10/13/2015	SBR-SD-1015	1166626.551	1886089.886	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-1015 G	SBR-SD-1015 G 5.5-6.5	Other Sediment	None	29.4	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101315296	10/13/2015	SBR-SD-1015	1166626.551	1886089.886	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-1015 H	SBR-SD-1015 H 6.5-7.5	Other Sediment	None	19.3	Archive							
101315297	10/13/2015	SBR-SD-1015	1166626.551	1886089.886	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-1015 I	SBR-SD-1015 I 7.5-8.5	Other Sediment	None	27.7	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
101315298	10/13/2015	SBR-SD-1015	1166626.551	1886089.886	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-1015 J	SBR-SD-1015 J 8.5-9.5	Other Sediment	None	26.2	Archive							
101315299	10/13/2015	SBR-SD-1015	1166626.551	1886089.886	9.5	10.5	Subsurface	Bubbly Creek	no	SBR-SD-1015 K	SBR-SD-1015 K 9.5-10.5	Other Sediment	None	31.7	Archive							
101315300	10/13/2015	SBR-SD-1015	1166626.551	1886089.886	10.5	11.3	Subsurface	Bubbly Creek	no	SBR-SD-1015 L	SBR-SD-1015 L 10.5-11.3	Sediment Bottom	None	34.6	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100815140	10/8/2015	SBR-SD-1016	1166787.33	1884338.663	0	0.5	Surface	Bubbly Creek	no	SBR-SD-1016 A	SBR-SD-1016 A 0-0.5	Surface	None	27.3	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100815141	10/8/2015	SBR-SD-1016	1166787.33	1884338.663	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-1016 B	SBR-SD-1016 B 0.5-1.5	Other Sediment	None	28.1	Archive							
100815142	10/8/2015	SBR-SD-1016	1166787.33	1884338.663	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-1016 C	SBR-SD-1016 C 1.5-2.5	Other Sediment	Petro-like odor	29.2	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids		
100815143	10/8/2015	SBR-SD-1016	1166787.33	1884338.663	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-1016 D	SBR-SD-1016 D 2.5-3.5	Other Sediment	Petro-like odor	37.1	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100815144	10/8/2015	SBR-SD-1016	1166787.33	1884338.663	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-1016 E	SBR-SD-1016 E 3.5-4.5	Other Sediment	Petro-like odor	55.6	34 PAHs	Metals						
100815145	10/8/2015	SBR-SD-1016	1166787.33	1884338.663	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-1016 F	SBR-SD-1016 F 4.5-5.5	Other Sediment	Petro-like odor	49.3	Archive							
100815146	10/8/2015	SBR-SD-1016	1166787.33	1884338.663	5.5	6.9	Subsurface	Bubbly Creek	no	SBR-SD-1016 G	SBR-SD-1016 G 5.5-6.9	Sediment Bottom	Petro-like odor	30.3	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids		
111615891	11/16/2015	SBR-SD-1017	1166739.899	1884442.768	0	0.5	Surface	Bubbly Creek	no	SBR-SD-1017 A	SBR-SD-1017 A 0-0.5	Surface	Petro-like odor	12	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111615892	11/16/2015	SBR-SD-1017	1166739.899	1884442.768	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-1017 B	SBR-SD-1017 B 0.5-1.5	Other Sediment	Petro-like odor	0.2	34 PAHs	Metals						
111615893	11/16/2015	SBR-SD-1017	1166739.899	1884442.768	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-1017 C	SBR-SD-1017 C 1.5-2.5	Other Sediment	Petro-like odor	0.3	PAHs	Metals						
111615894	11/16/2015	SBR-SD-1017	1166739.899	1884442.768	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-1017 D	SBR-SD-1017 D 2.5-3.5	Other Sediment	Petro-like odor	0.1	34 PAHs	Metals						
111615895	11/16/2015	SBR-SD-1017	1166739.899	1884442.768	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-1017 E	SBR-SD-1017 E 3.5-4.5	Other Sediment	MGP-like odor and sheen	0.1	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111615896	11/16/2015	SBR-SD-1017	1166739.899	1884442.768	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-1017 F	SBR-SD-1017 F 4.5-5.5	Sediment Bottom	MGP-like odor and sheen	13.6	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111615897	11/16/2015	SBR-SD-1017	1166739.899	1884442.768	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-1017 G	SBR-SD-1017 G 5.5-6.5	Other Clay	MGP-like odor	2.6	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111615898	11/16/2015	SBR-SD-1017	1166739.899	1884442.768	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-1017 H	SBR-SD-1017 H 6.5-7.5	Other Clay	Petro-like odor	19.6	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111615899	11/16/2015	SBR-SD-1017	1166739.899	1884442.768	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-1017 I	SBR-SD-1017 I 7.5-8.5	Other Clay	None	0.2	34 PAHs	Metals						
111615900	11/16/2015	SBR-SD-1017	1166739.899	1884442.768	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-1017 J	SBR-SD-1017 J 8.5-9.5	Other Clay	None	0	Archive							
111615901	11/16/2015	SBR-SD-1017	1166739.899	1884442.768	9.5	10.5	Subsurface	Bubbly Creek	no	SBR-SD-1017 K	SBR-SD-1017 K 9.5-10.5	Clay Bottom	None	0	Archive							
100815132	10/8/2015	SBR-SD-1018	1166875.275	1884200.772	0	0.5	Surface	Bubbly Creek	no	SBR-SD-1018 A	SBR-SD-1018 A 0-0.5	Surface	None	1.2	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100815133	10/8/2015	SBR-SD-1018	1166875.275	1884200.772	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-1018 B	SBR-SD-1018 B 0.5-1.5	Other Sediment	None	1.1	Archive							
100815134	10/8/2015	SBR-SD-1018	1166875.275	1884200.772	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-1018 C	SBR-SD-1018 C 1.5-2.5	Other Sediment	None	9.1	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100815135	10/8/2015	SBR-SD-1018	1166875.275	1884200.772	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-1018 D	SBR-SD-1018 D 2.5-3.5	Other Sediment	None	13.1	Archive							
100815136	10/8/2015	SBR-SD-1018	1166875.275	1884200.772	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-1018 E	SBR-SD-1018 E 3.5-4.5	Other Sediment	None	14.2	Archive							
100815137	10/8/2015	SBR-SD-1018	1166875.275	1884200.772	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-1018 F	SBR-SD-1018 F 4.5-5.5	Other Sediment	None	14.2	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids		
100815138	10/8/2015	SBR-SD-1018	1166875.275	1884200.772	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-1018 G	SBR-SD-1018 G 5.5-6.5	Other Sediment	None	28.1	Archive							
100815139	10/8/2015	SBR-SD-1018	1166875.275	1884200.772	6.5	7.7	Subsurface	Bubbly Creek	no	SBR-SD-1018 H	SBR-SD-1018 H 6.5-7.7	Sediment Bottom	None	20.7	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100715098	10/7/2015	SBR-SD-1019	1166874.93	1884023.099	0	0.5	Surface	Bubbly Creek	no	SBR-SD-1019 A	SBR-SD-1019 A 0-0.5	Surface	Petro-like odor	3.4	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100715099	10/7/2015	SBR-SD-1019	1166874.93	1884023.099	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-1019 B	SBR-SD-1019 B 0.5-1.5	Other Sediment	Petro-like odor	4.6	Archive							
100715100	10/7/2015	SBR-SD-1019	1166874.93	1884023.099	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-1019 C	SBR-SD-1019 C 1.5-2.5	Other Sediment	Petro-like odor	5.6	Archive							
100715101	10/7/2015	SBR-SD-1019	1166874.93	1884023.099	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-1019 D	SBR-SD-1019 D 2.5-3.5	Other Sediment	Petro-like odor	4.1	Archive							
100715102	10/7/2015	SBR-SD-1019	1166874.93	1884023.099	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-1019 E	SBR-SD-1019 E 3.5-4.5	Other Sediment	Petro-like odor	8.8	Archive							
100715103	10/7/2015	SBR-SD-1019	1166874.93	1884023.099	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-1019 F	SBR-SD-1019 F 4.5-5.5	Other Sediment	Petro-like odor	34.8	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100715104	10/7/2015	SBR-SD-1019	1166874.93	1884023.099	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-1019 G	SBR-SD-1019 G 5.5-6.5	Other Sediment	Petro-like odor	63.2	34 PAHs	Metals						
100715105	10/7/2015	SBR-SD-1019	1166874.93	1884023.099	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-1019 H	SBR-SD-1019 H 6.5-7.5	Other Sediment	Petro-like odor	78.6	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids		
100715106	10/7/2015	SBR-SD-1019	1166874.93	1884023.099	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-1019 I	SBR-SD-1019 I 7.5-8.5	Other Sediment	Petro-like odor	90	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100715107	10/7/2015	SBR-SD-1019	1166874.93	1884023.099	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-1019 J	SBR-SD-1019 J 8.5-9.5	Other Sediment	Petro-like odor	77	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100715108	10/7/2015	SBR-SD-1019	1166874.93	1884023.099	9.5	10.5	Subsurface	Bubbly Creek	no	SBR-SD-1019 K	SBR-SD-1019 K 9.5-10.5	Other Sediment	Petro-like odor	48.1	Archive							
100715109	10/7/2015	SBR-SD-1019	1166874.93	1884023.099	10.5	11.5	Subsurface	Bubbly Creek	no	SBR-SD-1019 L	SBR-SD-1019 L 10.5-11.5	Sediment Bottom	Petro-like odor	64	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101215242	10/12/2015	SBR-SD-102	1166402.104	1885331.002	0	0.5	Surface	Bubbly Creek	no	SBR-SD-102 A	SBR-SD-102 A 0-0.5	Surface	None	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	Black Carbon
101215243	10/12/2015	SBR-SD-102	1166402.104	1885331.002	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-102 B	SBR-SD-102 B 0.5-1.5	Other Sediment	None	0	Archive							
101215244	10/12/2015	SBR-SD-102	1166402.104	1885331.002	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-102 C	SBR-SD-102 C 1.5-2.5	Other Sediment	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids		
101215245	10/12/2015	SBR-SD-102	1166402.104	1885331.002	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-102 D	SBR-SD-102 D 2.5-3.5	Other Sediment	None	9.9	Archive							
101215246	10/12/2015	SBR-SD-102	1166402.104	1885331.002	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-102 E	SBR-SD-102 E 3.5-4.5	Other Sediment	None	20.2	Archive							
101215247	10/12/2015	SBR-SD-102	1166402.104	1885331.002	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-102 F	SBR-SD-102 F 4.5-5.5	Other Sediment	None	30	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101215248	10/12/2015	SBR-SD-102	1166402.104	1885331.002	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-102 G	SBR-SD-102 G 5.5-6.5	Other Sediment	None	33.5	Archive							
101215249	10/12/2015	SBR-SD-102	1166402.104	1885331.002	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-102 H	SBR-SD-102 H 6.5-7.5	Other Sediment	None	36.3	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
101215250	10/12/2015	SBR-SD-102	1166402.104	1885331.002	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-102 I	SBR-SD-102 I 7.5-8.5	Other Sediment	None	24.5	Archive							
101215251	10/12/2015	SBR-SD-102	1166402.104	1885331.002	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-102 J	SBR-SD-102 J 8.5-9.5	Sediment Bottom	None	25.8	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
101215252	10/12/2015	DUP-06	1166402.104	1885331.002	4.5	5.5	Subsurface	Bubbly Creek	no	DUP-06 --	SBR-SD-102 J 8.5-9.5 DUP-06 --	Other Sediment	None	N/A	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100915209	10/9/2015	SBR-SD-103	1166463.187	1885245.405	0	0.5	Surface	Bubbly Creek	no	SBR-SD-103 A	SBR-SD-103 A 0-0.5	Surface	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	Black Carbon
100915210	10/9/2015	SBR-SD-103	1166463.187	1885245.405	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-103 B	SBR-SD-103 B 0.5-1.5	Other Sediment	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100915211	10/9/2015	SBR-SD-103	1166463.187	1885245.405	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-103 C	SBR-SD-103 C 1.5-2.5	Other Sediment	None	0	Archive							
100915212	10/9/2015	SBR-SD-103	1166463.187	1885245.405	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-103 D	SBR-SD-103 D 2.5-3.5	Other Sediment	None	9.4	Archive							
100915213	10/9/2015	SBR-SD-103	1166463.187	1885245.405	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-103 E	SBR-SD-103 E 3.5-4.5	Other Sediment	None	14	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100915214	10/9/2015	SBR-SD-103	1166463.187	1885245.405	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-103 F	SBR-SD-103 F 4.5-5.5	Other Sediment	None	33.8	Archive							
100915215	10/9/2015	SBR-SD-103	1166463.187	1885245.405	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-103 G	SBR-SD-103 G 5.5-6.5	Other Sediment	None	21.2	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100915216	10/9/2015	SBR-SD-103	1166463.187	1885245.405	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-103 H	SBR-SD-103 H 6.5-7.5	Other Sediment	None	20.3	Archive							
100915217	10/9/2015	SBR-SD-103	1166463.187	1885245.405	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-103 I	SBR-SD-103 I 7.5-8.5	Sediment Bottom	None	9.3	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100915218	10/9/2015	DUP-05	1166463.187	1885245.405	0	0.5	Surface	Bubbly Creek	no	DUP-05 --	SBR-SD-103 I 7.5-8.5 DUP-05 --	N/A	None	N/A	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	Black Carbon
101215230	10/12/2015	SBR-SD-104	1166526.208	1885098.979	0	0.5	Surface	Bubbly Creek	no	SBR-SD-104 A	SBR-SD-104 A 0-0.5	Surface	None	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
101215231	10/12/2015	SBR-SD-104	1166526.208	1885098.979	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-104 B	SBR-SD-104 B 0.5-1.5	Other Sediment	None	0	Archive							
101215232	10/12/2015	SBR-SD-104	1166526.208	1885098.979	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-104 C	SBR-SD-104 C 1.5-2.5	Other Sediment	None	0	Archive							
101215233	10/12/2015	SBR-SD-104	1166526.208	1885098.979	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-104 D	SBR-SD-104 D 2.5-3.5	Other Sediment	None	5.9	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids		
101215234	10/12/2015	SBR-SD-104	1166526.208	1885098.979	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-104 E	SBR-SD-104 E 3.5-4.5	Other Sediment	None	26.8	Archive							
101215235	10/12/2015	SBR-SD-104	1166526.208	1885098.979	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-104 F	SBR-SD-104 F 4.5-5.5	Other Sediment	None	34	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids		
101215236	10/12/2015	SBR-SD-104	1166526.208	1885098.979	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-104 G	SBR-SD-104 G 5.5-6.5	Other Sediment	Petro-like odor	39.4	Archive							
101215237	10/12/2015	SBR-SD-104	1166526.208	1885098.979	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-104 H	SBR-SD-104 H 6.5-7.5	Other Sediment	Petro-like odor	54.5	PAHs	Metals						
101215238	10/12/2015	SBR-SD-104	1166526.208	1885098.979	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-104 I	SBR-SD-104 I 7.5-8.5	Other Sediment	Petro-like odor	31.2	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
101215239	10/12/2015	SBR-SD-104	1166526.208	1885098.979	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-104 J	SBR-SD-104 J 8.5-9.5	Other Sediment	Petro-like odor	57.7	34 PAHs	Metals						
101215240	10/12/2015	SBR-SD-104	1166526.208	1885098.979	9.5	10.5	Subsurface	Bubbly Creek	no	SBR-SD-104 K	SBR-SD-104 K 9.5-10.5	Other Sediment	Petro-like odor	41	Archive							
101215241	10/12/2015	SBR-SD-104	1166526.208	1885098.979	10.5	11.9	Subsurface	Bubbly Creek	no	SBR-SD-104 L	SBR-SD-104 L 10.5-11.9	Sediment Bottom	Petro-like odor	69	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111715934	11/17/2015	SBR-SD-105	1166434.67	1885055.33	0	0.5	Surface	Bubbly Creek	no	SBR-SD-105 A	SBR-SD-105 A 0-0.5	Surface	Petro-like odor and sheen	1.2	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111715935	11/17/2015	SBR-SD-105	1166434.67	1885055.33	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-105 B	SBR-SD-105 B 0.5-1.5	Other Sediment	Petro-like odor and sheen	3.1	Archive							
111715936	11/17/2015	SBR-SD-105	1166434.67	1885055.33	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-105 C	SBR-SD-105 C 1.5-2.5	Other Sediment	Petro-like odor and sheen	3	Archive							
111715937	11/17/2015	SBR-SD-105	1166434.67	1885055.33	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-105 D	SBR-SD-105 D 2.5-3.5	Sediment Bottom	Petro-like odor and sheen	0.6	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111715938	11/17/2015	SBR-SD-105	1166434.67	1885055.33	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-105 E	SBR-SD-105 E 3.5-4.5	Other Clay	None	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111715939	11/17/2015	SBR-SD-105	1166434.67	1885055.33	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-105 F	SBR-SD-105 F 4.5-5.5	Other Clay	None	0	Archive							
111715940	11/17/2015	SBR-SD-105	1166434.67	1885055.33	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-105 G	SBR-SD-105 G 5.5-6.5	Other Clay	None	0	Archive							
111715941	11/17/2015	SBR-SD-105	1166434.67	1885055.33	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-105 H	SBR-SD-105 H 6.5-7.5	Other Clay	None	0	Archive							
111715942	11/17/2015	SBR-SD-105	1166434.67	1885055.33	7.5	8.0	Subsurface	Bubbly Creek	no	SBR-SD-105 I	SBR-SD-105 I 7.5-8.0	Clay Bottom	None	0	Archive							
100915219	10/9/2015	SBR-SD-106	1166531.774	1884872.925	0	0.5	Surface	Bubbly Creek	no	SBR-SD-106 A	SBR-SD-106 A 0-0.5	Surface	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100915220	10/9/2015	SBR-SD-106	1166531.774	1884872.925	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-106 B	SBR-SD-106 B 0.5-1.5	Other Sediment	None	0	Archive							
100915221	10/9/2015	SBR-SD-106	1166531.774	1884872.925	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-106 C	SBR-SD-106 C 1.5-2.5	Other Sediment	None	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100915222	10/9/2015	SBR-SD-106	1166531.774	1884872.925	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-106 D	SBR-SD-106 D 2.5-3.5	Other Sediment	None	0	Archive							
100915223	10/9/2015	SBR-SD-106	1166531.774	1884872.925	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-106 E	SBR-SD-106 E 3.5-4.5	Other Sediment	None	0.4	Archive							
100915224	10/9/2015	SBR-SD-106	1166531.774	1884872.925	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-106 F	SBR-SD-106 F 4.5-5.5	Other Sediment	None	11.4	Archive							
100915225	10/9/2015	SBR-SD-106	1166531.774	1884872.925	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-106 G	SBR-SD-106 G 5.5-6.5	Other Sediment	None	24.6	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100915226	10/9/2015	SBR-SD-106	1166531.774	1884872.925	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-106 H	SBR-SD-106 H 6.5-7.5	Other Sediment	None	6.4	Archive							
100915227	10/9/2015	SBR-SD-106	1166531.774	1884872.925	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-106 I	SBR-SD-106 I 7.5-8.5	Other Sediment	None	9	Archive							
100915228	10/9/2015	SBR-SD-106	1166531.774	1884872.925	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-106 J	SBR-SD-106 J 8.5-9.5	Sediment Bottom	None	9.4	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111715917	11/17/2015	SBR-SD-107	1166500.149	1884758.295	0	0.5	Surface	Bubbly Creek	no	SBR-SD-107 A	SBR-SD-107 A 0-0.5	Surface	Sheen	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111715918	11/17/2015	SBR-SD-107	1166500.149	1884758.295	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-107 B	SBR-SD-107 B 0.5-1.5	Other Sediment	Sheen	0.5	Archive							
111715919	11/17/2015	SBR-SD-107	1166500.149	1884758.295	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-107 C	SBR-SD-107 C 1.5-2.5	Other Sediment	Sheen	1.7	Archive							
111715920	11/17/2015	SBR-SD-107	1166500.149	1884758.295	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-107 D	SBR-SD-107 D 2.5-3.5	Other Sediment	Sheen	4.2	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111715921	11/17/2015	SBR-SD-107	1166500.149	1884758.295	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-107 E	SBR-SD-107 E 3.5-4.5	Other Sediment	Sheen	4.4	Archive							
111715922	11/17/2015	SBR-SD-107	1166500.149	1884758.295	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-107 F	SBR-SD-107 F 4.5-5.5	Other Sediment	Sheen	3	Archive							
111715923	11/17/2015	SBR-SD-107	1166500.149	1884758.295	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-107 G	SBR-SD-107 G 5.5-6.5	Other Sediment	Sheen	3	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111715924	11/17/2015	SBR-SD-107	1166500.149	1884758.295	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-107 H	SBR-SD-107 H 6.5-7.5	Other Sediment	Sheen	1	Archive							
111715925	11/17/2015	SBR-SD-107	1166500.149	1884758.295	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-107 I	SBR-SD-107 I 7.5-8.5	Other Sediment	Sheen	7	Archive							
111715926	11/17/2015	SBR-SD-107	1166500.149	1884758.295	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-107 J	SBR-SD-107 J 8.5-9.5	Other Sediment	Sheen	8.3	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111715927	11/17/2015	SBR-SD-107	1166500.149	1884758.295	9.5	10.5	Subsurface	Bubbly Creek	no	SBR-SD-107 K	SBR-SD-107 K 9.5-10.5	Other Sediment	Petro-like odor and sheen	3	Archive							
111715928	11/17/2015	SBR-SD-107	1166500.149	1884758.295	10.5	11.5	Subsurface	Bubbly Creek	no	SBR-SD-107 L	SBR-SD-107 L 10.5-11.5	Sediment Bottom	Petro-like odor	3	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111715929	11/17/2015	SBR-SD-107	1166500.149	1884758.295	11.5	12.5	Subsurface	Bubbly Creek	no	SBR-SD-107 M	SBR-SD-107 M 11.5-12.5	Other Clay	None	0.2	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111715930	11/17/2015	SBR-SD-107	1166500.149	1884758.295	12.5	13.5	Subsurface	Bubbly Creek	no	SBR-SD-107 N	SBR-SD-107 N 12.5-13.5	Other Clay	None	0	Archive							
111715931	11/17/2015	SBR-SD-107	1166500.149	1884758.295	13.5	14.5	Subsurface	Bubbly Creek	no	SBR-SD-107 O	SBR-SD-107 O 13.5-14.5	Other Clay	None	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111715932	11/17/2015	SBR-SD-107	1166500.149	1884758.295	14.5	15.5	Subsurface	Bubbly Creek	no	SBR-SD-107 P	SBR-SD-107 P 14.5-15.5	Other Clay	None	0	Archive							
111715933	11/17/2015	SBR-SD-107	1166500.149	1884758.295	15.5	16.5	Subsurface	Bubbly Creek	no	SBR-SD-107 Q	SBR-SD-107 Q 15.5-16.5	Clay Bottom	None	0	Archive							
100915198	10/9/2015	SBR-SD-108	1166445.773	1884804.38	0	0.5	Surface	Bubbly Creek	no	SBR-SD-108 A	SBR-SD-108 A 0-0.5	Surface	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	Black Carbon
100915199	10/9/2015	SBR-SD-108	1166445.773	1884804.38	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-108 B	SBR-SD-108 B 0.5-1.5	Other Sediment	None	0	Archive							
100915200	10/9/2015	SBR-SD-108	1166445.773	1884804.38	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-108 C	SBR-SD-108 C 1.5-2.5	Other Sediment	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100915201	10/9/2015	SBR-SD-108	1166445.773	1884804.38	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-108 D	SBR-SD-108 D 2.5-3.5	Other Sediment	None	0	Archive							
100915202	10/9/2015	SBR-SD-108	1166445.773	1884804.38	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-108 E	SBR-SD-108 E 3.5-4.5	Other Sediment	None	1	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100915203	10/9/2015	SBR-SD-108	1166445.773	1884804.38	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-108 F	SBR-SD-108 F 4.5-5.5	Other Sediment	None	19.1	Archive							
100915204	10/9/2015	SBR-SD-108	1166445.773	1884804.38	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-108 G	SBR-SD-108 G 5.5-6.5	Other Sediment	None	34.5	Archive							
100915205	10/9/2015	SBR-SD-108	1166445.773	1884804.38	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-108 H	SBR-SD-108 H 6.5-7.5	Other Sediment	None	27.4	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100915206	10/9/2015	SBR-SD-108	1166445.773	1884804.38	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-108 I	SBR-SD-108 I 7.5-8.5	Other Sediment	None	47.2	Archive							
100915207	10/9/2015	SBR-SD-108	1166445.773	1884804.38	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-108 J	SBR-SD-108 J 8.5-9.5	Other Sediment	None	24.5	Archive							
100915208	10/9/2015	SBR-SD-108	1166445.773	1884804.38	9.5	10	Subsurface	Bubbly Creek	no	SBR-SD-108 K	SBR-SD-108 K 9.5-10	Sediment Bottom	None	50.3	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111615902	11/16/2015	SBR-SD-109	1166634.343	1884607.789	0	0.5	Surface	Bubbly Creek	no	SBR-SD-109 A	SBR-SD-109 A 0-0.5	Surface	Petro-like odor	0.4	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111615903	11/16/2015	SBR-SD-109	1166634.343	1884607.789	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-109 B	SBR-SD-109 B 0.5-1.5	Other Sediment	Petro-like odor	0.5	Archive							
111615904	11/16/2015	SBR-SD-109	1166634.343	1884607.789	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-109 C	SBR-SD-109 C 1.5-2.5	Other Sediment	Petro-like odor	3.4	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111615905	11/16/2015	SBR-SD-109	1166634.343	1884607.789	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-109 D	SBR-SD-109 D 2.5-3.5	Other Sediment	Petro-like odor	0.8	Archive							
111615906	11/16/2015	SBR-SD-109	1166634.343	1884607.789	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-109 E	SBR-SD-109 E 3.5-4.5	Other Sediment	Petro-like odor	7.1	Archive							
111615907	11/16/2015	SBR-SD-109	1166634.343	1884607.789	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-109 F	SBR-SD-109 F 4.5-5.5	Other Sediment	Petro-like odor	0.8	Archive							
111615908	11/16/2015	SBR-SD-109	1166634.343	1884607.789	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-109 G	SBR-SD-109 G 5.5-6.5	Other Sediment	Petro-like odor	6.2	Archive							
111615909	11/16/2015	SBR-SD-109	1166634.343	1884607.789	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-109 H	SBR-SD-109 H 6.5-7.5	Other Sediment	Petro-like odor	8.3	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111615910	11/16/2015	SBR-SD-109	1166634.343	1884607.789	7.5	8.3	Subsurface	Bubbly Creek	no	SBR-SD-109 I	SBR-SD-109 I 7.5-8.3	Sediment Bottom	Petro-odor and oil-wet/coa	20.2	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111615911	11/16/2015	SBR-SD-109	1166634.343	1884607.789	8.3	9.5	Subsurface	Bubbly Creek	no	SBR-SD-109 J	SBR-SD-109 J 8.3-9.5	Other Clay	Petro-odor and oil-wet/coa	1.4	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111615912	11/16/2015	SBR-SD-109	1166634.343	1884607.789	9.5	10.5	Subsurface	Bubbly Creek	no	SBR-SD-109 K	SBR-SD-109 K 9.5-10.5	Other Clay	None	0.2	34 PAHs	Metals						
111615913	11/16/2015	SBR-SD-109	1166634.343	1884607.789	10.5	11.5	Subsurface	Bubbly Creek	no	SBR-SD-109 L	SBR-SD-109 L 10.5-11.5	Other Clay	None	3.3	PAHs	Metals						
111615914	11/16/2015	SBR-SD-109	1166634.343	1884607.789	11.5	12.5	Subsurface	Bubbly Creek	no	SBR-SD-109 M	SBR-SD-109 M 11.5-12.5	Clay Bottom	None	1.4	34 PAHs	Metals						
111615915	11/16/2015	DUP-26	1166634.343	1884607.789	6.5	7.5	Subsurface	Bubbly Creek	no	DUP-26 --	SBR-SD-109 M 11.5-12.5 DUP-26 --	Other Sediment	Petro-like odor	N/A	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100915186	10/9/2015	SBR-SD-110	1166602.924	1884583.065	0	0.5	Surface	Bubbly Creek	no	SBR-SD-110 A	SBR-SD-110 A 0-0.5	Surface	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100915187	10/9/2015	SBR-SD-110	1166602.924	1884583.065	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-110 B	SBR-SD-110 B 0.5-1.5	Other Sediment	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids		
100915188	10/9/2015	SBR-SD-110	1166602.924	1884583.065	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-110 C	SBR-SD-110 C 1.5-2.5	Other Sediment	None	4.5	Archive							
100915189	10/9/2015	SBR-SD-110	1166602.924	1884583.065	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-110 D	SBR-SD-110 D 2.5-3.5	Other Sediment	None	15.6	Archive							
100915190	10/9/2015	SBR-SD-110	1166602.924	1884583.065	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-110 E	SBR-SD-110 E 3.5-4.5	Other Sediment	None	30.1	Archive							
100915191	10/9/2015	SBR-SD-110	1166602.924	1884583.065	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-110 F	SBR-SD-110 F 4.5-5.5	Other Sediment	None	35.4	Archive							
100915192	10/9/2015	SBR-SD-110	1166602.924	1884583.065	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-110 G	SBR-SD-110 G 5.5-6.5	Other Sediment	None	39	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100915193	10/9/2015	SBR-SD-110	1166602.924	1884583.065	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-110 H	SBR-SD-110 H 6.5-7.5	Other Sediment	None	32.2	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100915194	10/9/2015	SBR-SD-110	1166602.924	1884583.065	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-110 I	SBR-SD-110 I 7.5-8.5	Other Sediment	None	57.1	Archive							
100915195	10/9/2015	SBR-SD-110	1166602.924	1884583.065	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-110 J	SBR-SD-110 J 8.5-9.5	Other Sediment	None	63.9	Archive							
100915196	10/9/2015	SBR-SD-110	1166602.924	1884583.065	9.5	10.3	Subsurface	Bubbly Creek	no	SBR-SD-110 K	SBR-SD-110 K 9.5-10.3	Sediment Bottom	None	39.2	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100815158	10/8/2015	SBR-SD-111	1166575.106	1884543.599	0	0.5	Surface	Bubbly Creek	no	SBR-SD-111 A	SBR-SD-111 A 0-0.5	Surface	None	0.6	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	Black Carbon
100815159	10/8/2015	SBR-SD-111	1166575.106	1884543.599	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-111 B	SBR-SD-111 B 0.5-1.5	Other Sediment	None	3.5	Archive							
100815160	10/8/2015	SBR-SD-111	1166575.106	1884543.599	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-111 C	SBR-SD-111 C 1.5-2.5	Other Sediment	None	8	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100815161	10/8/2015	SBR-SD-111	1166575.106	1884543.599	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-111 D	SBR-SD-111 D 2.5-3.5	Other Sediment	None	25.5	Archive							
100815162	10/8/2015	SBR-SD-111	1166575.106	1884543.599	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-111 E	SBR-SD-111 E 3.5-4.5	Other Sediment	None	37.8	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100815163	10/8/2015	SBR-SD-111	1166575.106	1884543.599	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-111 F	SBR-SD-111 F 4.5-5.5	Other Sediment	None	43	Archive							
100815164	10/8/2015	SBR-SD-111	1166575.106	1884543.599	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-111 G	SBR-SD-111 G 5.5-6.5	Other Sediment	None	48.2	Archive							
100815165	10/8/2015	SBR-SD-111	1166575.106	1884543.599	6.5	7	Subsurface	Bubbly Creek	no	SBR-SD-111 H	SBR-SD-111 H 6.5-7	Sediment Bottom	None	50.8	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100815178	10/8/2015	SBR-SD-112	1166765.309	1884352.211	0	0.5	Surface	Bubbly Creek	no	SBR-SD-112 A	SBR-SD-112 A 0-0.5	Surface	None	0.3	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100815179	10/8/2015	SBR-SD-112	1166765.309	1884352.211	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-112 B	SBR-SD-112 B 0.5-1.5	Other Sediment	None	3.9	Archive							
100815180	10/8/2015	SBR-SD-112	1166765.309	1884352.211	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-112 C	SBR-SD-112 C 1.5-2.5	Other Sediment	None	13.4	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100815181	10/8/2015	SBR-SD-112	1166765.309	1884352.211	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-112 D	SBR-SD-112 D 2.5-3.5	Other Sediment	None	11.7	Archive							
100815182	10/8/2015	SBR-SD-112	1166765.309	1884352.211	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-112 E	SBR-SD-112 E 3.5-4.5	Other Sediment	None	15.8	Archive							
100815183	10/8/2015	SBR-SD-112	1166765.309	1884352.211	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-112 F	SBR-SD-112 F 4.5-5.5	Other Sediment	None	25.1	Archive							

Table 3 - Bubbly Creek Borings and Samples
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Unique Sample ID	Sample Date	Boring ID	X	Y	Sample Top Depth	Sample Bottom Depth	Surface or Subsurface	River Segment	Ambient Area	Location-Interval ID	Field Sample ID	Solid Interval Type	Visual Observation/Odors	PID	Laboratory Analysis							
100815184	10/8/2015	SBR-SD-112	1166765.309	1884352.211	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-112 G	SBR-SD-112 G 5.5-6.5	Other Sediment	None	10.5	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100815185	10/8/2015	SBR-SD-112	1166765.309	1884352.211	6.5	7.6	Subsurface	Bubbly Creek	no	SBR-SD-112 H	SBR-SD-112 H 6.5-7.6	Sediment Bottom	None	13.2	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100815166	10/8/2015	SBR-SD-113	1166692.305	1884413.542	0	0.5	Surface	Bubbly Creek	no	SBR-SD-113 A	SBR-SD-113 A 0-0.5	Surface	None	2	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100815167	10/8/2015	SBR-SD-113	1166692.305	1884413.542	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-113 B	SBR-SD-113 B 0.5-1.5	Other Sediment	None	3	Archive							
100815168	10/8/2015	SBR-SD-113	1166692.305	1884413.542	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-113 C	SBR-SD-113 C 1.5-2.5	Other Sediment	None	1.7	Archive							
100815169	10/8/2015	SBR-SD-113	1166692.305	1884413.542	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-113 D	SBR-SD-113 D 2.5-3.5	Other Sediment	None	7.6	Archive							
100815170	10/8/2015	SBR-SD-113	1166692.305	1884413.542	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-113 E	SBR-SD-113 E 3.5-4.5	Other Sediment	None	27	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100815171	10/8/2015	SBR-SD-113	1166692.305	1884413.542	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-113 F	SBR-SD-113 F 4.5-5.5	Other Sediment	None	13.2	Archive							
100815172	10/8/2015	SBR-SD-113	1166692.305	1884413.542	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-113 G	SBR-SD-113 G 5.5-6.5	Other Sediment	None	29.6	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100815173	10/8/2015	SBR-SD-113	1166692.305	1884413.542	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-113 H	SBR-SD-113 H 6.5-7.5	Other Sediment	None	45.8	Archive							
100815174	10/8/2015	SBR-SD-113	1166692.305	1884413.542	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-113 I	SBR-SD-113 I 7.5-8.5	Other Sediment	None	55.5	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100815175	10/8/2015	SBR-SD-113	1166692.305	1884413.542	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-113 J	SBR-SD-113 J 8.5-9.5	Other Sediment	None	42.3	Archive							
100815176	10/8/2015	SBR-SD-113	1166692.305	1884413.542	9.5	10	Subsurface	Bubbly Creek	no	SBR-SD-113 K	SBR-SD-113 K 9.5-10	Sediment Bottom	None	41.6	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids		
100815177	10/8/2015	DUP-04	1166692.305	1884413.542	3.5	4.5	Subsurface	Bubbly Creek	no	DUP-04 --	SBR-SD-113 K 9.5-10 DUP-04 --	N/A	None	N/A	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100815147	10/8/2015	SBR-SD-114	1166673.473	1884327.777	0	0.5	Surface	Bubbly Creek	no	SBR-SD-114 A	SBR-SD-114 A 0-0.5	Surface	None	1.7	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	Black Carbon
100815148	10/8/2015	SBR-SD-114	1166673.473	1884327.777	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-114 B	SBR-SD-114 B 0.5-1.5	Other Sediment	None	3.3	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100815149	10/8/2015	SBR-SD-114	1166673.473	1884327.777	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-114 C	SBR-SD-114 C 1.5-2.5	Other Sediment	None	4	Archive							
100815150	10/8/2015	SBR-SD-114	1166673.473	1884327.777	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-114 D	SBR-SD-114 D 2.5-3.5	Other Sediment	None	3.1	Archive							
100815151	10/8/2015	SBR-SD-114	1166673.473	1884327.777	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-114 E	SBR-SD-114 E 3.5-4.5	Other Sediment	None	8.9	Archive							
100815152	10/8/2015	SBR-SD-114	1166673.473	1884327.777	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-114 F	SBR-SD-114 F 4.5-5.5	Other Sediment	None	17.1	Archive							
100815153	10/8/2015	SBR-SD-114	1166673.473	1884327.777	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-114 G	SBR-SD-114 G 5.5-6.5	Other Sediment	Petro-like odor	36.7	Archive							
100815154	10/8/2015	SBR-SD-114	1166673.473	1884327.777	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-114 H	SBR-SD-114 H 6.5-7.5	Other Sediment	None	35	Archive							
100815155	10/8/2015	SBR-SD-114	1166673.473	1884327.777	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-114 I	SBR-SD-114 I 7.5-8.5	Other Sediment	None	10.9	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100815156	10/8/2015	SBR-SD-114	1166673.473	1884327.777	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-114 J	SBR-SD-114 J 8.5-9.5	Other Sediment	Petro-like odor	71.3	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids		
100815157	10/8/2015	SBR-SD-114	1166673.473	1884327.777	9.5	10.4	Subsurface	Bubbly Creek	no	SBR-SD-114 K	SBR-SD-114 K 9.5-10.4	Sediment Bottom	None	25.3	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111615867	11/16/2015	SBR-SD-115	1166857.108	1884130.033	0	0.5	Surface	Bubbly Creek	no	SBR-SD-115 A	SBR-SD-115 A 0-0.5	Surface	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111615868	11/16/2015	SBR-SD-115	1166857.108	1884130.033	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-115 B	SBR-SD-115 B 0.5-1.5	Other Sediment	None	0	Archive							
111615869	11/16/2015	SBR-SD-115	1166857.108	1884130.033	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-115 C	SBR-SD-115 C 1.5-2.5	Other Sediment	None	0	Archive							
111615870	11/16/2015	SBR-SD-115	1166857.108	1884130.033	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-115 D	SBR-SD-115 D 2.5-3.5	Other Sediment	None	0	Archive							
111615871	11/16/2015	SBR-SD-115	1166857.108	1884130.033	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-115 E	SBR-SD-115 E 3.5-4.5	Other Sediment	None	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111615872	11/16/2015	SBR-SD-115	1166857.108	1884130.033	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-115 F	SBR-SD-115 F 4.5-5.5	Other Sediment	None	0	Archive							
111615873	11/16/2015	SBR-SD-115	1166857.108	1884130.033	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-115 G	SBR-SD-115 G 5.5-6.5	Other Sediment	None	0	Archive							
111615874	11/16/2015	SBR-SD-115	1166857.108	1884130.033	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-115 H	SBR-SD-115 H 6.5-7.5	Other Sediment	None	0	Archive							
111615875	11/16/2015	SBR-SD-115	1166857.108	1884130.033	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-115 I	SBR-SD-115 I 7.5-8.5	Other Sediment	None	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111615876	11/16/2015	SBR-SD-115	1166857.108	1884130.033	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-115 J	SBR-SD-115 J 8.5-9.5	Other Sediment	None	0.2	Archive							
111615877	11/16/2015	SBR-SD-115	1166857.108	1884130.033	9.5	10.5	Subsurface	Bubbly Creek	no	SBR-SD-115 K	SBR-SD-115 K 9.5-10.5	Other Sediment	None	0.3	Archive							
111615878	11/16/2015	SBR-SD-115	1166857.108	1884130.033	10.5	11.5	Subsurface	Bubbly Creek	no	SBR-SD-115 L	SBR-SD-115 L 10.5-11.5	Other Sediment	None	0.6	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111615879	11/16/2015	SBR-SD-115	1166857.108	1884130.033	11.5	12.5	Subsurface	Bubbly Creek	no	SBR-SD-115 M	SBR-SD-115 M 11.5-12.5	Other Sediment	None	8.7	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111615880	11/16/2015	SBR-SD-115	1166857.108	1884130.033	12.5	13.5	Subsurface	Bubbly Creek	no	SBR-SD-115 N	SBR-SD-115 N 12.5-13.5	Other Sediment	None	8.8	Archive							
111615881	11/16/2015	SBR-SD-115	1166857.108	1884130.033	13.5	14.5	Subsurface	Bubbly Creek	no	SBR-SD-115 O	SBR-SD-115 O 13.5-14.5	Other Sediment	None	7.1	Archive							
111615882	11/16/2015	SBR-SD-115	1166857.108	1884130.033	14.5	15.5	Subsurface	Bubbly Creek	no	SBR-SD-115 P	SBR-SD-115 P 14.5-15.5	Other Sediment	None	8.5	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111615883	11/16/2015	SBR-SD-115	1166857.108	1884130.033	15.5	16.5	Subsurface	Bubbly Creek	no	SBR-SD-115 Q	SBR-SD-115 Q 15.5-16.5	Sediment Bottom	None	2.5	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111615884	11/16/2015	SBR-SD-115	1166857.108	1884130.033	16.5	17.5	Subsurface	Bubbly Creek	no	SBR-SD-115 R	SBR-SD-115 R 16.5-17.5	Other Clay	Petro-like odor	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111615885	11/16/2015	SBR-SD-115	1166857.108	1884130.033	17.5	18.5	Subsurface	Bubbly Creek	no	SBR-SD-115 S	SBR-SD-115 S 17.5-18.5	Other Clay	Petro-like odor	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111615886	11/16/2015	SBR-SD-115	1166857.108	1884130.033	18.5	19.5	Subsurface	Bubbly Creek	no	SBR-SD-115 T	SBR-SD-115 T 18.5-19.5	Other Clay	Petro-like odor	3.7	Archive							
111615887	11/16/2015	SBR-SD-115	1166857.108	1884130.033	19.5	20.5	Subsurface	Bubbly Creek	no	SBR-SD-115 U	SBR-SD-115 U 19.5-20.5	Clay Bottom	Petro-like odor	3.8	Archive							
100715110	10/7/2015	SBR-SD-115.X	1166855.531	1884120.619	0	0.5	Surface	Bubbly Creek	no	SBR-SD-115.X A	SBR-SD-115.X A 0-0.5	Surface	Other odor	0.7	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Black Carbon	
100715111	10/7/2015	SBR-SD-115.X	1166855.531	1884120.619	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-115.X B	SBR-SD-115.X B 0.5-1.5	Other Sediment	Other odor	0.3	Archive							
100715112	10/7/2015	SBR-SD-115.X	1166855.531	1884120.619	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-115.X C	SBR-SD-115.X C 1.5-2.5	Other Sediment	Other odor	1.7	Archive							
100715113	10/7/2015	SBR-SD-115.X	1166855.531	1884120.619	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-115.X D	SBR-SD-115.X D 2.5-3.5	Other Sediment	Other odor	6.9	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids		
100715114	10/7/2015	SBR-SD-115.X	1166855.531	1884120.619	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-115.X E	SBR-SD-115.X E 3.5-4.5	Other Sediment	Other odor	5	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100715115	10/7/2015	SBR-SD-115.X	1166855.531	1884120.619	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-115.X F	SBR-SD-115.X F 4.5-5.5	Other Sediment	Other odor	11	Archive							
100715116	10/7/2015	SBR-SD-115.X	1166855.531	1884120.619	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-115.X G	SBR-SD-115.X G 5.5-6.5	Other Sediment	Other odor	7.8	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100715117	10/7/2015	SBR-SD-115.X	1166855.531	1884120.619	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-115.X H	SBR-SD-115.X H 6.5-7.5	Other Sediment	Other odor	14.4	Archive							
100715118	10/7/2015	SBR-SD-115.X	1166855.531	1884120.619	7.5	8.6	Subsurface	Bubbly Creek	no	SBR-SD-115.X I	SBR-SD-115.X I 7.5-8.6	Sediment Bottom	Other odor	36.8	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100815119	10/8/2015	SBR-SD-116	1166797.39	1884234.752	0	0.5	Surface	Bubbly Creek	no	SBR-SD-116 A	SBR-SD-116 A 0-0.5	Surface	Petro-like odor	1.6	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100815120	10/8/2015	SBR-SD-116	1166797.39	1884234.752	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-116 B	SBR-SD-116 B 0.5-1.5	Other Sediment	Petro-like odor	1.9	Archive							
100815121	10/8/2015	SBR-SD-116	1166797.39	1884234.752	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-116 C	SBR-SD-116 C 1.5-2.5	Other Sediment	Petro-like odor	3.3	Archive							
100815122	10/8/2015	SBR-SD-116	1166797.39	1884234.752	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-116 D	SBR-SD-116 D 2.5-3.5	Other Sediment	Petro-like odor	13.6	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100815123	10/8/2015	SBR-SD-116	1166797.39	1884234.752	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-116 E	SBR-SD-116 E 3.5-4.5	Other Sediment	Petro-like odor	16	Archive							
100815124	10/8/2015	SBR-SD-116	1166797.39	1884234.752	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-116 F	SBR-SD-116 F 4.5-5.5	Other Sediment	Petro-like odor	29.2	Archive							
100815125	10/8/2015	SBR-SD-116	1166797.39	1884234.752	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-116 G	SBR-SD-116 G 5.5-6.5	Other Sediment	Petro-like odor	30.8	Archive							
100815126	10/8/2015	SBR-SD-116	1166797.39	1884234.752	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-116 H	SBR-SD-116 H 6.5-7.5	Other Sediment	Petro-like odor	56.7	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100815127	10/8/2015	SBR-SD-116	1166797.39	1884234.752	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-116 I	SBR-SD-116 I 7.5-8.5	Other Sediment	Petro-like odor	65.1	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids		
100815128	10/8/2015	SBR-SD-116	1166797.39	1884234.752	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-116 J	SBR-SD-116 J 8.5-9.5	Other Sediment	None	62.4	Archive							
100815129	10/8/2015	SBR-SD-116	1166797.39	1884234.752	9.5	10.4	Subsurface	Bubbly Creek	no	SBR-SD-116 K	SBR-SD-116 K 9.5-10.4	Sediment Bottom	None	58.8	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100815130	10/8/2015	DUP-03	1166797.39	1884234.752	0	0.5	Surface	Bubbly Creek	no	DUP-03 --	SBR-SD-116 K 9.5-10.4 DUP-03 --	Sediment Bottom	None	N/A	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111315856	11/13/2015	SBR-SD-117	1166763.706	1884137.44	0	0.5	Surface	Bubbly Creek	no	SBR-SD-117 A	SBR-SD-117 A 0-0.5	Surface	None	0.2	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111315857	11/13/2015	SBR-SD-117	1166763.706	1884137.44	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-117 B	SBR-SD-117 B 0.5-1.5	Other Sediment	None	1.9	Archive							
111315858	11/13/2015	SBR-SD-117	1166763.706	1884137.44	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-117 C	SBR-SD-117 C 1.5-2.5	Other Sediment	None	2.3	Archive							
111315859	11/13/2015	SBR-SD-117	1166763.706	1884137.44	2.5	3.6	Subsurface	Bubbly Creek	no	SBR-SD-117 D	SBR-SD-117 D 2.5-3.6	Sediment Bottom	Petro-like odor	0.3	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111315860	11/13/2015	SBR-SD-117	1166763.706	1884137.44	3.6	4.6	Subsurface	Bubbly Creek	no	SBR-SD-117 E	SBR-SD-117 E 3.6-4.6	Other Clay	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111315861	11/13/2015	SBR-SD-117	1166763.706	1884137.44	4.6	5.6	Subsurface	Bubbly Creek	no	SBR-SD-117 F	SBR-SD-117 F 4.6-5.6	Other Clay	None	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111315862	11/13/2015	SBR-SD-117	1166763.706	1884137.44	5.6	6.6	Subsurface	Bubbly Creek	no	SBR-SD-117 G	SBR-SD-117 G 5.6-6.6	Other Clay	None	0	Archive							
111315863	11/13/2015	SBR-SD-117	1166763.706	1884137.44	6.6	7.6	Subsurface	Bubbly Creek	no	SBR-SD-117 H	SBR-SD-117 H 6.6-7.6	Other Clay	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111315864	11/13/2015	SBR-SD-117	1166763.706	1884137.44	7.6	8.6	Subsurface	Bubbly Creek	no	SBR-SD-117 I	SBR-SD-117 I 7.6-8.6	Other Clay	None	0	Archive							
111315865	11/13/2015	SBR-SD-117	1166763.706	1884137.44	8.6	9.5	Subsurface	Bubbly Creek	no	SBR-SD-117 J	SBR-SD-117 J 8.6-9.5	Clay Bottom	None	0	Archive							
111315866	11/13/2015	DUP-25	1166763.706	1884137.44	4.6	5.6	Subsurface	Bubbly Creek	no	DUP-25 --	SBR-SD-117 J 8.6-9.5 DUP-25 --	Other Clay	None	N/A	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100715091	10/7/2015	SBR-SD-118	1166893.326	1883980.257	0	0.5	Surface	Bubbly Creek	no	SBR-SD-118 A	SBR-SD-118 A 0-0.5	Surface	None	2.5	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100715092	10/7/2015	SBR-SD-118	1166893.326	1883980.257	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-118 B	SBR-SD-118 B 0.5-1.5	Other Sediment	None	8.1	Archive							
100715093	10/7/2015	SBR-SD-118	1166893.326	1883980.257	1.5	2.5	Subsurface	Bubbly Creek	no	SBR-SD-118 C	SBR-SD-118 C 1.5-2.5	Other Sediment	None	1.8	Archive							
100715094	10/7/2015	SBR-SD-118	1166893.326	1883980.257	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-118 D	SBR-SD-118 D 2.5-3.5	Other Sediment	None	6.2	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100715095	10/7/2015	SBR-SD-118	1166893.326	1883980.257	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-118 E	SBR-SD-118 E 3.5-4.5	Other Sediment	Petro-like odor	23.3	Archive							
100715096	10/7/2015	SBR-SD-118	1166893.326	1883980.257	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-118 F	SBR-SD-118 F 4.5-5.5	Other Sediment	Petro-like odor	58.6	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids		
100715097	10/7/2015	SBR-SD-118	1166893.326	1883980.257	5.5	6.8	Subsurface	Bubbly Creek	no	SBR-SD-118 G	SBR-SD-118 G 5.5-6.8	Sediment Bottom	Petro-like odor	70.3	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1218151561	12/18/2015	SBR-SD-118.4	1166889.333	1884015.517	0	0.5	Surface	Bubbly Creek	no	SBR-SD-118.4 A	SBR-SD-118.4 A 0-0.5	Surface	None	0.3	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1218151562	12/18/2015	SBR-SD-118.4	1166889.333	1884015.517	2.5	3.5	Subsurface	Bubbly Creek	no	SBR-SD-118.4 D	SBR-SD-118.4 D 2.5-3.5	Other Sediment	None	0.1	Archive							
1218151563	12/18/2015	SBR-SD-118.4	1166889.333	1884015.517	3.5	4.5	Subsurface	Bubbly Creek	no	SBR-SD-118.4 E	SBR-SD-118.4 E 3.5-4.5	Other Sediment	None	2.4	Archive							
1218151564	12/18/2015	SBR-SD-118.4	1166889.333	1884015.517	4.5	5.5	Subsurface	Bubbly Creek	no	SBR-SD-118.4 F	SBR-SD-118.4 F 4.5-5.5	Other Sediment	None	0.7	Archive							
1218151565	12/18/2015	SBR-SD-118.4	1166889.333	1884015.517	5.5	6.5	Subsurface	Bubbly Creek	no	SBR-SD-118.4 G	SBR-SD-118.4 G 5.5-6.5	Other Sediment	None	5.3	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1218151566	12/18/2015	SBR-SD-118.4	1166889.333	1884015.517	6.5	7.5	Subsurface	Bubbly Creek	no	SBR-SD-118.4 H	SBR-SD-118.4 H 6.5-7.5	Other Sediment	None	7.7	Archive							
1218151567	12/18/2015	SBR-SD-118.4	1166889.333	1884015.517	7.5	8.5	Subsurface	Bubbly Creek	no	SBR-SD-118.4 I	SBR-SD-118.4 I 7.5-8.5	Other Sediment	None	9.3	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1218151568	12/18/2015	SBR-SD-118.4	1166889.333	1884015.517	8.5	9.5	Subsurface	Bubbly Creek	no	SBR-SD-118.4 J	SBR-SD-118.4 J 8.5-9.5	Other Sediment	None	7.6	Archive							
1218151569	12/18/2015	SBR-SD-118.4	1166889.333	1884015.517	9.5	10.5	Subsurface	Bubbly Creek	no	SBR-SD-118.4 K	SBR-SD-118.4 K 9.5-10.5	Other Sediment	None	5.5	Archive							
1218151570	12/18/2015	SBR-SD-118.4	1166889.333	1884015.517	10.5	11.5	Subsurface	Bubbly Creek	no	SBR-SD-118.4 L	SBR-SD-118.4 L 10.5-11.5	Other Sediment	None	22.2	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1218151571	12/18/2015	SBR-SD-118.4	1166889.333	1884015.517	11.5	12.5	Subsurface	Bubbly Creek	no	SBR-SD-118.4 M	SBR-SD-118.4 M 11.5-12.5	Sediment Bottom	None	29	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1218151572	12/18/2015	SBR-SD-118.4	1166889.333	1884015.517	12.5	13.5	Subsurface	Bubbly Creek	no	SBR-SD-118.4 N	SBR-SD-118.4 N 12.5-13.5	Other Clay	None	13.4	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1218151573	12/18/2015	SBR-SD-118.4	1166889.333	1884015.517	13.5	14.5	Subsurface	Bubbly Creek	no	SBR-SD-118.4 O	SBR-SD-118.4 O 13.5-14.5	Other Clay	None	1.3	Archive							
1218151574	12/18/2015	SBR-SD-118.4	1166889.333	1884015.517	14.5	15.5	Subsurface	Bubbly Creek	no	SBR-SD-118.4 P	SBR-SD-118.4 P 14.5-15.5	Other Clay	None	11.3	Archive							
1218151575	12/18/2015	SBR-SD-118.4	1166889.333	1884015.517	15.5	16.5	Subsurface	Bubbly Creek	no	SBR-SD-118.4 Q	SBR-SD-118.4 Q 15.5-16.5	Other Clay	None	2.1	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1218151576	12/18/2015	SBR-SD-118.4	1166889.333	1884015.517	16.5	17.5	Subsurface	Bubbly Creek	no	SBR-SD-118.4 R	SBR-SD-118.4 R 16.5-17.5	Other Clay	None	0	Archive							
1218151577	12/18/2015	SBR-SD-118.4	1166889.333	1884015.517	17.5	18	Subsurface	Bubbly Creek	no	SBR-SD-118.4 S	SBR-SD-118.4 S 17.5-18	Other Clay	None	0	Archive							
1218151578	12/18/2015	SBR-SD-118.4	1166889.333	1884015.517	18	19.4	Subsurface	Bubbly Creek	no	SBR-SD-118.4 T	SBR-SD-118.4 T 18-19.4	Clay Bottom	None	0	Archive							
100715088	10/7/2015	SBR-SD-119	1166872.144	1883980.346	0	0.5	Surface	Bubbly Creek	no	SBR-SD-119 A	SBR-SD-119 A 0-0.5	Surface	None	1.9	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100715089	10/7/2015	SBR-SD-119	1166872.144	1883980.346	0.5	1.5	Subsurface	Bubbly Creek	no	SBR-SD-119 B	SBR-SD-119 B 0.5-1.5	Other Sediment	None	4.1	Archive							
100715090	10/7/2015	SBR-SD-119	1166872.144	1883980.346	1.5	2.9	Subsurface	Bubbly Creek	no	SBR-SD-119 C	SBR-SD-119 C 1.5-2.9	Sediment Bottom	None	3.7	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100715085	10/7/2015	SBR-SD-120	1166794.468	1883996.71	0	0.5	Surface	Bubbly Creek	no	SBR-SD-120 A	SBR-SD-120 A 0-0.5	Surface	None	0.2	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Black Carbon	
100715086	10/7/2015	SBR-SD-120	1166794.468	1883996.71	0.5	1.4	Subsurface	Bubbly Creek	no	SBR-SD-120 B	SBR-SD-120 B 0.5-1.4	Clay Bottom	None	0.2	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111315841	11/13/2015	SBR-SD-121	1166941.472	1883841.015	0.5	1.5	Subsurface	Bubbly Creek	yes	SBR-SD-121 B	SBR-SD-121 0.5-1.5	Other Sediment	Petro-like odor	0.1	Archive							
111315840	11/13/2015	SBR-SD-121	1166941.472	1883841.015	0	0.5	Surface	Bubbly Creek	yes	SBR-SD-121 A	SBR-SD-121 0-0.5	Surface	Petro-like odor	0.1	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111315842	11/13/2015	SBR-SD-121	1166941.472	1883841.015	1.5	2.5	Subsurface	Bubbly Creek	yes	SBR-SD-121 C	SBR-SD-121 1.5-2.5	Other Sediment	Petro-like odor	0.3	Archive							
111315851	11/13/2015	SBR-SD-121	1166941.472	1883841.015	10.6	11.6	Subsurface	Bubbly Creek	yes	SBR-SD-121 L	SBR-SD-121 10.6-11.6	Other Clay	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111315852	11/13/2015	SBR-SD-121	1166941.472	1883841.015	11.6	12.6	Subsurface	Bubbly Creek	yes	SBR-SD-121 M	SBR-SD-121 11.6-12.6	Other Clay	None	0	Archive							
111315853	11/13/2015	SBR-SD-121	1166941.472	1883841.015	12.6	13.9	Subsurface	Bubbly Creek	yes	SBR-SD-121 N	SBR-SD-121 12.6-13.9	Clay Bottom	None	0	Archive							
111315843	11/13/2015	SBR-SD-121	1166941.472	1883841.015	2.5	3.5	Subsurface	Bubbly Creek	yes	SBR-SD-121 D	SBR-SD-121 2.5-3.5	Other Sediment	Petro-like odor	2.8	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111315844	11/13/2015	SBR-SD-121	1166941.472	1883841.015	3.5	4.5	Subsurface	Bubbly Creek	yes	SBR-SD-121 E	SBR-SD-121 3.5-4.5	Other Sediment	Petro-like odor	0.4	Archive							
111315845	11/13/2015	SBR-SD-121	1166941.472	1883841.015	4.5	5.5	Subsurface	Bubbly Creek	yes	SBR-SD-121 F	SBR-SD-121 4.5-5.5	Other Sediment	Petro-like odor	0.3	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111315846	11/13/2015	SBR-SD-121	1166941.472	1883841.015	5.5	6.5	Subsurface	Bubbly Creek	yes	SBR-SD-121 G	SBR-SD-121 5.5-6.5	Other Sediment	Petro-like odor	0.1	Archive							
111315847	11/13/2015	SBR-SD-121	1166941.472	1883841.015	6.5	7.5	Subsurface	Bubbly Creek	yes	SBR-SD-121 H	SBR-SD-121 6.5-7.5	Other Sediment	Petro-like odor	0.1	Archive							
111315848	11/13/2015	SBR-SD-121	1166941.472	1883841.015	7.5	8.5	Subsurface	Bubbly Creek	yes	SBR-SD-121 I	SBR-SD-121 7.5-8.5	Other Sediment	Petro-like odor	0	Archive							
111315849	11/13/2015	SBR-SD-121	1166941.472	1883841.015	8.5	9.5	Subsurface	Bubbly Creek	yes	SBR-SD-121 J	SBR-SD-121 8.5-9.5	Other Sediment	Petro-like odor	0.6	Archive							
111315850	11/13/2015	SBR-SD-121	1166941.472	1883841.015	9.5	10.6	Subsurface	Bubbly Creek	yes	SBR-SD-121 K	SBR-SD-121 9.5-10.6	Sediment Bottom	None	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100715081	10/7/2015	SBR-SD-122	1166884.241	1883882.437	0.5	1.5	Subsurface	Bubbly Creek	yes	SBR-SD-122 B	SBR-SD-122 0.5-1.5	Other Sediment	None	3.2	PAHs	Metals						
100715080	10/7/2015	SBR-SD-122	1166884.241	1883882.437	0	0.5	Surface	Bubbly Creek	yes	SBR-SD-122 A	SBR-SD-122 0-0.5	Surface	None	0.8	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100715082	10/7/2015	SBR-SD-122	1166884.241	1883882.437	1.5	2.5	Subsurface	Bubbly Creek	yes	SBR-SD-122 C	SBR-SD-122 1.5-2.5	Other Sediment	None	16.5	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids		
100715083	10/7/2015	SBR-SD-122	1166884.241	1883882.437	2.5	3.8	Subsurface	Bubbly Creek	yes	SBR-SD-122 D	SBR-SD-122 2.5-3.8	Sediment Bottom	Petro-like odor	53.7	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100615074	10/6/2015	SBR-SD-123	1166901.965	1883783.264	0.5	1.5	Subsurface	Bubbly Creek	yes	SBR-SD-123 B	SBR-SD-123 0.5-1.5	Other Sediment	Petro-like odor	33.3	Archive							
100615073	10/6/2015	SBR-SD-123	1166901.965	1883783.264	0	0.5	Surface	Bubbly Creek	yes	SBR-SD-123 A	SBR-SD-123 0-0.5	Surface	None	5.1	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Black Carbon	Total Organic Carbon
100615075	10/6/2015	SBR-SD-123	1166901.965	1883783.264	1.5	2.5	Subsurface	Bubbly Creek	yes	SBR-SD-123 C	SBR-SD-123 1.5-2.5	Other Sediment	Petro-like odor	97	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100615076	10/6/2015	SBR-SD-123	1166901.965	1883783.264	2.5	3.5	Subsurface	Bubbly Creek	yes	SBR-SD-123 D	SBR-SD-123 2.5-3.5	Other Sediment	Petro-like odor	88.7	34 PAHs	Metals						
100615077	10/6/2015	SBR-SD-123	1166901.965	1883783.264	3.5	4.5	Subsurface	Bubbly Creek	yes	SBR-SD-123 E	SBR-SD-123 3.5-4.5	Other Sediment	Petro-like odor	81.8	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100615078	10/6/2015	SBR-SD-123	1166901.965	1883783.264	4.5	5.5	Subsurface	Bubbly Creek	yes	SBR-SD-123 F	SBR-SD-123 4.5-5.5	Other Sediment	Petro-like odor	11.2	Archive							
100615079	10/6/2015	SBR-SD-123	1166901.965	1883783.264	5.5	6.6	Subsurface	Bubbly Creek	yes	SBR-SD-123 G	SBR-SD-123 5.5-6.6	Sediment Bottom	None	8.7	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111315827	11/13/2015	SBR-SD-124	1167005.084	1883735.699	0.5	1.5	Subsurface	Bubbly Creek	yes	SBR-SD-124 B	SBR-SD-124 0.5-1.5	Other Sediment	Petro-like odor	0	Archive							
111315826	11/13/2015	SBR-SD-124	1167005.084	1883735.699	0	0.5	Surface	Bubbly Creek	yes	SBR-SD-124 A	SBR-SD-124 0-0.5	Surface	Petro-like odor	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111315828	11/13/2015	SBR-SD-124	1167005.084	1883735.699	1.5	2.5	Subsurface	Bubbly Creek	yes	SBR-SD-124 C	SBR-SD-124 1.5-2.5	Other Sediment	Petro-like odor	0.2	Archive							
111315837	11/13/2015	SBR-SD-124	1167005.084	1883735.699	10.7	11.7	Subsurface	Bubbly Creek	yes	SBR-SD-124 L	SBR-SD-124 10.7-11.7	Other Clay	None	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111315838	11/13/2015	SBR-SD-124	1167005.084	1883735.699	11.7	13	Subsurface	Bubbly Creek	yes	SBR-SD-124 M	SBR-SD-124 11.7-13	Clay Bottom	None	0	Archive							
111315829	11/13/2015	SBR-SD-124	1167005.084	1883735.699	2.5	3.5	Subsurface	Bubbly Creek	yes	SBR-SD-124 D	SBR-SD-124 2.5-3.5	Other Sediment	Petro-like odor	0.6	Archive							
111315830	11/13/2015	SBR-SD-124	1167005.084	1883735.699	3.5	4.5	Subsurface	Bubbly Creek	yes	SBR-SD-124 E	SBR-SD-124 3.5-4.5	Other Sediment	Petro-like odor	0.4	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111315831	11/13/2015	SBR-SD-124	1167005.084	1883735.699	4.5	5.5	Subsurface	Bubbly Creek	yes	SBR-SD-124 F	SBR-SD-124 4.5-5.5	Other Sediment	Petro-like odor	0.2	Archive							
111315832	11/13/2015	SBR-SD-124	1167005.084	1883735.699	5.5	6.5	Subsurface	Bubbly Creek	yes	SBR-SD-124 G	SBR-SD-124 5.5-6.5	Other Sediment	Petro-like odor	0	Archive							
111315833	11/13/2015	SBR-SD-124	1167005.084	1883735.699	6.5	7.5	Subsurface	Bubbly Creek	yes	SBR-SD-124 H	SBR-SD-124 6.5-7.5	Other Sediment	Petro-like odor	0.1	Archive							
111315834	11/13/2015	SBR-SD-124	1167005.084	1883735.699	7.5	8.7	Subsurface	Bubbly Creek	yes	SBR-SD-124 I	SBR-SD-124 7.5-8.7	Sediment Bottom	Petro-like odor	0.1	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111315835	11/13/2015	SBR-SD-124	1167005.084	1883735.699	8.7	9.7	Subsurface	Bubbly Creek	yes	SBR-SD-124 J	SBR-SD-124 8.7-9.7	Other Clay	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111315836	11/13/2015	SBR-SD-124	1167005.084	1883735.699	9.7	10.7	Subsurface	Bubbly Creek	yes	SBR-SD-124 K	SBR-SD-124 9.7-10.7	Other Clay	None	0	Archive							
111115811	11/11/2015	SBR-SD-125	1167073.096	1883567.315	0.5	1.5	Subsurface	Bubbly Creek	yes	SBR-SD-125 B	SBR-SD-125 0.5-1.5	Other Sediment	None	0	Archive							
111115810	11/11/2015	SBR-SD-125	1167073.096	1883567.315	0	0.5	Surface	Bubbly Creek	yes	SBR-SD-125 A	SBR-SD-125 0-0.5	Surface	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111115812	11/11/2015	SBR-SD-125	1167073.096	1883567.315	1.5	2.5	Subsurface	Bubbly Creek	yes	SBR-SD-125 C	SBR-SD-125 1.5-2.5	Other Sediment	None	0	Archive							
111115821	11/11/2015	SBR-SD-125	1167073.096	1883567.315	10.9	11.5	Subsurface	Bubbly Creek	yes	SBR-SD-125 L	SBR-SD-125 10.9-11.5	Other Clay	None	0.2	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111115822	11/11/2015	SBR-SD-125	1167073.096	1883567.315	11.5	12.5	Subsurface	Bubbly Creek	yes	SBR-SD-125 M	SBR-SD-125 11.5-12.5	Other Clay	None	1	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111115823	11/11/2015	SBR-SD-125	1167073.096	1883567.315	12.5	13.5	Subsurface	Bubbly Creek	yes	SBR-SD-125 N	SBR-SD-125 12.5-13.5	Other Clay	None	0	Archive							
111115824	11/11/2015	SBR-SD-125	1167073.096	1883567.315	13.5	14.9	Subsurface	Bubbly Creek	yes	SBR-SD-125 O	SBR-SD-125 13.5-14.9	Clay Bottom	None	0	Archive							
111115813	11/11/2015	SBR-SD-125	1167073.096	1883567.315	2.5	3.5	Subsurface	Bubbly Creek	yes	SBR-SD-125 D	SBR-SD-125 2.5-3.5	Other Sediment	None	0	Archive							
111115814	11/11/2015	SBR-SD-125	1167073.096	1883567.315	3.5	4.5	Subsurface	Bubbly Creek	yes	SBR-SD-125 E	SBR-SD-125 3.5-4.5	Other Sediment	None	0.2	Archive							
111115815	11/11/2015	SBR-SD-125	1167073.096	1883567.315	4.5	5.5	Subsurface	Bubbly Creek	yes	SBR-SD-125 F	SBR-SD-125 4.5-5.5	Other Sediment	None	0.1	Archive							
111115816	11/11/2015	SBR-SD-125	1167073.096	1883567.315	5.5	6.5	Subsurface	Bubbly Creek	yes	SBR-SD-125 G	SBR-SD-125 5.5-6.5	Other Sediment	None	0.8	Archive							
111115817	11/11/2015	SBR-SD-125	1167073.096	1883567.315	6.5	7.5	Subsurface	Bubbly Creek	yes	SBR-SD-125 H	SBR-SD-125 6.5-7.5	Other Sediment	None	0.8	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111115818	11/11/2015	SBR-SD-125	1167073.096	1883567.315	7.5	8.5	Subsurface	Bubbly Creek	yes	SBR-SD-125 I	SBR-SD-125 7.5-8.5	Other Sediment	None	0.9	Archive							
111115819	11/11/2015	SBR-SD-125	1167073.096	1883567.315	8.5	9.5	Subsurface	Bubbly Creek	yes	SBR-SD-125 J	SBR-SD-125 8.5-9.5	Other Sediment	None	0.4	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111115820	11/11/2015	SBR-SD-125	1167073.096	1883567.315	9.5	10.9	Subsurface	Bubbly Creek	yes	SBR-SD-125 K	SBR-SD-125 9.5-10.9	Sediment Bottom	Petro-like odor	2	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111115798	11/11/2015	SBR-SD-126	1167081.557	1883527.608	0.5	1.5	Subsurface	Bubbly Creek	yes	SBR-SD-126 B	SBR-SD-126 0.5-1.5	Other Sediment	None	0.4	Archive							
111115797	11/11/2015	SBR-SD-126	1167081.557	1883527.608	0	0.5	Surface	Bubbly Creek	yes	SBR-SD-126 A	SBR-SD-126 0-0.5	Surface	None	0.1	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	Black Carbon
111115799	11/11/2015	SBR-SD-126	1167081.557	1883527.608	1.5	2.5	Subsurface	Bubbly Creek	yes	SBR-SD-126 C	SBR-SD-126 1.5-2.5	Other Sediment	None	0	Archive							
111115808	11/11/2015	SBR-SD-126	1167081.557	1883527.608	10.5	11.5	Subsurface	Bubbly Creek	yes	SBR-SD-126 L	SBR-SD-126 10.5-11.5	Clay Bottom	None	0	Archive							
111115800	11/11/2015	SBR-SD-126	1167081.557	1883527.608	2.5	3.5	Subsurface	Bubbly Creek	yes	SBR-SD-126 D	SBR-SD-126 2.5-3.5	Other Sediment	None	0	Archive							
111115801	11/11/2015	SBR-SD-126	1167081.557	1883527.608	3.5	4.5	Subsurface	Bubbly Creek	yes	SBR-SD-126 E	SBR-SD-126 3.5-4.5	Other Sediment	None	0.3	Archive							
111115802	11/11/2015	SBR-SD-126	1167081.557	1883527.608	4.5	5.5	Subsurface	Bubbly Creek	yes	SBR-SD-126 F	SBR-SD-126 4.5-5.5	Other Sediment	None	0.2	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111115803	11/11/2015	SBR-SD-126	1167081.557	1883527.608	5.5	6.5	Subsurface	Bubbly Creek	yes	SBR-SD-126 G	SBR-SD-126 5.5-6.5	Other Sediment	None	0	Archive							
111115804	11/11/2015	SBR-SD-126	1167081.557	1883527.608	6.5	7.5	Subsurface	Bubbly Creek	yes	SBR-SD-126 H	SBR-SD-126 6.5-7.5	Other Sediment	None	0.8	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111115805	11/11/2015	SBR-SD-126	1167081.557	1883527.608	7.5	8.5	Subsurface	Bubbly Creek	yes	SBR-SD-126 I	SBR-SD-126 7.5-8.5	Sediment Bottom	None	0.1	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111115806	11/11/2015	SBR-SD-126	1167081.557	1883527.608	8.5	9.5	Subsurface	Bubbly Creek	yes	SBR-SD-126 J	SBR-SD-126 8.5-9.5	Other Clay	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111115807	11/11/2015	SBR-SD-126	1167081.557	1883527.608	9.5	10.5	Subsurface	Bubbly Creek	yes	SBR-SD-126 K	SBR-SD-126 9.5-10.5	Other Clay	None	0	Archive							
100615072	10/6/2015	SBR-SD-126.X	1167092.159	1883536.723	0.5	1.9	Subsurface	Bubbly Creek	yes	SBR-SD-126.X B	SBR-SD-126.X 0.5-1.9	Sediment Bottom	Petro-like odor	2	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100615071	10/6/2015	SBR-SD-126.X	1167092.159	1883536.723	0	0.5	Surface	Bubbly Creek	yes	SBR-SD-126.X A	SBR-SD-126.X 0-0.5	Surface	Petro-like odor	3	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Black Carbon	Total Organic Carbon
111015783	11/10/2015	SBR-SD-127	1167281.959	1883340.462	0.5	1.5	Subsurface	Bubbly Creek	yes	SBR-SD-127 B	SBR-SD-127 0.5-1.5	Other Sediment	None	0.4	Archive							
111015782	11/10/2015	SBR-SD-127	1167281.959	1883340.462	0	0.5	Surface	Bubbly Creek	yes	SBR-SD-127 A	SBR-SD-127 0-0.5	Surface	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111015784	11/10/2015	SBR-SD-127	1167281.959	1883340.462	1.5	2.5	Subsurface	Bubbly Creek	yes	SBR-SD-127 C	SBR-SD-127 1.5-2.5	Other Sediment	None	0	Archive							
111015793	11/10/2015	SBR-SD-127	1167281.959	1883340.462	10.5	11.5	Subsurface	Bubbly Creek	yes	SBR-SD-127 L	SBR-SD-127 10.5-11.5	Sediment Bottom	None	1.6	34 PAHs	Metals						
111015794	11/10/2015	SBR-SD-127	1167281.959	1883340.462	11.5	12	Subsurface	Bubbly Creek	yes	SBR-SD-127 M	SBR-SD-127 11.5-12.0	Clay Bottom	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111015785	11/10/2015	SBR-SD-127	1167281.959	1883340.462	2.5	3.5	Subsurface	Bubbly Creek	yes	SBR-SD-127 D	SBR-SD-127 2.5-3.5	Other Sediment	None	0.2	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
111015786	11/10/2015	SBR-SD-127	1167281.959	1883340.462	3.5	4.5	Subsurface	Bubbly Creek	yes	SBR-SD-127 E	SBR-SD-127 3.5-4.5	Other Sediment	MGP-like odor	1.2	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111015787	11/10/2015	SBR-SD-127	1167281.959	1883340.462	4.5	5.5	Subsurface	Bubbly Creek	yes	SBR-SD-127 F	SBR-SD-127 4.5-5.5	Other Sediment	MGP-like odor	7	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
111015788	11/10/2015	SBR-SD-127	1167281.959	1883340.462	5.5	6.5	Subsurface	Bubbly Creek	yes	SBR-SD-127 G	SBR-SD-127 5.5-6.5	Other Sediment	Petro-like odor	5.7	Archive							
111015789	11/10/2015	SBR-SD-127	1167281.959	1883340.462	6.5	7.5	Subsurface	Bubbly Creek	yes	SBR-SD-127 H	SBR-SD-127 6.5-7.5	Other Sediment	MGP-like odor	2.9	Archive							
111015790	11/10/2015	SBR-SD-127	1167281.959	1883340.462	7.5	8.5	Subsurface	Bubbly Creek	yes	SBR-SD-127 I	SBR-SD-127 7.5-8.5	Other Sediment	MGP-like odor	2.8	Archive							
111015791	11/10/2015	SBR-SD-127	1167281.959	1883340.462	8.5	9.5	Subsurface	Bubbly Creek	yes	SBR-SD-127 J	SBR-SD-127 8.5-9.5	Other Sediment	MGP-like odor	6	Archive							
111015792	11/10/2015	SBR-SD-127	1167281.959	1883340.462	9.5	10.5	Subsurface	Bubbly Creek	yes	SBR-SD-127 K	SBR-SD-127 9.5-10.5	Other Sediment	MGP-like odor	10.1	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
110315778	11/3/2015	SBR-SD-128	1167296.881	1883282.689	0.5	1.5	Subsurface	Bubbly Creek	yes	SBR-SD-128 B	SBR-SD-128 0.5-1.5	Other Sediment	None	0	Archive							
110315777	11/3/2015	SBR-SD-128	1167296.881	1883282.689	0	0.5	Surface	Bubbly Creek	yes	SBR-SD-128 A	SBR-SD-128 0-0.5	Surface	None	0	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
110315779	11/3/2015	SBR-SD-128	1167296.881	1883282.689	1.5	2.5	Subsurface	Bubbly Creek	yes	SBR-SD-128 C	SBR-SD-128 1.5-2.5	Other Sediment	None	0	Archive							
110315780	11/3/2015	SBR-SD-128	1167296.881	1883282.689	2.5	3.5	Subsurface	Bubbly Creek	yes	SBR-SD-128 D	SBR-SD-128 2.5-3.5	Other Sediment	None	1.5	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
110315781	11/3/2015	SBR-SD-128	1167296.881	1883282.689	3.5	4.1	Subsurface	Bubbly Creek	yes	SBR-SD-128 E	SBR-SD-128 3.5-4.1	Sediment Bottom	None	7.8	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100615069	10/6/2015	SBR-SD-128.X	1167336.171	1883253.267	0.5	1.5	Subsurface	Bubbly Creek	yes	SBR-SD-128.X B	SBR-SD-128.X 0.5-1.5	Other Sediment	Other odor	20.6	Archive							
100615068	10/6/2015	SBR-SD-128.X	1167336.171	1883253.267	0	0.5	Surface	Bubbly Creek	yes	SBR-SD-128.X A	SBR-SD-128.X 0-0.5	Surface	Other odor	6.6	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100615070	10/6/2015	SBR-SD-128.X	1167336.171	1883253.267	1.5	2.8	Subsurface	Bubbly Creek	yes	SBR-SD-128.X C	SBR-SD-128.X 1.5-2.8	Sediment Bottom	Petro-like odor	18.8	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100615066	10/6/2015	SBR-SD-129	1167371.893	1883148.001	0.5	1.5	Subsurface	Bubbly Creek	yes	SBR-SD-129 B	SBR-SD-129 0.5-1.5	Other Sediment	None	2.9	Archive							
100615065	10/6/2015	SBR-SD-129	1167371.893	1883148.001	0	0.5	Surface	Bubbly Creek	yes	SBR-SD-129 A	SBR-SD-129 0-0.5	Surface	None	2	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Black Carbon	Total Organic Carbon
100615067	10/6/2015	SBR-SD-129	1167371.893	1883148.001	1.5	2	Subsurface	Bubbly Creek	yes	SBR-SD-129 C	SBR-SD-129 1.5-2	Sediment Bottom	None	5.5	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100515045	10/5/2015	SBR-SD-130	1167536.818	1883003.192	0.5	1.5	Subsurface	Bubbly Creek	yes	SBR-SD-130 B	SBR-SD-130 0.5-1.5	Other Sediment	None	0.6	Archive							
100515044	10/5/2015	SBR-SD-130	1167536.818	1883003.192	0	0.5	Surface	Bubbly Creek	yes	SBR-SD-130 A	SBR-SD-130 0-0.5	Surface	None	0.4	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Black Carbon	Total Organic Carbon
100515046	10/5/2015	SBR-SD-130	1167536.818	1883003.192	1.5	2.5	Subsurface	Bubbly Creek	yes	SBR-SD-130 C	SBR-SD-130 1.5-2.5	Other Sediment	None	1	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100515047	10/5/2015	SBR-SD-130	1167536.818	1883003.192	2.5	3.5	Subsurface	Bubbly Creek	yes	SBR-SD-130 D	SBR-SD-130 2.5-3.5	Other Sediment	None	1	Archive							
100515048	10/5/2015	SBR-SD-130	1167536.818	1883003.192	3.5	4.5	Subsurface	Bubbly Creek	yes	SBR-SD-130 E	SBR-SD-130 3.5-4.5	Other Sediment	None	1.2	34 PAHs	Metals						
100515049	10/5/2015	SBR-SD-130	1167536.818	1883003.192	4.5	5.5	Subsurface	Bubbly Creek	yes	SBR-SD-130 F	SBR-SD-130 4.5-5.5	Other Sediment	Petro-like odor	1.9	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100515050	10/5/2015	SBR-SD-130	1167536.818	1883003.192	5.5	6.5	Subsurface	Bubbly Creek	yes	SBR-SD-130 G	SBR-SD-130 5.5-6.5	Other Sediment	None	0.9	PAHs	Metals						
100515051	10/5/2015	SBR-SD-130	1167536.818	1883003.192	6.5	7.5	Subsurface	Bubbly Creek	yes	SBR-SD-130 H	SBR-SD-130 6.5-7.5	Other Sediment	Petro-like odor	2.3	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100515052	10/5/2015	SBR-SD-130	1167536.818	1883003.192	7.5	8.5	Subsurface	Bubbly Creek	yes	SBR-SD-130 I	SBR-SD-130 7.5-8.5	Other Sediment	None	13.3	Archive							
100515053	10/5/2015	SBR-SD-130	1167536.818	1883003.192	8.5	9.8	Subsurface	Bubbly Creek	yes	SBR-SD-130 J	SBR-SD-130 8.5-9.8	Sediment Bottom	Petro-like odor	16.4	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100515056	10/5/2015	SBR-SD-131	1167685.416	1882951.678	0.5	1.5	Subsurface	Bubbly Creek	yes	SBR-SD-131 B	SBR-SD-131 0.5-1.5	Other Sediment	None	1.2	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100515055	10/5/2015	SBR-SD-131	1167685.416	1882951.678	0	0.5	Surface	Bubbly Creek	yes	SBR-SD-131 A	SBR-SD-131 0-0.5	Surface	None	1	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100515057	10/5/2015	SBR-SD-131	1167685.416	1882951.678	1.5	2.5	Subsurface	Bubbly Creek	yes	SBR-SD-131 C	SBR-SD-131 1.5-2.5	Other Sediment	None	1.7	Archive							
100515058	10/5/2015	SBR-SD-131	1167685.416	1882951.678	2.5	3.5	Subsurface	Bubbly Creek	yes	SBR-SD-131 D	SBR-SD-131 2.5-3.5	Other Sediment	None	2.4	Archive							
100515059	10/5/2015	SBR-SD-131	1167685.416	1882951.678	3.5	4.5	Subsurface	Bubbly Creek	yes	SBR-SD-131 E	SBR-SD-131 3.5-4.5	Other Sediment	None	3.4	Archive							
100515060	10/5/2015	SBR-SD-131	1167685.416	1882951.678	4.5	5.5	Subsurface	Bubbly Creek	yes	SBR-SD-131 F	SBR-SD-131 4.5-5.5	Other Sediment	None	3.2	Archive							

Table 3 - Bubbly Creek Borings and Samples
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Unique Sample ID	*Sample Date*	*Boring ID*	*X*	*Y*	*Sample Top Depth*	*Sample Bottom Depth*	*Surface or Subsurface*	*River Segment*	*Ambient Area*	*Location-Interval ID*	*Field Sample ID*	*Solid Interval Type*	*Visual Observation/Odors*	*PID*	*Laboratory Analysis*							
100515061	10/5/2015	SBR-SD-131	1167685.416	1882951.678	5.5	6.5	Subsurface	Bubbly Creek	yes	SBR-SD-131 G	SBR-SD-131 5.5-6.5	Other Sediment	None	3.4	Archive							
100515062	10/5/2015	SBR-SD-131	1167685.416	1882951.678	6.5	7.5	Subsurface	Bubbly Creek	yes	SBR-SD-131 H	SBR-SD-131 6.5-7.5	Other Sediment	None	10.2	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100515063	10/5/2015	SBR-SD-131	1167685.416	1882951.678	7.5	8.5	Subsurface	Bubbly Creek	yes	SBR-SD-131 I	SBR-SD-131 7.5-8.5	Sediment Bottom	None	5.2	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1217151541	12/17/2015	SBR-SD-131.4	1167680.38	1882967.771	0	0.5	Surface	Bubbly Creek	yes	SBR-SD-131.4 A	SBR-SD-131.4 0-0.5	Surface	None	0.2	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1217151549	12/17/2015	SBR-SD-131.4	1167680.38	1882967.771	10.5	11.5	Subsurface	Bubbly Creek	yes	SBR-SD-131.4 L	SBR-SD-131.4 10.5-11.5	Other Sediment	None	0.4	Archive							
1217151550	12/17/2015	SBR-SD-131.4	1167680.38	1882967.771	11.5	12.5	Subsurface	Bubbly Creek	yes	SBR-SD-131.4 M	SBR-SD-131.4 11.5-12.5	Other Sediment	None	0.8	Archive							
1217151551	12/17/2015	SBR-SD-131.4	1167680.38	1882967.771	12.5	13.5	Subsurface	Bubbly Creek	yes	SBR-SD-131.4 N	SBR-SD-131.4 12.5-13.5	Other Sediment	None	5.2	Archive							
1217151552	12/17/2015	SBR-SD-131.4	1167680.38	1882967.771	13.5	14.5	Subsurface	Bubbly Creek	yes	SBR-SD-131.4 O	SBR-SD-131.4 13.5-14.5	Other Sediment	None	7.8	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1217151553	12/17/2015	SBR-SD-131.4	1167680.38	1882967.771	14.5	15.5	Subsurface	Bubbly Creek	yes	SBR-SD-131.4 P	SBR-SD-131.4 14.5-15.5	Other Sediment	None	1.1	Archive							
1217151554	12/17/2015	SBR-SD-131.4	1167680.38	1882967.771	15.5	16.5	Subsurface	Bubbly Creek	yes	SBR-SD-131.4 Q	SBR-SD-131.4 15.5-16.5	Other Sediment	None	2.6	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1217151555	12/17/2015	SBR-SD-131.4	1167680.38	1882967.771	16.5	17.5	Subsurface	Bubbly Creek	yes	SBR-SD-131.4 R	SBR-SD-131.4 16.5-17.5	Other Sediment	None	1.9	Archive							
1217151556	12/17/2015	SBR-SD-131.4	1167680.38	1882967.771	17.5	18.5	Subsurface	Bubbly Creek	yes	SBR-SD-131.4 S	SBR-SD-131.4 17.5-18.5	Sediment Bottom	None	1	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1217151557	12/17/2015	SBR-SD-131.4	1167680.38	1882967.771	18.5	19.3	Subsurface	Bubbly Creek	yes	SBR-SD-131.4 T	SBR-SD-131.4 18.5-19.3	Clay Bottom	None	0	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
1217151542	12/17/2015	SBR-SD-131.4	1167680.38	1882967.771	2.5	3.5	Subsurface	Bubbly Creek	yes	SBR-SD-131.4 D	SBR-SD-131.4 2.5-3.5	Other Sediment	None	0.2	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1217151543	12/17/2015	SBR-SD-131.4	1167680.38	1882967.771	3.5	4.5	Subsurface	Bubbly Creek	yes	SBR-SD-131.4 E	SBR-SD-131.4 3.5-4.5	Other Sediment	None	0.2	Archive							
1217151544	12/17/2015	SBR-SD-131.4	1167680.38	1882967.771	4.5	5.5	Subsurface	Bubbly Creek	yes	SBR-SD-131.4 F	SBR-SD-131.4 4.5-5.5	Other Sediment	None	0	Archive							
1217151545	12/17/2015	SBR-SD-131.4	1167680.38	1882967.771	6.5	7.5	Subsurface	Bubbly Creek	yes	SBR-SD-131.4 H	SBR-SD-131.4 6.5-7.5	Other Sediment	None	0.4	Archive							
1217151546	12/17/2015	SBR-SD-131.4	1167680.38	1882967.771	7.5	8.5	Subsurface	Bubbly Creek	yes	SBR-SD-131.4 I	SBR-SD-131.4 7.5-8.5	Other Sediment	None	4.2	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
1217151547	12/17/2015	SBR-SD-131.4	1167680.38	1882967.771	8.5	9.5	Subsurface	Bubbly Creek	yes	SBR-SD-131.4 J	SBR-SD-131.4 8.5-9.5	Other Sediment	None	0.1	Archive							
1217151548	12/17/2015	SBR-SD-131.4	1167680.38	1882967.771	9.5	10.5	Subsurface	Bubbly Creek	yes	SBR-SD-131.4 K	SBR-SD-131.4 9.5-10.5	Other Sediment	None	3.6	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100515035	10/5/2015	SBR-SD-132	1167707.139	1882865.661	0.5	1.5	Subsurface	Bubbly Creek	yes	SBR-SD-132 B	SBR-SD-132 0.5-1.5	Other Sediment	None	2.3	Archive							
100515034	10/5/2015	SBR-SD-132	1167707.139	1882865.661	0	0.5	Surface	Bubbly Creek	yes	SBR-SD-132 A	SBR-SD-132 0-0.5	Surface	None	1.9	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100515036	10/5/2015	SBR-SD-132	1167707.139	1882865.661	1.5	2.5	Subsurface	Bubbly Creek	yes	SBR-SD-132 C	SBR-SD-132 1.5-2.5	Other Sediment	None	2.8	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100515037	10/5/2015	SBR-SD-132	1167707.139	1882865.661	2.5	3.5	Subsurface	Bubbly Creek	yes	SBR-SD-132 D	SBR-SD-132 2.5-3.5	Other Sediment	None	4.8	Archive							
100515038	10/5/2015	SBR-SD-132	1167707.139	1882865.661	3.5	4.5	Subsurface	Bubbly Creek	yes	SBR-SD-132 E	SBR-SD-132 3.5-4.5	Other Sediment	None	6.3	Archive							
100515039	10/5/2015	SBR-SD-132	1167707.139	1882865.661	4.5	5.5	Subsurface	Bubbly Creek	yes	SBR-SD-132 F	SBR-SD-132 4.5-5.5	Other Sediment	None	7.4	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	
100515040	10/5/2015	SBR-SD-132	1167707.139	1882865.661	5.5	6.5	Subsurface	Bubbly Creek	yes	SBR-SD-132 G	SBR-SD-132 5.5-6.5	Other Sediment	None	10.5	Archive							
100515041	10/5/2015	SBR-SD-132	1167707.139	1882865.661	6.5	7.5	Subsurface	Bubbly Creek	yes	SBR-SD-132 H	SBR-SD-132 6.5-7.5	Other Sediment	None	13.5	Archive							
100515042	10/5/2015	SBR-SD-132	1167707.139	1882865.661	7.5	8.5	Subsurface	Bubbly Creek	yes	SBR-SD-132 I	SBR-SD-132 7.5-8.5	Other Sediment	Petro-like odor	35.5	PVOCs	PAHs	Phenols	Cyanide	Metals	Percent Solids		
100515043	10/5/2015	SBR-SD-132	1167707.139	1882865.661	8.5	9.3	Subsurface	Bubbly Creek	yes	SBR-SD-132 J	SBR-SD-132 8.5-9.3	Sediment Bottom	Petro-like odor	31	PVOCs	34 PAHs	Phenols	Cyanide	Metals	Percent Solids	Total Organic Carbon	

Prepared by: EJH 1/4/17; Checked by: YFZ 1/6/17; Approved by: SLM 1/9/17

Notes:

PVOCs include benzene, ethylbenzene, toluene, xylenes (total), 1,3,5-trimehtylbenzene, and 1,2,4-trimethylbenzene.

PAHs include these 17: naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, chrysene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, benzo(g,h,i)perylene, and 2-methylnaphthalene.

Phenols include 2, 4-dimethylphenol, 2-methylphenol, 4-methylphenol, and phenol (acid-extractable organic compounds).

Metals include: aluminum, antimony, arsenic, barium, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, selenium, silver, vanadium and zinc.

PAH analysis for these sediments include a list of 34 PAHs, including chain parameters as provided in USEPA Guidance Procedures for the Derivation of Equilibrium Partitioning Sediment Benchmarks (ESBs) for the Protection of Benthic Organisms: PAH Mixtures, 2002 by SW-846 Method 8270C with gas chromatograph/mass spectrometry in selected ion mode of operation.

mg/kg - milligram per kilogram

DUP - Duplicate Sample

NA - Not Applicable

PAH - polycyclic aromatic hydrocarbon

PVOC - petroleum Volatile Organic Compound

Surface samples are from 0 to 0.5 feet below top of sediment surface

Subsurface samples have an sample depth top deepr than 0.5 feet below top of sediment surface

Sample coordinates shown are US State Plane 1983

Table 4: Exponent Ambient TPAH(13) UTLs
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

	Surface samples (0–0.5 ft)		Subsurface samples (>0.5 ft)		Surface and Subsurface Combined		
	All Surface	Exclude 1 (669)	All Subsurface	Exclude 1 (758)	All Samples	Exclude 1 (669)	Exclude 2 (669, 758)
N	15	14	55	54	70	69	68
Min. (ND = DL)	2.1	2.1	0.21	0.21	0.21	0.21	0.21
Max. (detect)	669	275	758	376	758	758	376
Mean	79.4	37.3	64.9	52.0	68.0	59.3	49.0
Median	17.6	17.2	29.0	28.5	25.5	24.4	23.8
SD	177	70.2	116	66.9	130	108.4	67.3
Skewness	3.1	3.4	4.5	2.7	4.0	4.6	2.7
Normal							
Shapiro Wilk GOF	No	No	No	No	No	No	No
Lilliefors GOF	No	No	No	No	No	No	No
Distribution Assessment	No	No	No	No	No	No	No
Normal UTL	533	221	301	189	326	275	183
Gamma							
Anderson Darling GOF	No	Yes	Yes	Yes	No	Yes	Yes
Kolmogorov Smirnoff GOF	No	Yes	Yes	Yes	Yes	Yes	Yes
Distribution Assessment	No	Yes	Yes	Yes	Yes	Yes	Yes
Gamma UTL, WH	571	239	300	239	301	260	214
Gamma UTL, HW	616	259	336	274	326	284	239
Lognormal							
Shapiro Wilk GOF	Yes	Yes	No	No	Yes	No	No
Lilliefors GOF	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Distribution Assessment	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lognormal UTL	1184 [a]	474 [a]	912	776	724	642	558
Non-Parametric							
Non-parametric UTL	669	275	376	227	669	376	275
Percentile bootstrap UTL	669	275	491	279	586	376	275
BCA bootstrap UTL	669	275	386	237	537	336	258
Selected UTL	669	239	300	239	301	260	214
UTL Method	*Non-parametric*	*Gamma, WH*	*Gamma, WH*	*Gamma, WH*	*Gamma, WH*	*Gamma, WH*	*Gamma, WH*

Notes:

tPAH-13 sediment concentrations reported in mg/kg.

[a] Lognormal UTL is unreliable and overly high because of small sample size with high skewness.

HW- Hawkins Wixley gamma UTL method

UTL- 95% upper tolerance limit on the 95th percentile

WH- Wilson Hilferty gamma UTL method

Table 5 - Bubbly Creek Investigative Area Surface (0-0.5') and Subsurface (deeper than 0.5') SedimentTPAH(13) Analytical Data Compared to UTLs
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Boring ID	Field Sample ID	Unique Sample ID	Sample Depth Top (feet btos)	Sample Depth Bottom (feet btos)	Sample Date	TPAH-13 Concentration (mg/kg)	Exceeds Surface UTL for All Samples	Exceeds Surface UTL Excluding "Extreme" (669 mg/kg) Value	Exceeds Sub-Surface UTL for All Samples	Exceeds Sub-Surface UTL Excluding "Extreme" (758 mg/kg)Value	Exceeds Combined Surface and Subsurface UTL for All Samples	Exceeds Combined Surface and Subsurface UTL Excluding "Extreme" Surface Sample (669 mg/kg)	Exceeds Combined Surface and Subsurface UTL Excluding "Extreme" Surface Sample (669 mg/kg) and "Extreme" Subsurface Sample (758 mg/kg)
							669	**239**	**300**	**239**	**301**	**260**	**214**
Surface Sample													
SBR-SD-075	SBR-SD-075 0-0.5	111915982	0	0.5	11/19/2015	748	*X*	*X*	*NA*	*NA*	*X*	*X*	*X*
Subsurface Samples													
PCS-RSB-005B	PCS-RSB-005B-001 (N)	111814025 (N)	3.6	4.0	7/13/2006	1076	NA	NA	X	X	X	X	X
PCS-RSB-005B	PCS-RSB-005B-002	111814027	8.0	9.3	7/13/2006	3087	NA	NA	X	X	X	X	X
PCS-RSB-007B	PCS-RSB-007B-001	111814023	0.5	2.0	7/12/2006	345	NA	NA	X	X	X	X	X
PCS-RSB-008B	PCS-RSB-008B-001	111814024	7.3	8.0	7/12/2006	2333	NA	NA	X	X	X	X	X
PCS-RSB-027B	PCS-RSB-027B-001 (N)	111814016 (N)	8.5	9.5	7/7/2006	2090	NA	NA	X	X	X	X	X
PCS-RSB-032	PCS-RSB-032-002	111814020	13.0	14.0	7/11/2006	5746	NA	NA	X	X	X	X	X
PCS-RSB-035	PCS-RSB-035-001	111814021	8.0	9.0	7/11/2006	1291	NA	NA	X	X	X	X	X
PCS-RSB-037B	PCS-RSB-037B-001	111814018	5.0	6.0	7/7/2006	535	NA	NA	X	X	X	X	X
PCS-RSB-048	PCS-RSB-048-002	111814015	8.0	9.0	7/6/2006	19266	NA	NA	X	X	X	X	X
PCS-RSB-051	PCS-RSB-051-001	111814030	8.0	8.3	10/4/2006	946	NA	NA	X	X	X	X	X
PCS-RSB-052	PCS-RSB-052-001	111814031	6.0	7.0	10/5/2006	239	NA	NA					X
PCS-RSB-054	PCS-RSB-054-001	111814033	12.0	13.0	10/5/2006	2715	NA	NA	X	X	X	X	X
PCS-RSB-055	PCS-RSB-055-002	111814032	5.0	6.0	10/5/2006	763	NA	NA	X	X	X	X	X
PCS-RSB-056	PCS-RSB-056-001 (N)	111814036 (N)	4.5	5.5	10/6/2006	267	NA	NA		X		X	X
PCS-RSB-056	PCS-RSB-056-002	111814035	6.0	7.0	10/6/2006	8368	NA	NA	X	X	X	X	X
PCS-RSB-058	PCS-RSB-058-001	111814038	4.0	5.0	10/9/2006	252	NA	NA		X			X
PCS-RSB-059	PCS-RSB-059-001	111814041	10.0	11.0	10/10/2006	3710	NA	NA	X	X	X	X	X
PCS-RSB-060	PCS-RSB-060-002	111814046	8.0	8.5	10/10/2006	1100	NA	NA	X	X	X	X	X
PCS-RSB-061	PCS-RSB-061-002	111814048	10.0	10.5	10/10/2006	3161	NA	NA	X	X	X	X	X
PCS-RSB-062	PCS-RSB-062-002	111814042	6.5	7.5	10/10/2006	2334	NA	NA	X	X	X	X	X
PCS-RSB-063	PCS-RSB-063-001	111814043	2.0	3.0	10/10/2006	227	NA	NA					X
PCS-RSB-063	PCS-RSB-063-002	111814044	6.0	7.0	10/10/2006	1144	NA	NA	X	X	X	X	X
SBR-SD-072	SBR-SD-072 7.5-8.5	1120151054	7.5	8.5	11/20/2015	390	NA	NA	X	X	X	X	X
SBR-SD-072	SBR-SD-072 9.5-10.5	1120151056	9.5	10.5	11/20/2015	292	NA	NA		X		X	X
SBR-SD-072	SBR-SD-072 10.5-11.3	1120151057	10.5	11.3	11/20/2015	814	NA	NA	X	X	X	X	X
SBR-SD-073	SBR-SD-073 13.5-14.5	1120151039	13.5	14.5	11/20/2015	410	NA	NA	X	X	X	X	X
SBR-SD-073	SBR-SD-073 14.5-16.1	1120151040	14.5	16.1	11/20/2015	2900	NA	NA	X	X	X	X	X
SBR-SD-073.4 MOB	SBR-SD-073.4 MOB 11.5-12.5 (N)	1217151532 (N)	11.5	12.5	12/17/2015	534	NA	NA	X	X	X	X	X
SBR-SD-073.4 MOB	SBR-SD-073.4 MOB 14.5-16.5	1217151535	14.5	16.5	12/17/2015	707	NA	NA	X	X	X	X	X
SBR-SD-075	SBR-SD-075 11.5-12.5	111915993	11.5	12.5	11/19/2015	478	NA	NA	X	X	X	X	X
SBR-SD-075	SBR-SD-075 12.5-13.8	111915994	12.5	13.8	11/19/2015	4041	NA	NA	X	X	X	X	X
SBR-SD-078	SBR-SD-078 9.5-10.5 (N)	1123151075 (N)	9.5	10.5	11/23/2015	635	NA	NA	X	X	X	X	X
SBR-SD-078	SBR-SD-078 10.5-12.1	1123151076	10.5	12.1	11/23/2015	1240	NA	NA	X	X	X	X	X
SBR-SD-080	SBR-SD-080 1.5-2.5	1119151000	1.5	2.5	11/19/2015	560	NA	NA	X	X	X	X	X
SBR-SD-080	SBR-SD-080 17.5-18.5	1119151016	17.5	18.5	11/19/2015	1524	NA	NA	X	X	X	X	X
SBR-SD-080	SBR-SD-080 18.5-19.3	1119151017	18.5	19.3	11/19/2015	654	NA	NA	X	X	X	X	X
SBR-SD-081	SBR-SD-081 9.5-10.5	111815974	9.5	10.5	11/18/2015	225.93	NA	NA					X
SBR-SD-081	SBR-SD-081 12.5-13.7	111815977	12.5	13.7	11/18/2015	868	NA	NA	X	X	X	X	X
SBR-SD-084	SBR-SD-084 11.5-12.5	1123151095	11.5	12.5	11/23/2015	227	NA	NA					X
SBR-SD-084	SBR-SD-084 12.5-13.5	1123151096	12.5	13.5	11/23/2015	596.32	NA	NA	X	X	X	X	X
SBR-SD-084	SBR-SD-084 13.5-14.2	1123151097	13.5	14.2	11/23/2015	615	NA	NA	X	X	X	X	X
SBR-SD-1017	SBR-SD-1017 3.5-4.5	111615895	3.5	4.5	11/16/2015	238	NA	NA					X
SBR-SD-1017	SBR-SD-1017 4.5-5.5	111615896	4.5	5.5	11/16/2015	1457	NA	NA	X	X	X	X	X
SBR-SD-1017	SBR-SD-1017 5.5-6.5	111615897	5.5	6.5	11/16/2015	274	NA	NA		X		X	X
SBR-SD-1017	SBR-SD-1017 6.5-7.5	111615898	6.5	7.5	11/16/2015	593	NA	NA	X	X	X	X	X
SBR-SD-109	SBR-SD-109 7.5-8.3	111615910	7.5	8.3	11/16/2015	1236	NA	NA	X	X	X	X	X
SBR-SD-109	SBR-SD-109 8.3-9.5	111615911	8.3	9.5	11/16/2015	701	NA	NA	X	X	X	X	X
SBR-SD-115	SBR-SD-115 15.5-16.5	111615883	15.5	16.5	11/16/2015	282	NA	NA		X		X	X
SSCD-RSB-001	SSCD-RSB-001-001	111814063	13.0	13.5	10/20/2006	2843	NA	NA	X	X	X	X	X
SSCD-RSB-005	SSCD-RSB-005-001 (N)	111814064 (N)	8.5	9.0	10/30/2006	39023	NA	NA	X	X	X	X	X
SSCD-RSB-006	SSCD-RSB-006A-001	111814066	8.0	8.5	10/31/2006	1897	NA	NA	X	X	X	X	X
SSCD-RSB-008	SSCD-RSB-008-001	111814067	8.0	9.0	10/31/2006	11390	NA	NA	X	X	X	X	X
SSCD-RSB-011	SSCD-RSB-011-001	111814069	12.0	12.5	11/1/2006	3987	NA	NA	X	X	X	X	X
Number of Subsurface UTL Exceedances							**NA**	**NA**	**43**	**48**	**43**	**47**	**53**

Prepared by: EJH 12/22/16 Checked by: YFZ 1/6/17 Approved by: SLM 1/9/17

Notes:
All concentrations in mg/kg
mg/kg - milligram per kilogram
N - Normalized Sample
NA - Not Applicable
PAH - polycyclic aromatic hydrocarbon
Total PAH results calculated by summing the available results for the following 13 PAHs (per the MacDonald/Exponent 13 PAH list): Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Fluoranthene, Fluorene, Naphthalene, Phenanthrene, and Pyrene
Surface samples are from 0 to 0.5 feet below top of sediment surface
Subsurface samples have an sample depth top deepr than 0.5 feet below top of sediment surface
UTL = Upper Tolerance Limit (see Figure 4 for additonal information)
UTL scenarios further described in Ambient Tech Memo

Table 6: PAH Source Profile Investigative Area
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Boring ID	Field Sample ID	Sample Depth Top (feet below top of sediment)	Sample Depth Bottom (feet below top of sediment)	Surface/Subsurface	Source Type
SBR-SD-072	SBR-SD-072 10.5-11.3	10.5	11.3	subsurface	MGP
SBR-SD-072	SBR-SD-072 7.5-8.5	7.5	8.5	subsurface	Ambient_Petro
SBR-SD-073	SBR-SD-073 0-0.5	0	0.5	surface	Ambient_UB
SBR-SD-073	SBR-SD-073 14.5-16.1	14.5	16.1	subsurface	MGP
SBR-SD-073	SBR-SD-073 16.1-16.5	16.1	16.5	subsurface	MGP
SBR-SD-073	SBR-SD-073 8.5-9.5	8.5	9.5	subsurface	Ambient_Petro
SBR-SD-073.4 MOB	SBR-SD-073.4 MOB 0-0.5	0	0.5	surface	Ambient_UB
SBR-SD-073.4 MOB	SBR-SD-073.4 MOB 11.5-12.5	11.5	12.5	subsurface	Ambient_Petro
SBR-SD-073.4 MOB	SBR-SD-073.4 MOB 11.5-12.5-FD	11.5	12.5	subsurface	Ambient_Petro
SBR-SD-073.4 MOB	SBR-SD-073.4 MOB 13.5-14.5	13.5	14.5	subsurface	Ambient_Petro
SBR-SD-073.4 MOB	SBR-SD-073.4 MOB 14.5-16.5	14.5	16.5	subsurface	MGP
SBR-SD-075	SBR-SD-075 0-0.5	0	0.5	surface	Ambient_UB
SBR-SD-075	SBR-SD-075 11.5-12.5	11.5	12.5	subsurface	MGP
SBR-SD-075	SBR-SD-075 12.5-13.8	12.5	13.8	subsurface	MGP
SBR-SD-075	SBR-SD-075 3.5-4.5	3.5	4.5	subsurface	Ambient_Petro
SBR-SD-078	SBR-SD-078 0-0.5	0	0.5	surface	Ambient_UB
SBR-SD-078	SBR-SD-078 10.5-12.1	10.5	12.1	subsurface	MGP
SBR-SD-080	SBR-SD-080 1.5-2.5	1.5	2.5	subsurface	MGP
SBR-SD-080	SBR-SD-080 12.5-13.5	12.5	13.5	subsurface	Ambient_Petro
SBR-SD-080	SBR-SD-080 17.5-18.5	17.5	18.5	subsurface	MGP
SBR-SD-080	SBR-SD-080 18.5-19.3	18.5	19.3	subsurface	MGP
SBR-SD-081	SBR-SD-081 0-0.5-FD	0	0.5	surface	Ambient_UB
SBR-SD-081	SBR-SD-081 12.5-13.7	12.5	13.7	subsurface	MGP
SBR-SD-084	SBR-SD-084 0-0.5	0	0.5	surface	Ambient_UB
SBR-SD-084	SBR-SD-084 13.5-14.2	13.5	14.2	subsurface	MGP
SBR-SD-085	SBR-SD-085 6.5-7.5	6.5	7.5	subsurface	Ambient_UB
SBR-SD-099	SBR-SD-099 0-0.5	0	0.5	surface	Ambient_UB
SBR-SD-099	SBR-SD-099 13.5-14.5	13.5	14.5	subsurface	Ambient_Petro
SBR-SD-099	SBR-SD-099 9.5-10.5-FD	9.5	10.5	subsurface	Ambient_Petro
SBR-SD-101	SBR-SD-101 9.5-10.4	9.5	10.4	subsurface	MGP
SBR-SD-1016	SBR-SD-1016 0-0.5	0	0.5	surface	Ambient_Petro
SBR-SD-1016	SBR-SD-1016 1.5-2.5	1.5	2.5	subsurface	Ambient_Petro
SBR-SD-1017	SBR-SD-1017 0-0.5	0	0.5	surface	Ambient_Petro
SBR-SD-1017	SBR-SD-1017 3.5-4.5	3.5	4.5	subsurface	MGP
SBR-SD-1017	SBR-SD-1017 4.5-5.5	4.5	5.5	subsurface	Ambient_Petro
SBR-SD-1017	SBR-SD-1017 5.5-6.5	5.5	6.5	subsurface	MGP
SBR-SD-1018	SBR-SD-1018 4.5-5.5	4.5	5.5	subsurface	Ambient_UB
SBR-SD-1019	SBR-SD-1019 10.5-11.5	10.5	11.5	subsurface	Ambient_Petro
SBR-SD-1019	SBR-SD-1019 6.5-7.5	6.5	7.5	subsurface	Ambient_Petro
SBR-SD-102	SBR-SD-102 4.5-5.5-FD	4.5	5.5	subsurface	Ambient_Petro
SBR-SD-107	SBR-SD-107 10.5-11.5	10.5	11.5	subsurface	Ambient_Petro
SBR-SD-107	SBR-SD-107 5.5-6.5	5.5	6.5	subsurface	Ambient_Petro
SBR-SD-108	SBR-SD-108 6.5-7.5	6.5	7.5	subsurface	Ambient_Petro
SBR-SD-109	SBR-SD-109 7.5-8.3	7.5	8.3	subsurface	Ambient_Petro
SBR-SD-109	SBR-SD-109 8.3-9.5	8.3	9.5	subsurface	MGP
SBR-SD-110	SBR-SD-110 5.5-6.5	5.5	6.5	subsurface	Ambient_Petro
SBR-SD-113	SBR-SD-113 0-0.5	0	0.5	surface	Ambient_UB
SBR-SD-115.4	SBR-SD-115 11.5-12.5	11.5	12.5	subsurface	Ambient_Petro
SBR-SD-115.4	SBR-SD-115 15.5-16.5	15.5	16.5	subsurface	Ambient_UB
SBR-SD-116	SBR-SD-116 7.5-8.5	7.5	8.5	subsurface	Ambient_Petro
SBR-SD-118	SBR-SD-118 5.5-6.8	5.5	6.8	subsurface	Ambient_Petro
SBR-SD-118.4	SBR-SD-118.4 10.5-11.5	10.5	11.5	subsurface	Ambient_Petro
SBR-SD-118.4	SBR-SD-118.4 11.5-12.5	11.5	12.5	subsurface	Ambient_UB
PCS-RSB-005B	PCS-RSB-005B-001	3.5	4	subsurface	MGP
PCS-RSB-005B	PCS-RSB-005B-001-FD	3.5	4	subsurface	MGP
PCS-RSB-005B	PCS-RSB-005B-002	8	9.3	subsurface	MGP
PCS-RSB-007B	PCS-RSB-007B-001	0	2	subsurface	Ambient_Petro
PCS-RSB-008B	PCS-RSB-008B-001	7.3	8	subsurface	MGP
PCS-RSB-017	PCS-RSB-017-001	2	4	subsurface	Ambient_UB
PCS-RSB-021	PCS-RSB-021-001	2	4	subsurface	Ambient_Petro
PCS-RSB-025	PCS-RSB-025-001	3	4	subsurface	Ambient_Petro
PCS-RSB-025	PCS-RSB-025-001-FD	3	4	subsurface	Ambient_Petro
PCS-RSB-027B	PCS-RSB-027B-001	8.5	9.5	subsurface	MGP
PCS-RSB-027B	PCS-RSB-027B-001-FD	8.5	9.5	subsurface	MGP
PCS-RSB-032	PCS-RSB-032-001	5	6	subsurface	Ambient_Petro
PCS-RSB-032	PCS-RSB-032-002	13	14	subsurface	MGP
PCS-RSB-035	PCS-RSB-035-001	8	9	subsurface	MGP
PCS-RSB-037B	PCS-RSB-037B-001	5	6	subsurface	MGP
PCS-RSB-040B	PCS-RSB-040B-001	10	10.5	subsurface	Ambient_Petro

Table 6: PAH Source Profile Investigative Area
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Boring ID	Field Sample ID	Sample Depth Top (feet below top of sediment)	Sample Depth Bottom (feet below top of sediment)	Surface/Subsurface	Source Type
PCS-RSB-042B	PCS-RSB-042B-001	7.5	8	subsurface	Ambient_UB
PCS-RSB-046	PCS-RSB-046-001	6	6.5	subsurface	Ambient_Petro
PCS-RSB-047	PCS-RSB-047-001	5	6	subsurface	Ambient_Petro
PCS-RSB-048	PCS-RSB-048-001	5	6	subsurface	Ambient_Petro
PCS-RSB-048	PCS-RSB-048-002	8	9	subsurface	MGP
PCS-RSB-050	PCS-RSB-050-001	7	8	subsurface	Ambient_Petro
PCS-RSB-051	PCS-RSB-051-001	8	8.3	subsurface	MGP
PCS-RSB-052	PCS-RSB-052-001	6	7	subsurface	MGP
PCS-RSB-054	PCS-RSB-054-001	12	13	subsurface	MGP
PCS-RSB-055	PCS-RSB-055-002	5	6	subsurface	MGP
PCS-RSB-056	PCS-RSB-056-001	4.5	5.5	subsurface	MGP
PCS-RSB-056	PCS-RSB-056-001-FD	4.5	5.5	subsurface	MGP
PCS-RSB-056	PCS-RSB-056-002	6	7	subsurface	MGP
PCS-RSB-058	PCS-RSB-058-001	4	5	subsurface	MGP
PCS-RSB-059	PCS-RSB-059-001	10	11	subsurface	MGP
PCS-RSB-060	PCS-RSB-060-001	3	4	subsurface	Ambient_Petro
PCS-RSB-060	PCS-RSB-060-002	8	8.5	subsurface	MGP
PCS-RSB-061	PCS-RSB-061-001	6	7	subsurface	Ambient_Petro
PCS-RSB-061	PCS-RSB-061-002	10	10.5	subsurface	MGP
PCS-RSB-062	PCS-RSB-062-001	2	3	subsurface	Ambient_Petro
PCS-RSB-062	PCS-RSB-062-001-FD	2	3	subsurface	Ambient_Petro
PCS-RSB-062	PCS-RSB-062-002	6.5	7.5	subsurface	MGP
PCS-RSB-063	PCS-RSB-063-001	2	3	subsurface	Ambient_UB
PCS-RSB-063	PCS-RSB-063-002	6	7	subsurface	MGP
SSCD-RSB-001	SSCD-RSB-001-001	13	13.5	subsurface	MGP
SSCD-RSB-005	SSCD-RSB-005-001	8.5	9	subsurface	MGP
SSCD-RSB-005	SSCD-RSB-005-001-FD	8.5	9	subsurface	MGP
SSCD-RSB-006	SSCD-RSB-006A-001	8	8.5	subsurface	MGP
SSCD-RSB-008	SSCD-RSB-008-001	8	9	subsurface	MGP
SSCD-RSB-011	SSCD-RSB-011-001	12	12.5	subsurface	MGP

Prepared by: EJH 1/4/17; Checked by: YFZ 1/6/17; Approved by: SLM 1/9/17

Notes:

Table excerpt from Attachment 1 of the September 15, 2016 Exponent South Branch Chicago River Sediment PAH Forensic Evaluation

MGP - manufactured gas plant

PAH - polycyclic aromatic hydrocarbon

Ambient_UB - Urban back ground ambient

Ambient_Petro - petrogenic ambient

Table 7 - Pitney Court Station Groundwater Analytical Results: Secondary Chicago Waterway for Bubbly Creek Criteria
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

			PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	PAH	SVOC	SVOC	SVOC	SVOC	SVOC
Unique Field ID	Sample Location	Sample Date	2-Methylnaphthalene (µg/L)	Acenaphthene (µg/L)	Acenaphthylene (µg/L)	Anthracene (µg/L)	Benzo(a)anthracene (µg/L)	Benzo(a)pyrene (µg/L)	Benzo(b)fluoranthene (µg/L)	Benzo(ghi)perylene (µg/L)	Benzo(k)fluoranthene (µg/L)	Chrysene (µg/L)	Dibenz(a,h)anthracene (µg/L)	Fluoranthene (µg/L)	Fluorene (µg/L)	Indeno(1,2,3-cd)pyrene (µg/L)	Naphthalene (PAH) (µg/L)	Phenanthrene (µg/L)	Pyrene (µg/L)	2,4-Dimethylphenol (µg/L)	2-Methylphenol (µg/L)	3 & 4-Methylphenol (µg/L)	Carbazole (µg/L)	Dibenzofuran (µg/L)
CAWS Secondary Contact Criteria for Bubble Creek:			**NS**	**595**	**930**	**3.3**	**5**	**2.5**	**510**	**NS**	**NS**	**350**	**NS**	**4.7**	**300**	**NS**	**1,900**	**50**	**NS**	**1,440**	**NS**	**NS**	**NS**	**NS**
	Value exceeds SL																							
	Not detected above reported limit																							
	Detected below SL																							
	Not analyzed																							
032514070	MWW104	3/25/2014	2.8	1.2	0.11	0.22	0.02	< 0.0087	< 0.0062	0.0047	0.0077	0.025	< 0.0059	0.21	0.48	< 0.0049	19.8	0.84	0.21	0.92	< 0.92	1.9	--	--
062414008	MWW104	6/24/2014	1.9	0.73	< 0.16	< 0.17	< 0.14	< 0.22	< 0.16	< 0.095	< 0.071	< 0.077	< 0.15	< 0.18	0.28	< 0.12	14.5	0.52	< 0.19	< 0.91	< 0.94	3	--	--
032614078	MWW106	3/26/2014	< 0.0066	< 0.007	0.0089	0.035	0.0061	< 0.0089	< 0.0063	< 0.0038	0.0039	0.0091	< 0.006	0.019	< 0.0068	< 0.005	< 0.0083	0.016	0.023	< 0.93	< 0.96	< 1.3	--	--
062314001	MWW106	6/23/2014	0.015	0.017	0.034	0.16	0.11	0.085	0.07	0.046	0.072	0.14	0.015	0.2	0.049	0.042	0.033	0.18	0.17	< 0.91	< 0.94	< 1.3	--	--
032714080	MWW107	3/27/2014	0.12	0.13	0.076	0.038	0.0082	< 0.0088	< 0.0063	< 0.0038	0.005	0.013	< 0.006	0.041	0.11	< 0.005	0.18	0.16	0.06	< 0.91	< 0.93	< 1.2	--	--
062514016 (N)	MWW107 (N)	6/25/2014	0.09	0.13	0.06	0.033	0.011	< 0.0087	< 0.0062	0.0038	0.007	0.016	< 0.0059	0.042	0.11	< 0.0049	0.13	0.15	0.075	< 0.9	< 0.92	< 1.2	--	--
032714081 (N)	MWW109 (N)	3/27/2014	< 0.0064	0.034	0.025	0.018	< 0.0053	< 0.0087	< 0.0062	< 0.0037	< 0.0028	< 0.003	< 0.0059	< 0.0072	< 0.0066	< 0.0049	0.031	< 0.0083	< 0.0076	< 0.89	< 0.91	< 1.2	--	--
062314002	MWW109	6/23/2014	< 0.0066	0.011	0.012	0.011	< 0.0055	< 0.0089	< 0.0063	< 0.0038	0.003	0.0034	< 0.006	< 0.0074	< 0.0068	< 0.005	0.032	0.013	< 0.0078	< 0.91	< 0.93	< 1.2	--	--
032514068	P101	3/25/2014	< 0.0068	< 0.0073	< 0.0067	0.017	< 0.0056	< 0.0092	< 0.0065	< 0.004	< 0.0029	< 0.0032	< 0.0062	< 0.0076	0.0083	< 0.0052	< 0.0086	< 0.0088	< 0.008	< 0.91	< 0.94	< 1.3	--	--
062514013	P101	6/25/2014	< 0.0067	< 0.0072	< 0.0066	< 0.007	< 0.0056	< 0.0091	< 0.0065	< 0.0039	< 0.0029	< 0.0032	< 0.0061	< 0.0075	< 0.0069	< 0.0051	0.0088	< 0.0087	< 0.008	< 0.93	< 0.96	< 1.3	--	--
032514069	P102	3/25/2014	< 0.0066	< 0.007	< 0.0065	< 0.0069	< 0.0055	< 0.0089	< 0.0063	< 0.0038	< 0.0029	0.0038	< 0.006	0.013	< 0.0068	< 0.005	< 0.0083	< 0.0085	0.016	< 0.91	< 0.94	< 1.3	--	--
062414009 (N)	P102 (N)	6/24/2014	< 0.0066	< 0.007	< 0.0065	< 0.0069	< 0.0055	< 0.0089	< 0.0063	< 0.0038	0.0047	0.0074	< 0.006	0.01	< 0.0068	< 0.005	< 0.0083	< 0.0085	0.012	< 0.93	< 0.96	< 1.3	--	--
032614076	P103	3/26/2014	< 0.0065	< 0.007	< 0.0064	< 0.0068	< 0.0054	< 0.0088	< 0.0063	< 0.0038	< 0.0028	0.0071	< 0.006	0.035	< 0.0067	< 0.005	< 0.0082	< 0.0084	0.042	< 0.91	< 0.93	< 1.2	--	--
062414006	P103	6/24/2014	< 0.0068	< 0.0073	< 0.0067	< 0.0071	< 0.0056	< 0.0092	< 0.0065	< 0.004	< 0.0029	0.0058	< 0.0062	0.021	< 0.007	< 0.0052	0.012	0.012	0.028	< 0.91	< 0.94	< 1.3	--	--
033114084	P104	3/31/2014	0.023	0.012	< 0.0094	0.012	0.015	0.014	0.015	0.016	0.015	0.025	< 0.0087	0.036	< 0.0098	0.0086	0.053	0.051	0.04	--	--	--	--	--
062514018	P104	6/25/2014	0.35	0.13	0.058	0.15	0.27	0.24	0.25	0.25	0.2	0.39	0.048	0.51	0.085	0.14	0.42	0.92	0.59	< 4.1	< 4.2	< 5.6	--	--
073014020	P105	7/30/2014	< 0.0072	< 0.0077	0.02	0.014	0.012	< 0.0098	< 0.0069	0.0066	0.0063	0.019	< 0.0066	0.026	< 0.0074	< 0.0055	< 0.0091	0.021	0.041	< 0.93	< 0.96	< 1.3	--	--
033114085	P106	3/31/2014	0.12	0.036	0.034	0.033	0.035	0.023	0.018	0.06	0.014	0.082	< 0.013	0.054	0.023	< 0.011	0.41	0.3	0.12	--	--	--	--	--
062314003	P106	6/23/2014	0.045	< 0.0099	0.011	0.012	0.014	< 0.013	< 0.0089	0.024	0.0048	0.034	< 0.0085	0.022	< 0.0095	< 0.0071	0.07	0.091	0.044	< 0.91	< 0.93	< 1.2	--	--
062414007	P106	6/24/2014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
032614079	P107	3/26/2014	0.0094	0.012	0.02	0.015	0.014	0.01	0.0069	0.0064	0.0077	0.019	< 0.006	0.028	0.011	< 0.005	0.0095	0.039	0.038	< 0.9	< 0.92	< 1.2	--	--
062514015	P107	6/25/2014	0.011	0.01	0.0073	0.0088	0.0074	< 0.0089	< 0.0063	< 0.0038	0.0052	0.01	< 0.006	0.013	0.011	< 0.005	0.018	0.028	0.022	< 0.92	< 0.95	< 1.3	--	--
062514012	P108	6/25/2014	< 0.0069	< 0.0073	< 0.0068	< 0.0072	0.0059	< 0.0093	0.0066	0.0056	0.0093	0.0084	< 0.0063	0.011	< 0.007	< 0.0052	< 0.0087	< 0.0089	0.012	< 0.91	< 0.93	< 1.2	--	--
Total Number of Samples Analyzed:			22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	20	20	20	0	0
Number of Detections:			11	12	13	15	13	5	6	10	15	18	2	17	10	3	15	15	17	1	0	2	0	0
Min:			0.0094	0.01	0.0073	0.0088	0.0059	0.01	0.0066	0.0038	0.003	0.0034	0.015	0.01	0.0083	0.0086	0.0088	0.012	0.012	0.92	0	1.9	0	0
Max:			2.8	1.2	0.11	0.22	0.27	0.24	0.25	0.25	0.2	0.39	0.048	0.51	0.48	0.14	19.8	0.92	0.59	0.92	0	3	0	0
CAWS Secondary Contact Criteria for Bubble Creek:			NS	595	930	3.3	5	2.5	510	NS	NS	350	NS	4.7	300	NS	1,900	50	NS	1,440	NS	NS	NS	NS
Number of Samples that Exceed Bubbly Creek CAWS:			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTES:
BOLD = Value exceeds SL
-- = Analysis not performed
< = Concentration is less than reported limit
(N) = Normalized sample locations created from combining parent and field duplicate samples following EPA protocol
NS = No Standard
QC = Field Duplicate
BTEX = Benzene, Toluene, Ethylbenzene and Xylene
PAH = Polycyclic Aromatic Hydrocarbons
SVOC = Semi-Volatile Organic Compound
VOC = Volatile Organic Compound
µg/L = micrograms per liter
SL = screening level
CAWS Secondary Contact Criteria for Bubble Creek from Chicago Area Waterway System (CAWS) surface water criteria for the Chicago River and Bubbly Creek

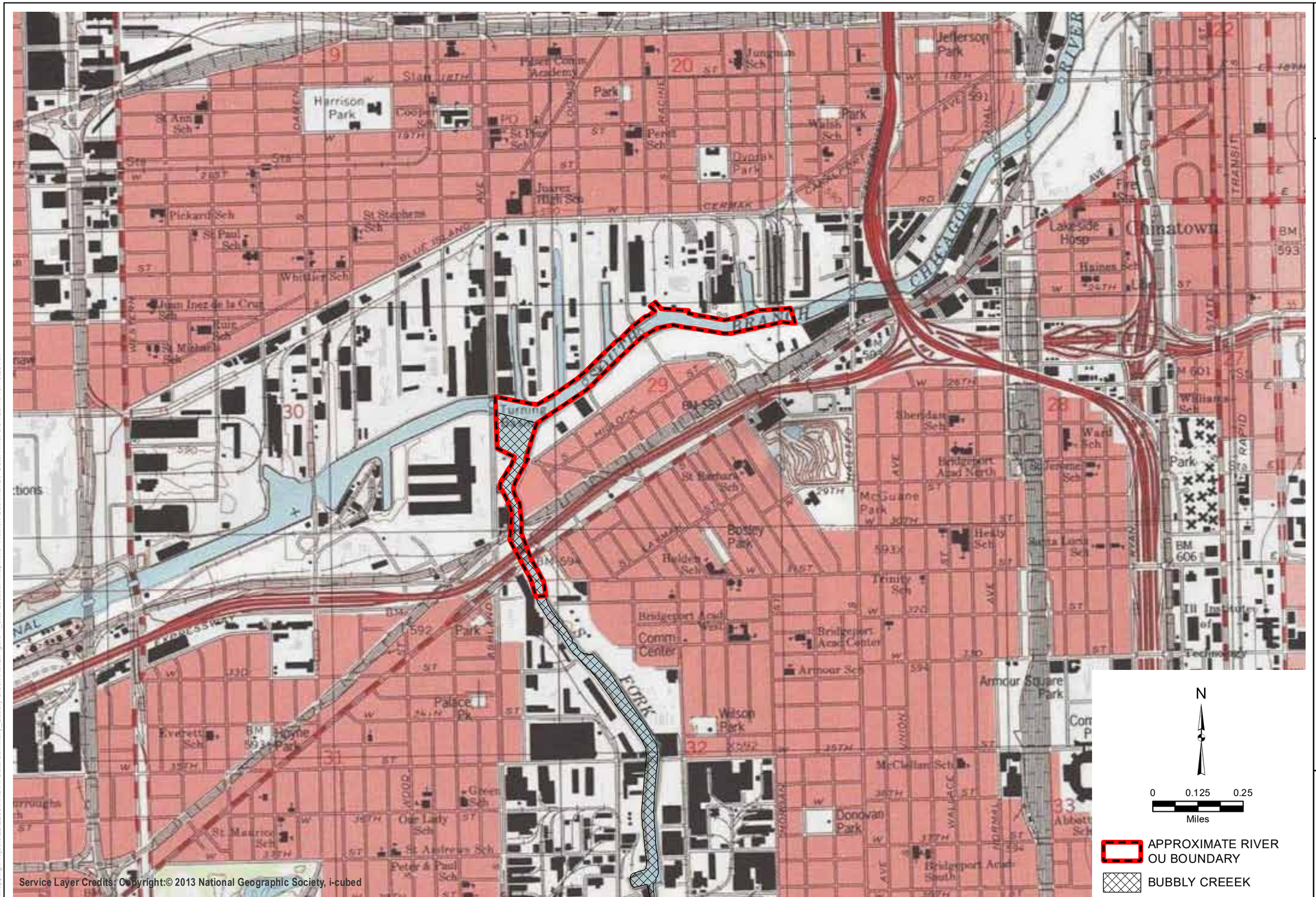
Table 7 - Pitney Court Station Groundwater Analytical Resu
Bubbly Creek Data Summary Report
South Branch Site River OU
Chicago, IL

Unique Field ID	Sample Location	Sample Date	SVOC Phenol (µg/L)	BTEX Benzene (µg/L)	BTEX Ethylbenzene (µg/L)	BTEX Toluene (µg/L)	BTEX Xylenes, Total (µg/L)	VOC 1,2,4-Trimethylbenzene (µg/L)	VOC 1,3,5-Trimethylbenzene (µg/L)	Metal Aluminum, Total (µg/L)	Metal Antimony, Total (µg/L)	Metal Arsenic, Total (µg/L)	Metal Barium, Total (µg/L)	Metal Beryllium, Total (µg/L)	Metal Cadmium, Total (µg/L)	Metal Chromium, Total (µg/L)	Metal Copper, Total (µg/L)	Metal Iron, Total (µg/L)	Metal Lead, Total (µg/L)	Metal Manganese, Total (µg/L)	Metal Mercury, Total (µg/L)	Metal Nickel, Total (µg/L)	Metal Selenium, Total (µg/L)	Metal Silver, Total (µg/L)	Metal Vanadium, Total (µg/L)	Metal Zinc, Total (µg/L)	Inorganic - Cyanide Cyanide, Amenable (µg/L)	Inorganic - Cyanide Cyanide, Available (µg/L)	Inorganic - Cyanide Cyanide, Total (µg/L)
CAWS Secondary Contact Criteria for Bubble Creek:			**300**	**3,500**	**970**	**2,100**	**1,200**	**3,900**	**6,300**	**NS**	**NS**	**1,000**	**5,000**	**NS**	**150**	**NS**	**1,000**	**2,000**	**100**	**1,000**	**0.5**	**1,000**	**1,000**	**1,100**	**NS**	**1,000**	**100**	**100**	**100**
	Value exceeds SL																												
	Not detected above reported limit																												
	Detected below SL																												
	Not analyzed																												
032514070	MWW104	3/25/2014	3.7	2.6	3.8	2	4.4	1.1	< 0.5	1,060	2.6	5.8	61.2	--	0.36	5.1	3.5	1,230	7.1	42.2	< 0.1	11.8	0.4	0.07	3.4	< 20	--	< 2	--
062414008	MWW104	6/24/2014	3	2.4	4.8	2.2	5.5	1.2	< 0.5	219	2.3	5.7	47	--	< 0.089	1.1	< 1	< 250	1	8.2	< 0.1	14	< 1	< 0.016	< 1	< 10	--	< 2	--
032614078	MWW106	3/26/2014	< 0.54	< 0.5	< 0.5	< 0.5	< 1.5	< 0.5	< 0.5	< 23.1	1.1	< 1	23.9	--	< 0.057	214	2.8	< 36.2	0.16	1.9	< 0.1	37.6	1.7	< 0.025	< 0.74	< 10	--	< 2	--
062314001	MWW106	6/23/2014	< 0.53	< 0.5	< 0.5	< 0.5	< 1.5	< 0.5	< 0.5	323	1.2	1	24.6	--	< 1	12.8	2.3	292	< 1	6.3	< 0.1	31.1	0.77	< 0.5	< 1	6.9	--	< 2	--
032714080	MWW107	3/27/2014	< 0.53	< 0.5	< 0.5	< 0.5	< 1.5	< 0.5	< 0.5	27.9	< 1	1.1	281	--	< 0.057	0.35	< 0.21	**7,120**	< 1	267	< 0.1	0.5	< 0.26	< 0.025	< 0.37	< 10	--	< 2	--
062514016 (N)	MWW107 (N)	6/25/2014	< 0.52	< 0.5	< 0.5	< 0.5	< 1.5	< 0.5	< 0.5	< 687	< 0.73	< 10	770	--	< 0.89	< 3.9	< 2.6	**7,830**	< 0.4	239	< 0.1	< 1.1	< 2.1	< 0.16	< 10	< 30.5	--	5.6	--
032714081 (N)	MWW109 (N)	3/27/2014	< 0.52	< 0.5	< 0.5	< 0.5	< 1.5	< 0.5	< 0.5	< 23.1	< 1	< 1	49.7	--	< 0.057	< 0.24	1.2	< 36.2	< 1	28.2	< 0.1	2.3	< 0.26	< 0.025	< 0.37	< 10	--	< 2	--
062314002	MWW109	6/23/2014	< 0.53	< 0.5	< 0.5	< 0.5	< 1.5	< 0.5	< 0.5	< 68.7	< 0.073	1.2	59.8	--	< 0.089	< 0.39	< 1	339	< 1	42.7	< 0.1	1.8	< 0.21	< 0.016	< 1	< 10	--	< 2	--
032514068	P101	3/25/2014	< 0.53	< 0.5	< 0.5	< 0.44	< 1.3	< 0.5	< 0.5	< 116	0.52	< 5	65.8	--	< 0.28	< 1.2	< 5	< 181	< 0.32	660	< 0.1	8.7	< 1.3	< 0.13	< 1.9	< 12	--	< 2	--
062514013	P101	6/25/2014	< 0.54	< 0.5	< 0.5	< 0.5	< 1.5	< 0.5	< 0.5	< 1370	< 1.5	< 20	79	--	< 1.8	< 7.9	5.5	< 5000	< 0.81	815	< 0.1	< 20	< 4.2	< 0.33	< 3.1	< 61.1	--	< 2	--
032514069	P102	3/25/2014	< 0.53	< 0.5	< 0.5	< 0.44	< 1.3	< 0.5	< 0.5	< 46.3	1.6	< 2	104	--	0.17	< 0.48	2.9	83	0.43	203	< 0.1	16.9	1.3	< 0.051	< 0.74	< 20	--	9.9	--
062414009 (N)	P102 (N)	6/24/2014	< 0.54	< 0.5	< 0.5	< 0.5	< 1.5	< 0.5	< 0.5	< 344	< 1	< 5	50.6	--	< 0.089	< 2	< 1.3	< 1250	< 1	220	< 0.1	< 5	< 1	< 0.016	< 0.77	< 15.3	--	< 2	--
032614076	P103	3/26/2014	< 0.53	< 0.5	< 0.5	< 0.5	< 1.5	< 0.5	< 0.5	< 23.1	0.2	1.5	42.7	--	< 0.057	< 0.24	1.7	125	< 0.13	328	< 0.1	6	0.46	< 0.025	< 0.37	< 10	--	< 2	--
062414006	P103	6/24/2014	< 0.53	< 0.5	< 0.5	< 0.5	< 1.5	< 0.5	< 0.5	< 68.7	< 1	1.2	38.6	--	< 0.089	< 0.39	1.5	< 250	< 1	256	< 0.1	5.2	< 1	< 0.016	< 1	< 10	--	< 2	--
033114084	P104	3/31/2014	--	< 0.5	< 0.5	< 0.5	< 1.5	< 0.5	< 0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
062514018	P104	6/25/2014	< 2.4	< 0.5	< 0.5	< 0.5	< 1.5	< 0.5	< 0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
073014020	P105	7/30/2014	< 0.54	< 0.5	< 0.5	< 0.5	< 1.5	< 0.5	< 0.5	< 68.7	0.54	< 1	41.4	--	< 0.089	< 0.39	1.4	110	< 1	462	< 0.1	12.5	0.8	< 0.016	0.34	4.3	--	< 2	--
033114085	P106	3/31/2014	--	< 0.5	< 0.5	< 0.5	< 1.5	< 0.5	< 0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
062314003	P106	6/23/2014	< 0.53	< 0.5	< 0.5	0.53	< 1.5	< 0.5	< 0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
062414007	P106	6/24/2014	--	--	--	--	--	--	--	21,000	1.2	16.3	107	--	< 1	34	41.3	**29,100**	29.6	**1,880**	< 0.1	72.4	< 5	< 0.5	42.7	81.6	--	< 2	--
032614079	P107	3/26/2014	< 0.52	< 0.5	< 0.5	< 0.5	< 1.5	< 0.5	< 0.5	1,460	2.9	2.1	522	--	0.21	3.1	3.7	1,690	5.1	542	< 0.1	27.4	1.6	< 0.025	3.3	< 10	--	< 2	--
062514015	P107	6/25/2014	< 0.54	< 0.5	< 0.5	< 0.5	< 1.5	< 0.5	< 0.5	< 687	< 10	< 10	584	--	< 10	< 3.9	3.3	**4,560**	< 10	452	< 0.1	< 10	< 2.1	< 5	< 10	< 30.5	--	< 2	--
062514012	P108	6/25/2014	< 0.53	--	--	--	--	--	--	< 68.7	< 1	1.6	55.4	--	< 0.089	< 0.39	2	< 250	2.1	466	< 0.1	8.9	< 0.21	< 0.016	< 1	13.4	--	< 2	--
Total Number of Samples Analyzed:			20	21	21	21	21	21	21	19	19	19	19	0	19	19	19	19	19	19	19	19	19	19	19	19	0	19	0
Number of Detections:			2	2	2	3	2	2	0	6	10	10	19	0	3	7	13	11	7	19	0	15	7	1	4	4	0	2	0
Min:			3	2.4	3.8	0.53	4.4	1.1	0	27.9	0.2	1	23.9	0	0.17	0.35	1.2	83	0.16	1.9	0	0.5	0.4	0.07	0.34	4.3	0	5.6	0
Max:			3.7	2.6	4.8	2.2	5.5	1.2	0	21,000	2.9	16.3	770	0	0.36	214	41.3	29,100	29.6	1,880	0	72.4	1.7	0.07	42.7	81.6	0	9.9	0
CAWS Secondary Contact Criteria for Bubble Creek:			300	3,500	970	2,100	1,200	3,900	6,300	NS	NS	1,000	5,000	NS	150	NS	1,000	2,000	100	1,000	0.5	1,000	1,000	1,100	NS	1,000	100	100	100
Number of Samples that Exceed Bubbly Creek CAWS:			0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	**4**	0	**1**	0	0	0	0	0	0	0	0	0

[O:ECK 03/01/17, C:SGW 3/2/17]

NOTES:
BOLD = Value exceeds SL
-- = Analysis not performed
< = Concentration is less than reported limit
(N) = Normalized sample locations created from combining parent and field duplicate samples following EPA protocol
NS = No Standard
QC = Field Duplicate
BTEX = Benzene, Toluene, Ethylbenzene and Xylene
PAH = Polycyclic Aromatic Hydrocarbons
SVOC = Semi-Volatile Organic Compound
VOC = Volatile Organic Compound
µg/L = micrograms per liter
SL = screening level
CAWS Secondary Contact Criteria for Bubble Creek from Chicago Area Waterway System (CAWS) surface water criteria for the Chicago River and Bubbly Creek

Figures



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REVIEWED BY/DATE:
EJH 4/4/17
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EJH 4/4/17

SITE LOCATION MAP

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

PROJECT NO: 2238

FIGURE NO: 1

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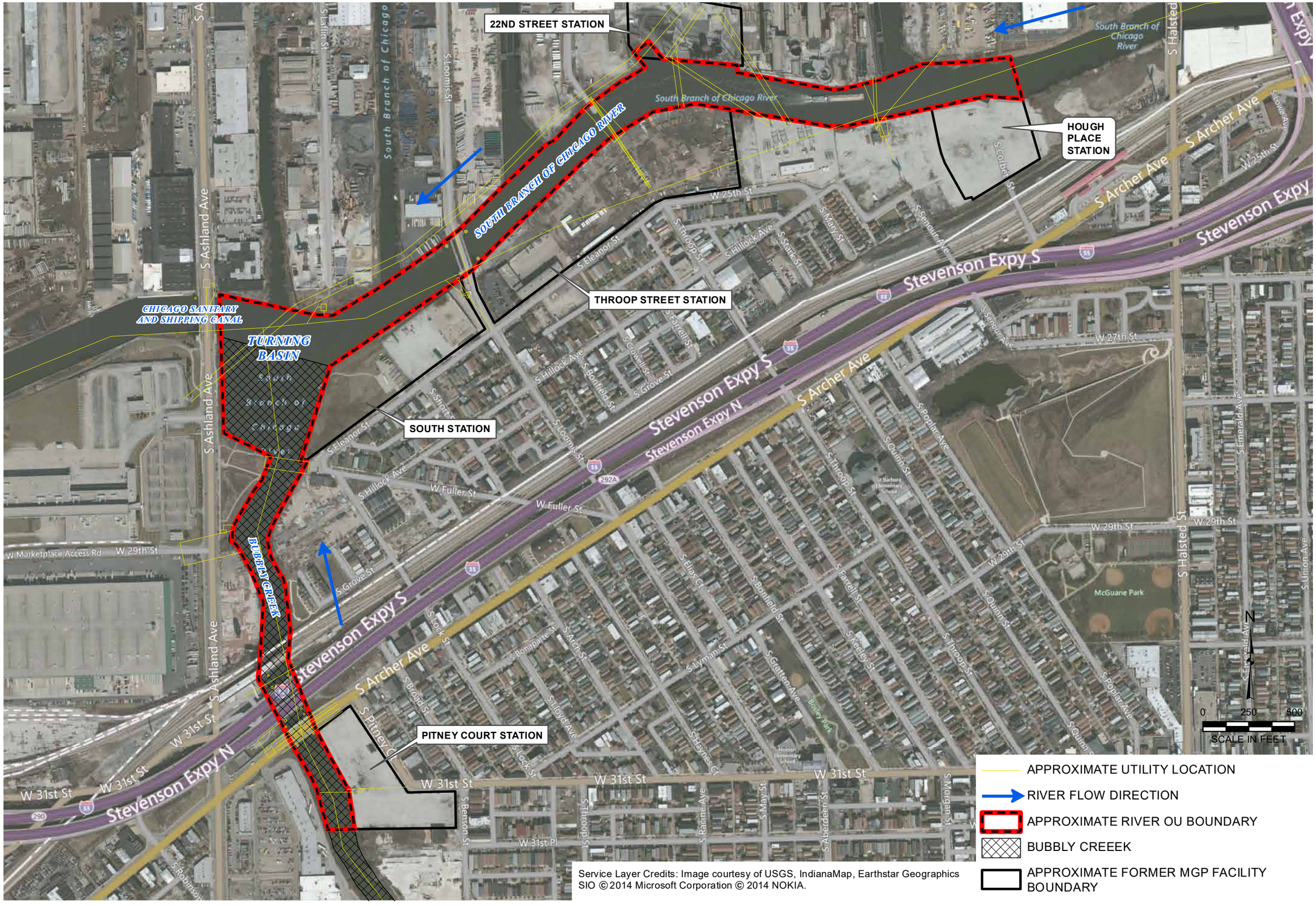
Y:\Mapping\Projects\22\2238MX\DRI Data Summary_Bubbly Creek\Rev2\Figure 1_Site Location Map.mxd Author: CushmaTD: Date/Time: 3/31/2017, 10:10:25 AM



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REVIEWED BY/DATE: EJH 4/4/17
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SITE LAYOUT MAP

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

PROJECT NO: 2238

FIGURE NO: 2

Natural Resource Technology
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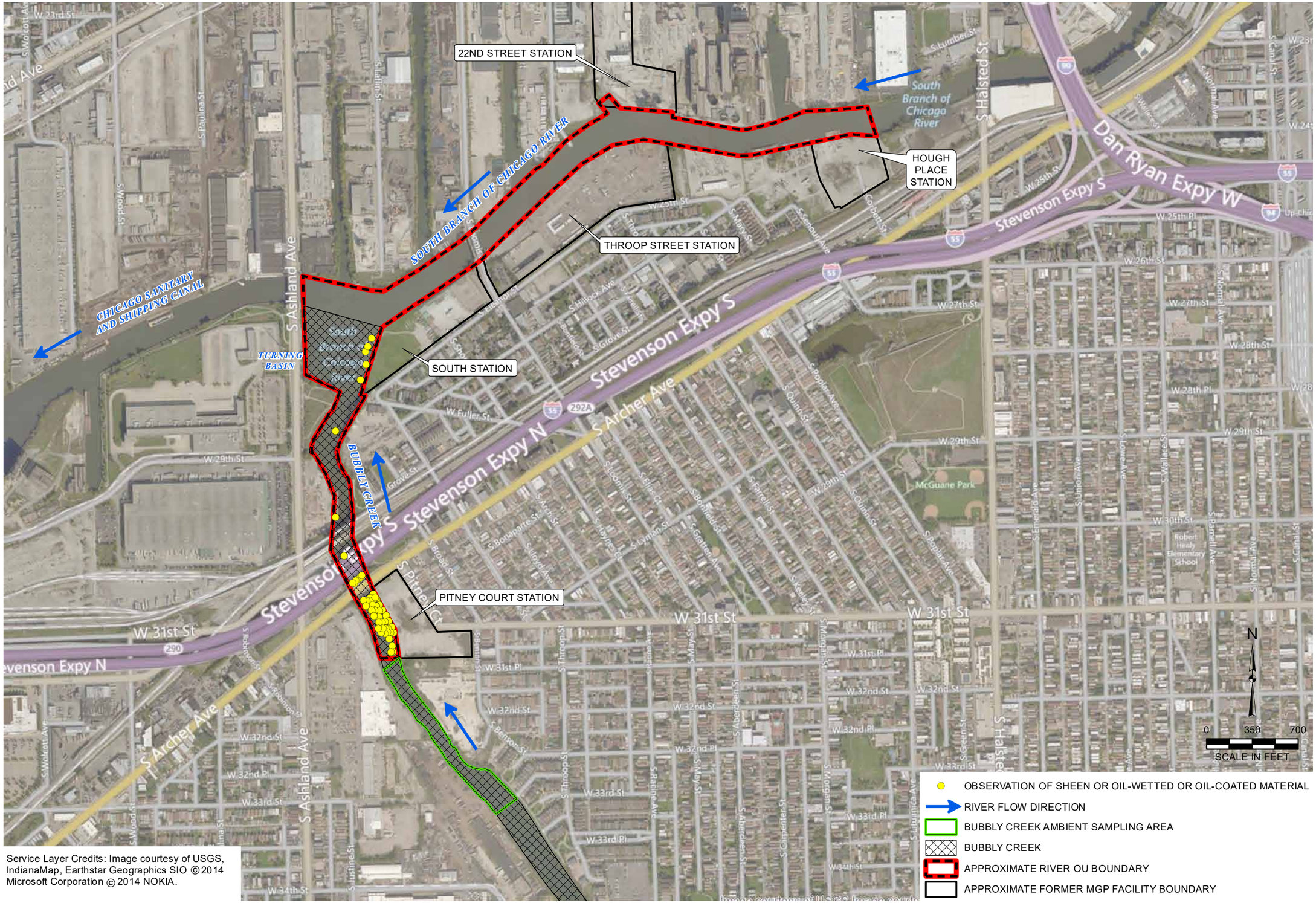
Y:\Mapping\Projects\22\2238\MXD\RI Data Summary_Bubbly Creek\Rev2\Figure 2_Site Layout Map.mxd Author: CushmaTD; Date/Time: 3/31/2017, 10:16:57 AM



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BORINGS WITH VISUAL OBSERVATIONS OF SHEEN OR OIL-WETTED OR OIL-COATED MATERIAL

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

PROJECT NO: 2238

FIGURE NO: 3A

Natural Resource Technology
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Y:\Mapping\Projects\22\2238\MXD\RI Data Summary_Bubbly Creek\Rev2_v2\Figure 3A_Borings With Visual Observations of Sheen or Oil-Wetted_Oil-Coated Material.mxd Author: CushmaTD; Date/Time: 6/20/2017, 12:13:46 PM

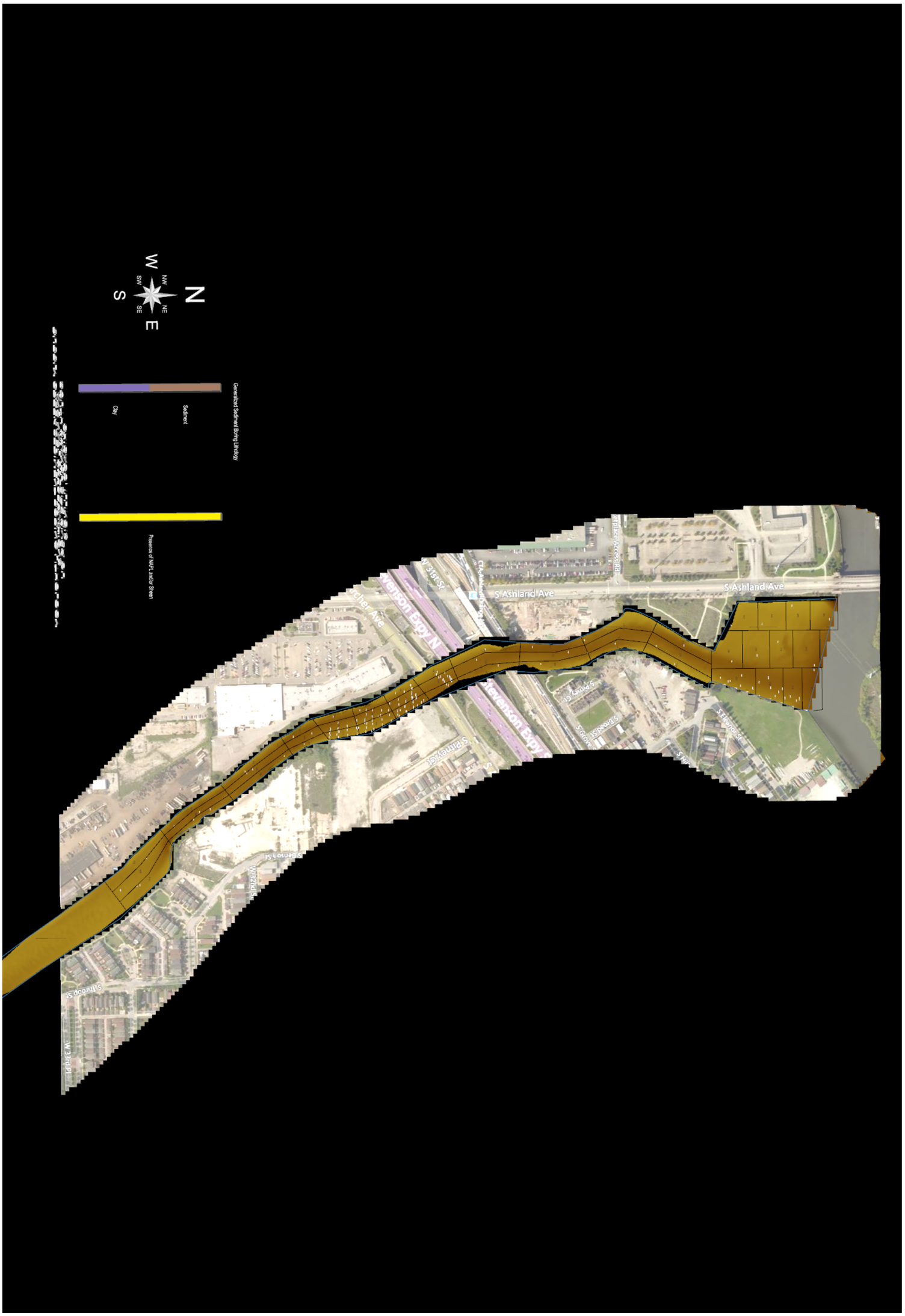

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FIGURE NO: 3B

3D MODEL OF LITHOLOGY AND VISUAL OBSERVATIONS OF SHEEN OR OIL-WETTED OR OIL-COATED MATERIAL

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

DRAWN BY/DATE:
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EJH 6/20/17

22ND STREET STATION

HOUGH PLACE STATION

THROOP STREET STATION

SOUTH STATION

PITNEY COURT STATION

BUBBLY CREEK AMBIENT

SOUTH BRANCH OF CHICAGO RIVER

CHICAGO SANITARY AND SHIPPING CANAL

TURNING BASIN

BUBBLY CREEK

AREA 1

AREA 2

AREA 3

AREA 4

South Branch of Chicago River

S Halsted St

Dan Ryan Expy W

Stevenson Expy S

Stevenson Expy N

S Archer Ave

S Ashland Ave

W 31st St

McGuane Park

N

0 350 700

SCALE IN FEET

Service Layer Credits: Image courtesy of USGS, IndianaMap, Earthstar Geographics SIO ©2014 Microsoft Corporation © 2014 NOKIA.

MAXIMUM TPAH (13) CONCENTRATION PER LOCATION

- < 80 mg/Kg
- 81 - 238 mg/Kg
- 239 - 299 mg/Kg
- > 300 mg/Kg
- UNSAMPLED BORING LOCATION
- RIVER FLOW DIRECTION
- BUBBLY CREEK AMBIENT SAMPLING AREA
- BUBBLY CREEK
- APPROXIMATE RIVER OU BOUNDARY
- APPROXIMATE FORMER MGP FACILITY BOUNDARY

SURFACE SEDIMENT (0-0.5 FT BTOS) UTL = 239 MG/KG
SUBSURFACE SEDIMENT (GREATER THAN 0.5 FT BTOS) UTL VARIES FROM 214 TO 301 MG/KG DEPENDING ON DATA SET, SEE AMBIENT TECH MEMO FOR MORE INFORMATION. 300 MG/KG SELECTED FOR VISUAL REPRESENTATION ON THIS FIGURE
FT BTOS - FEET BELOW TOP OF SEDIMENT
EC20 = 80 MG/KG = 20% EFFECTS CONCENTRATION
EC50 = 400 MG/KG = 50% EFFECTS CONCENTRATION
EC20 AND EC50 ONLY APPLY TO SURFACE SEDIMENT INTERVAL
MG/KG - MILLIGRAM PER KILOGRAM
TPAH(13) - TOTAL 13 POLYCYCLIC AROMATIC HYDROCARBON CONCENTRATION
UTL - UPPER TOLERANCE LIMIT

DRAWN BY/DATE: TDC 6/16/17
REVIEWED BY/DATE: EJH 6/16/17
APPROVED BY/DATE: EJH 8/18/17

SEDIMENT TPAH(13) CONCENTRATION

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

PROJECT NO: 2238

FIGURE NO: 4A

Natural Resource Technology
AN OBG COMPANY

Y:\Mapping\Projects\22\2238\MXD\RI Data Summary_Bubbly Creek\Rev2_v2\Figure 4A_Sediment PAH Concentration.mxd Author: CushmaTD Date/Time: 6/16/2017, 9:33:47 AM

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-084	0 - 0.5	*83.3*
	0.5 - 1.5	NS
	1.5 - 2.5	NS
	2.5 - 3.5	10.2
	3.5 - 4.5	NS
	4.5 - 5.5	NS
	5.5 - 6.5	NS
	6.5 - 7.5	NS
	7.5 - 8.5	5.9
	8.5 - 9.5	NS
	9.5 - 10.5	22.7
	10.5 - 11.5	NS
	11.5 - 12.5	227
	12.5 - 13.5	**596**
	13.5 - 14.2	**615**
	14.2 - 15.5	15.3
	15.5 - 16.5	NS
	16.5 - 17.5	NS
	17.5 - 18.5	NS

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-085	0 - 0.5	11.7
	0.5 - 1.5	NS
	1.5 - 2.5	NS
	2.5 - 3.5	NS
	3.5 - 4.5	NS
	4.5 - 5.5	16.5
	5.5 - 6.5	NS
	6.5 - 7.5	138
	7.5 - 8.5	NS
	8.5 - 9.5	NS
	9.5 - 10.5	60.8
	10.5 - 11.7	26.9

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-078	0 - 0.5	56.4
	0.5 - 1.5	NS
	1.5 - 2.5	NS
	2.5 - 3.5	NS
	3.5 - 4.5	NS
	4.5 - 5.5	NS
	5.5 - 6.5	16.4
	6.5 - 7.5	NS
	7.5 - 8.5	19.8
	8.5 - 9.5	17.8
	9.5 - 10.5	**635**
	10.5 - 12.1	**1240**
	12.1 - 12.5	54.2
	12.5 - 13.5	NS
	13.5 - 14.5	NS
	14.5 - 15.5	NS
	15.5 - 16.5	NS

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-079	0 - 0.5	10.3
	1.5 - 2.5	8.2
	3.5 - 4.5	2.4
	7.5 - 8.5	10.8
	10.5 - 11.9	10.5

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-086	0 - 0.5	11.2
	0.5 - 1.5	NS
	1.5 - 2.5	NS
	2.5 - 3.5	4.6
	3.5 - 4.5	NS
	4.5 - 5.5	NS
	5.5 - 6.5	NS
	6.5 - 7.5	3.2
	7.5 - 8.5	NS
	8.5 - 9.5	NS
	9.5 - 10.5	6.5
	10.5 - 11.8	9.5

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-080	0 - 0.5	17.4
	0.5 - 1.5	55.6
	1.5 - 2.5	**560**
	2.5 - 3.5	8.2
	3.5 - 4.5	NS
	4.5 - 5.5	7.7
	5.5 - 6.5	NS
	6.5 - 7.5	NS
	7.5 - 8.5	NS
	8.5 - 9.5	4.5
	9.5 - 10.5	NS
	10.5 - 11.5	NS
	11.5 - 12.5	NS
	12.5 - 13.5	117
	13.5 - 14.5	NS
	14.5 - 15.5	6.7
	15.5 - 16.5	NS
	16.5 - 17.5	170
	17.5 - 18.5	**1524**
	18.5 - 19.3	**654**
	19.3 - 20.5	19.6
	20.5 - 21.5	NS
	21.5 - 22.5	NS

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-087	0 - 0.5	12.9
	0.5 - 1.5	9.8
	1.5 - 2.5	NS
	2.5 - 3.9	7.8

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-081	0 - 0.5	44.3
	0.5 - 1.5	NS
	1.5 - 2.5	11.3
	2.5 - 3.5	NS
	3.5 - 4.5	14.5
	4.5 - 5.5	NS
	5.5 - 6.5	NS
	6.5 - 7.5	NS
	7.5 - 8.5	15.1
	8.5 - 9.5	NS
	9.5 - 10.5	226
	10.5 - 11.5	NS
	11.5 - 12.5	59.8
	12.5 - 13.7	**868**
	13.7 - 14.5	7.3
	14.5 - 15.5	NS
	15.5 - 16.5	NS

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-097	0 - 0.5	8.0
	0.5 - 1.4	7.8

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-099	0 - 0.5	*206*
	0.5 - 1.5	NS
	1.5 - 2.5	NS
	2.5 - 3.5	141
	3.5 - 4.5	NS
	4.5 - 5.5	NS
	5.5 - 6.5	NS
	6.5 - 7.5	47.9
	7.5 - 8.5	NS
	8.5 - 9.5	NS
	9.5 - 10.5	107
	10.5 - 11.5	NS
	11.5 - 12.5	NS
	12.5 - 13.5	14.6
	13.5 - 14.5	94.5
	17 - 18	0.6
	14.5 - 15.5	NS
	15.5 - 16.5	NS
	16.5 - 17.5	NS
	17.5 - 18	NS
	18 - 19	NS
	19 - 20	NS

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-072	0 - 0.5	18.6
	0.5 - 1.5	NS
	1.5 - 2.5	NS
	2.5 - 3.5	NS
	3.5 - 4.5	21.7
	4.5 - 5.5	NS
	5.5 - 6.5	NS
	6.5 - 7.5	45.8
	7.5 - 8.5	**390**
	8.5 - 9.5	36.7
	9.5 - 10.5	292
	10.5 - 11.3	**814**
	11.3 - 12.5	5.0
	12.5 - 13.5	NS
	13.5 - 14.5	NS

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-073.4 MOB	0 - 0.5	55.1
	0.5 - 1.5	NS
	1.5 - 2.5	NS
	2.5 - 3.5	14.2
	3.5 - 4.5	NS
	4.5 - 5.5	NS
	5.5 - 6.5	NS
	6.5 - 7.5	NS
	7.5 - 8.5	NS
	8.5 - 9.5	10.1
	9.5 - 10.5	NS
	10.5 - 11.5	7.8
	11.5 - 12.5	**534**
	12.5 - 13.5	20.9
	13.5 - 14.5	188
	14.5 - 16.5	**707**
	16.5 - 17.5	2.7
	17.5 - 18.5	NS
	18.5 - 19.5	NS
	19.5 - 20.5	NS

Location	Depth (ft)	PAHs (mg/kg)
SSCD-RSB-011	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	NS
	4 - 5	NS
	5 - 6	NS
	6 - 7	NS
	7 - 8	NS
	8 - 9	NS
	9 - 10	NS
	10 - 11	NS
	11 - 12	NS
	12 - 12.5	**3987**
	12.5 - 13	NS
	13 - 14	NS
	14 - 15	NS
	15 - 16	NS
	16 - 17	NS
	17 - 18	NS

Location	Depth (ft)	PAHs (mg/kg)
SSCD-RSB-010	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	NS
	4 - 5	NS
	5 - 6	NS
	6 - 7	NS
	7 - 8	NS
	8 - 9	NS
	9 - 10	NS
	10 - 11	NS
	11 - 12	NS
	12 - 13	NS
	13 - 14	NS
	14 - 15	NS
	15 - 16	NS
	16 - 16.5	4.3
	16.5 - 17	NS
	17 - 18	NS

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-073	0 - 0.5	52.3
	0.5 - 1.5	NS
	1.5 - 2.5	NS
	2.5 - 3.5	2.3
	3.5 - 4.5	NS
	4.5 - 5.5	NS
	5.5 - 6.5	8.3
	6.5 - 7.5	NS
	7.5 - 8.5	NS
	8.5 - 9.5	88.2
	9.5 - 10.5	NS
	10.5 - 11.5	NS
	11.5 - 12.5	NS
	12.5 - 13.5	89.9
	13.5 - 14.5	**410**
	14.5 - 16.1	**2900**
	16.1 - 16.5	210
	16.5 - 17.5	3.0
	17.5 - 18.5	NS
	18.5 - 19.5	NS
	19.5 - 20.5	NS

Location	Depth (ft)	PAHs (mg/kg)
SSCD-RSB-007	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	NS
	4 - 5	NS
	5 - 6	NS
	6 - 7	NS
	7 - 8	NS
	8 - 9	NS
	9 - 10	NS
	10 - 11	NS
	11 - 12	NS
	12 - 13	NS
	13 - 14	NS

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-074	0 - 0.5	35.9
	0.5 - 1.5	NS
	1.5 - 2.5	2.3
	2.5 - 3.5	NS
	3.5 - 4.5	NS
	4.5 - 5.5	6.1
	5.5 - 6.5	NS
	6.5 - 7.5	NS
	7.5 - 8.5	NS
	8.5 - 9.3	2.6

Location	Depth (ft)	PAHs (mg/kg)
SSCD-RSB-008	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	NS
	4 - 5	NS
	5 - 6	NS
	6 - 7	NS
	7 - 8	NS
	8 - 9	**11390**
	9 - 10	NS
	10 - 11	NS
	11 - 12	NS
	12 - 13	NS
	13 - 14	NS
	14 - 15	NS
	15 - 16	NS

Location	Depth (ft)	PAHs (mg/kg)
SSCD-RSB-009	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	NS
	4 - 5	NS
	5 - 6	NS
	6 - 7	NS
	7 - 8	NS
	8 - 9	NS
	9 - 10	NS
	10 - 11	NS
	11 - 12	NS
	12 - 13	NS
	13 - 14	NS
	14 - 15	NS
	15 - 16	NS
	16 - 17	NS
	17 - 18	NS

Location	Depth (ft)	PAHs (mg/kg)
SSCD-RSB-006	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	NS
	4 - 5	NS
	5 - 6	NS
	6 - 7	NS
	7 - 8	NS
	8 - 8.5	**1897**
	8.5 - 9	NS
	9 - 10	NS
	10 - 11	NS
	11 - 12	NS
	12 - 13	NS
	13 - 14	NS
	14 - 15	NS
	15 - 16	NS

Location	Depth (ft)	PAHs (mg/kg)
SSCD-RSB-006B	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	NS
	4 - 5	NS
	5 - 6	NS
	6 - 7	NS
	7 - 8	NS
	8 - 9	NS
	9 - 10	NS

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-1014	0 - 0.5	29.1
	0.5 - 1.5	7.9
	1.5 - 2.5	NS
	2.5 - 3.5	NS
	3.5 - 4.5	NS
	4.5 - 5.5	NS
	5.5 - 6.5	5.2
	6.5 - 7.5	NS
	7.5 - 8.5	NS
	8.5 - 9.5	49.5
	9.5 - 10.5	28.5

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-075	0 - 0.5	***748***
	1.5 - 2.5	59.3
	2.5 - 3.5	NS
	3.5 - 4.5	92.4
	4.5 - 5.5	NS
	5.5 - 6.5	NS
	6.5 - 7.5	NS
	7.5 - 8.5	13.7
	8.5 - 9.5	NS
	9.5 - 10.5	18.9
	10.5 - 11.5	73.9
	11.5 - 12.5	**478**
	12.5 - 13.8	**4041**
	13.8 - 14.5	57.0
	14.5 - 15.5	NS
	15.5 - 16.2	1.5

Location	Depth (ft)	PAHs (mg/kg)
SSCD-RSB-003	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	NS
	4 - 5	NS
	5 - 6	NS
	6 - 7	NS
	7 - 8	NS
	8 - 9	NS
	9 - 10	NS
	10 - 11	NS
	11 - 12	NS
	12 - 13	NS
	13 - 14	NS
	14 - 15	NS
	15 - 16	NS
	16 - 17	NS
	17 - 18	NS
	18 - 19	NS
	19 - 20	NS
	20 - 21	NS
	21 - 22	NS

Location	Depth (ft)	PAHs (mg/kg)
SSCD-RSB-004	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	NS
	4 - 5	NS
	5 - 6	NS
	6 - 7	NS
	7 - 8	NS
	8 - 9	NS
	9 - 10	NS
	10 - 11	NS
	11 - 12	NS
	12 - 13	NS
	13 - 14	NS
	14 - 15	NS
	15 - 16	NS
	16 - 17	NS
	17 - 18	NS
	18 - 19	NS
	19 - 20	NS
	20 - 21	NS
	21 - 22	NS

Location	Depth (ft)	PAHs (mg/kg)
SSCD-RSB-005	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	NS
	4 - 5	NS
	5 - 6	NS
	6 - 7	NS
	7 - 8	NS
	8 - 8.5	NS
	8.5 - 9	**39023**
	9 - 10	NS
	10 - 11	NS
	11 - 12	NS
	12 - 13	NS
	13 - 14	NS
	14 - 15	NS
	15 - 16	NS

Location	Depth (ft)	PAHs (mg/kg)
SSCD-RSB-001	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	NS
	4 - 5	NS
	5 - 6	NS
	6 - 7	NS
	7 - 8	NS
	8 - 9	NS
	9 - 10	NS
	10 - 11	NS
	11 - 12	NS
	12 - 13	NS
	13 - 13.5	**2843**
	13.5 - 14	NS
	14 - 15	NS
	15 - 16	NS
	16 - 17	NS
	17 - 18	NS
	18 - 19	NS
	19 - 20	NS
	20 - 21	NS
	21 - 22	NS

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-1015	0 - 0.5	26.7
	0.5 - 1.5	NS
	1.5 - 2.5	13.6
	2.5 - 3.5	NS
	3.5 - 4.5	6.5
	4.5 - 5.5	NS
	5.5 - 6.5	6.8
	6.5 - 7.5	NS
	7.5 - 8.5	17.6
	8.5 - 9.5	NS
	9.5 - 10.5	NS
	10.5 - 11.3	16.6

Location	Depth (ft)	PAHs (mg/kg)
SSCD-RSB-002	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	NS
	4 - 5	NS
	5 - 6	NS
	6 - 7	NS
	7 - 8	NS
	8 - 9	NS
	9 - 10	NS
	10 - 11	NS
	11 - 12	NS
	12 - 13	NS
	13 - 14	NS
	14 - 15	NS
	15 - 16	NS
	16 - 17	NS
	17 - 18	NS
	18 - 19	NS
	19 - 20	NS
	20 - 21	NS
	21 - 22	NS

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-098	0 - 0.5	35.2
	0.5 - 1.5	NS
	1.5 - 2.5	NS
	2.5 - 3.5	7.5
	3.5 - 4.5	8.1
	4.5 - 5.5	NS
	6.5 - 7.8	12.2

MAXIMUM TPAH (13) CONCENTRATION PER LOCATION

- < 80 mg/Kg
- 81 - 238 mg/Kg
- 239 - 299 mg/Kg
- > 300 mg/Kg
- UNSAMPLED BORING LOCATION
- RIVER FLOW DIRECTION
- APPROXIMATE FORMER MGP FACILITY BOUNDARY
- SAMPLING GRID

NS	No Sample
239	Exceeds UTL
80	Exceeds EC20
400 (underlined)	Exceeds EC50
(orange)	Sheen
(yellow)	Oil-wetted or coated

NOTES:
SURFACE SEDIMENT (0-0.5 FT BTOS) UTL = 239 MG/KG
SUBSURFACE SEDIMENT (GREATER THAN 0.5 FT BTOS) UTLVARIES FROM 214 TO 301 MG/KG DEPENDING ON DATA SET, SEE AMBIENT TECH MEMO FOR MORE INFORMATION. 300 MG/KG SELECTED FOR VISUAL REPRESENTATION ON THIS FIGURE
EC20 = 80 MG/KG = 20% EFFECTS CONCENTRATION
EC50 = 400 MG/KG = 50% EFFECTS CONCENTRATION
EC20 AND EC50 ONLY APPLIED TO SURFACE SEDIMENT INTERVAL
MG/KG - MILLIGRAM PER KILOGRAM
TPAH(13) - TOTAL 13 POLYCYCLIC AROMATIC HYDROCARBON CONCENTRATION
UTL - UPPER TOLERANCE LIMIT
SERVICE LAYER CREDITS SOURCE: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

DRAWN BY: TDC DATE: 6/16/17
CHECKED BY: EJH DATE: 6/16/17
APPROVED BY: EJH DATE: 8/18/17

SEDIMENT TPAH(13) CONCENTRATION AREA 1

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

Natural Resource Technology
AN OBG COMPANY

PROJECT NO. 2248

FIGURE 4B

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-100	0 - 0.5	11.6
	0.5 - 1.5	NS
	1.5 - 2.5	NS
	2.5 - 3.5	NS
	3.5 - 4.5	9.2
	4.5 - 5.5	NS
	5.5 - 6.5	27.8
	6.5 - 7.5	NS
	7.5 - 8.2	24.6

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-101	0 - 0.5	13.8
	0.5 - 1.5	NS
	1.5 - 2.5	10.1
	2.5 - 3.5	13.8
	3.5 - 4.5	NS
	4.5 - 5.5	NS
	5.5 - 6.5	NS
	6.5 - 7.5	NS
	7.5 - 8.5	NS
	8.5 - 9.5	21.5
	9.5 - 10.4	101
	10.4 - 10.9	NS

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-103	0 - 0.5	27.4
	0.5 - 1.5	12.7
	1.5 - 2.5	NS
	2.5 - 3.5	NS
	3.5 - 4.5	22.2
	4.5 - 5.5	NS
	5.5 - 6.5	11.4
	6.5 - 7.5	NS
	7.5 - 8.2	10.8

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-102	0 - 0.5	36.6
	0.5 - 1.5	NS
	1.5 - 2.5	13.1
	2.5 - 3.5	NS
	3.5 - 4.5	NS
	4.5 - 5.5	27.4
	5.5 - 6.5	NS
	6.5 - 7.5	8.0
	7.5 - 8.5	NS
	8.5 - 9.5	7.1

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-105	0 - 0.5	4.5
	0.5 - 1.5	NS
	1.5 - 2.5	NS
	2.5 - 3.5	1.9
	3.5 - 4.5	0.2
	4.5 - 5.5	NS
	5.5 - 6.5	NS
	6.5 - 7.5	NS
	7.5 - 8.5	NS

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-107	0 - 0.5	4.8
	0.5 - 1.5	NS
	1.5 - 2.5	NS
	2.5 - 3.5	14.0
	3.5 - 4.5	NS
	4.5 - 5.5	NS
	5.5 - 6.5	114
	6.5 - 7.5	NS
	7.5 - 8.5	NS
	8.5 - 9.5	11.8
	9.5 - 10.5	NS
	10.5 - 11.5	133
	11.5 - 12.5	0.6
	12.5 - 13.5	NS
	13.5 - 14.5	0.6
	14.5 - 15	NS
	15 - 16	NS
	16 - 16.5	NS

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-104	0 - 0.5	10.5
	2.5 - 3.5	12.0
	4.5 - 5.5	7.2
	6.5 - 7.5	6.6
	7.5 - 8.5	9.9
	8.5 - 9.5	73.9
	10.5 - 11.9	6.3

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-108	0 - 0.5	12.6
	0.5 - 1.5	NS
	1.5 - 2.5	5.4
	2.5 - 3.5	NS
	3.5 - 4.5	0.9
	4.5 - 5.5	NS
	5.5 - 6.5	NS
	6.5 - 7.5	33.1
	7.5 - 8.5	NS
	8.5 - 9.5	NS
	9.5 - 10	7.6

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-106	0 - 0.5	24.8
	0.5 - 1.5	NS
	1.5 - 2.5	18.8
	2.5 - 3.5	NS
	3.5 - 4.5	NS
	4.5 - 5.5	NS
	5.5 - 6.5	13.7
	6.5 - 7.5	NS
	7.5 - 8.5	NS
	8.5 - 9.5	18.7

Location	Depth (ft)	PAHs (mg/kg)
PCS-RSB-063	0 - 1	NS
	1 - 2	NS
	2 - 3	227
	3 - 4	NS
	4 - 5	NS
	5 - 6	NS
	6 - 7	**1144**
	7 - 8	NS
	8 - 9	NS
	9 - 10	NS

Location	Depth (ft)	PAHs (mg/kg)
PCS-RSB-058	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	NS
	4 - 5	252
	5 - 6	NS
	6 - 7	NS
	7 - 8	NS
	8 - 9	NS
	9 - 10	NS
	10 - 11	NS
	11 - 12	NS
	12 - 13	NS
	13 - 14	NS

Location	Depth (ft)	PAHs (mg/kg)
PCS-RSB-057C	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	NS
	4 - 5	NS
	5 - 6	NS
	6 - 7	NS
	7 - 8	NS
	8 - 9	NS
	9 - 10	NS
	10 - 11	NS
	11 - 12	NS
	12 - 13	NS
	13 - 14	NS
	14 - 15	NS
	15 - 16	NS

Location	Depth (ft)	PAHs (mg/kg)
PCS-RSB-057	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	NS
	4 - 5	NS
	5 - 6	NS
	6 - 7	NS
	7 - 8	NS
	8 - 9	NS
	9 - 10	NS
	10 - 11	NS
	11 - 12	NS
	12 - 13	NS
	13 - 14	NS

Location	Depth (ft)	PAHs (mg/kg)
PCS-RSB-057B	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	NS
	4 - 5	NS
	5 - 6	NS
	6 - 7	NS
	7 - 8	NS
	8 - 9	NS
	9 - 10	NS
	10 - 11	NS
	11 - 12	NS
	12 - 13	NS
	13 - 14	NS
	14 - 15	NS
	15 - 16	NS

Location	Depth (ft)	PAHs (mg/kg)
PCS-RSB-051	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	NS
	4 - 5	NS
	5 - 6	NS
	6 - 7	NS
	7 - 8	NS
	8 - 8.3	**946**
	8.3 - 9	NS
	9 - 10	NS
	10 - 11	NS
	11 - 12	NS
	12 - 13	NS
	13 - 14	NS
	14 - 15	NS
	15 - 16	NS

Location	Depth (ft)	PAHs (mg/kg)
PCS-RSB-060	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	135
	4 - 5	NS
	5 - 6	NS
	6 - 7	NS
	7 - 8	NS
	8 - 8.5	**1100**
	8.5 - 9	NS
	9 - 10	NS
	10 - 11	NS
	11 - 12	NS
	12 - 13	NS
	13 - 14	NS
	14 - 15	NS
	15 - 16	NS

Location	Depth (ft)	PAHs (mg/kg)
PCS-RSB-056	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	NS
	4 - 4.5	NS
	4.5 - 5.5	267
	5.5 - 6	NS
	6 - 7	**8368**
	7 - 8	NS
	8 - 9	NS
	9 - 10	NS
	10 - 11	NS
	11 - 12	NS
	12 - 13	NS
	13 - 14	NS

Location	Depth (ft)	PAHs (mg/kg)
PCS-RSB-062	0 - 1	NS
	1 - 2	NS
	2 - 3	201
	3 - 4	NS
	4 - 5	NS
	5 - 6	NS
	6 - 6.5	NS
	6.5 - 7.5	**2334**
	7.5 - 8	NS
	8 - 9	NS
	9 - 10	NS
	10 - 11	NS
	11 - 12	NS

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-109	0 - 0.5	11.7
	0.5 - 1.5	NS
	1.5 - 2.5	9.3
	2.5 - 3.5	NS
	3.5 - 4.5	NS
	4.5 - 5.5	NS
	5.5 - 6.5	NS
	6.5 - 7.5	45.9
	7.5 - 8.3	**1236**
	8.3 - 9.5	**701**
	9.5 - 10.5	34.7
	10.5 - 11.5	21.9
	11.5 - 12.5	189

Location	Depth (ft)	PAHs (mg/kg)
PCS-RSB-054	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	NS
	4 - 5	NS
	5 - 6	NS
	6 - 7	NS
	7 - 8	NS
	8 - 9	NS
	9 - 10	NS
	10 - 11	NS
	11 - 12	NS
	12 - 13	**2715**
	13 - 14	NS
	14 - 15	NS
	15 - 16	NS
	16 - 17	NS
	17 - 18	NS
	18 - 19	NS
	19 - 20	NS

Location	Depth (ft)	PAHs (mg/kg)
PCS-RSB-055	0 - 1	NS
	1 - 2	17.2
	2 - 3	NS
	3 - 4	NS
	4 - 5	NS
	5 - 6	**763**
	6 - 7	NS
	7 - 8	NS
	8 - 9	NS
	9 - 10	NS
	10 - 11	NS
	11 - 12	NS
	12 - 13	NS
	13 - 14	NS

Location	Depth (ft)	PAHs (mg/kg)
PCS-RSB-052	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	NS
	4 - 5	NS
	5 - 6	NS
	6 - 7	239
	7 - 8	NS
	8 - 9	NS
	9 - 10	NS
	10 - 11	NS
	11 - 12	NS

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-110	0 - 0.5	63.8
	0.5 - 1.5	54.3
	1.5 - 2.5	NS
	2.5 - 3.5	NS
	3.5 - 4.5	NS
	4.5 - 5.5	NS
	5.5 - 6.5	31.4
	6.5 - 7.5	7.3
	7.5 - 8.5	NS
	8.5 - 9.5	NS
	9.5 - 10.3	27.3

Location	Depth (ft)	PAHs (mg/kg)
PCS-RSB-059	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	NS
	4 - 5	NS
	5 - 6	NS
	6 - 7	NS
	7 - 8	NS
	8 - 9	NS
	9 - 10	NS
	10 - 11	**3710**
	11 - 12	NS
	12 - 13	NS
	13 - 14	NS
	14 - 15	NS
	15 - 16	NS

Location	Depth (ft)	PAHs (mg/kg)
PCS-RSB-061	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	NS
	4 - 5	NS
	5 - 6	NS
	6 - 7	172
	7 - 8	NS
	8 - 9	NS
	9 - 10	NS
	10 - 10.5	**3161**
	10.5 - 11	NS
	11 - 12	NS
	12 - 13	NS
	13 - 14	NS
	14 - 15	NS
	15 - 16	NS
	16 - 17	NS
	17 - 18	NS

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-111	0 - 0.5	15.5
	0.5 - 1.5	NS
	1.5 - 2.5	23.0
	2.5 - 3.5	NS
	3.5 - 4.5	6.3
	4.5 - 5.5	NS
	5.5 - 6.5	NS
	6.5 - 7	36.4

Location	Depth (ft)	PAHs (mg/kg)
PCS-RSB-053	0 - 1	NS
	1 - 2	NS
	2 - 3	NS
	3 - 4	NS
	4 - 5	NS
	5 - 6	NS
	6 - 7	NS
	7 - 8	NS
	8 - 9	NS
	9 - 10	NS
	10 - 11	NS
	11 - 12	NS
	12 - 13	NS
	13 - 14	NS
	14 - 15	NS
	15 - 16	NS

MAXIMUM TPAH (13) CONCENTRATION PER LOCATION

- < 80 mg/Kg
- 81 - 238 mg/Kg
- 239 - 299 mg/Kg
- > 300 mg/Kg
- UNSAMPLED BORING LOCATION
- RIVER FLOW DIRECTION
- APPROXIMATE FORMER MGP FACILITY BOUNDARY
- SAMPLING GRID

NS	No Sample
239	Exceeds UTL
80	Exceeds EC20
400	Exceeds EC50
(orange)	Sheen
(yellow)	Oil-wetted or coated

NOTES:
SURFACE SEDIMENT (0-0.5 FT BTOS) UTL = 239 MG/KG
SUBSURFACE SEDIMENT (GREATER THAN 0.5 FT BTOS) UTLVARIES FROM 214 TO 301 MG/KG DEPENDING ON DATA SET, SEE AMBIENT TECH MEMO FOR MORE INFORMATION. 300 MG/KG SELECTED FOR VISUAL REPRESENTATION ON THIS FIGURE
EC20 = 80 MG/KG = 20% EFFECTS CONCENTRATION
EC50 = 400 MG/KG = 50% EFFECTS CONCENTRATION
EC20 AND EC50 ONLY APPLIED TO SURFACE SEDIMENT INTERVAL
MG/KG - MILLIGRAM PER KILOGRAM
TPAH(13) - TOTAL 13 POLYCYCLIC AROMATIC HYDROCARBON CONCENTRATION
UTL - UPPER TOLERANCE LIMIT
SERVICE LAYER CREDITS SOURCE: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

DRAWN BY: TDC DATE: 6/16/17
CHECKED BY: EJH DATE: 6/16/17
APPROVED BY: EJH DATE: 8/18/17

SEDIMENT TPAH(13) CONCENTRATION AREA 2

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

Natural Resource Technology
AN OBG COMPANY

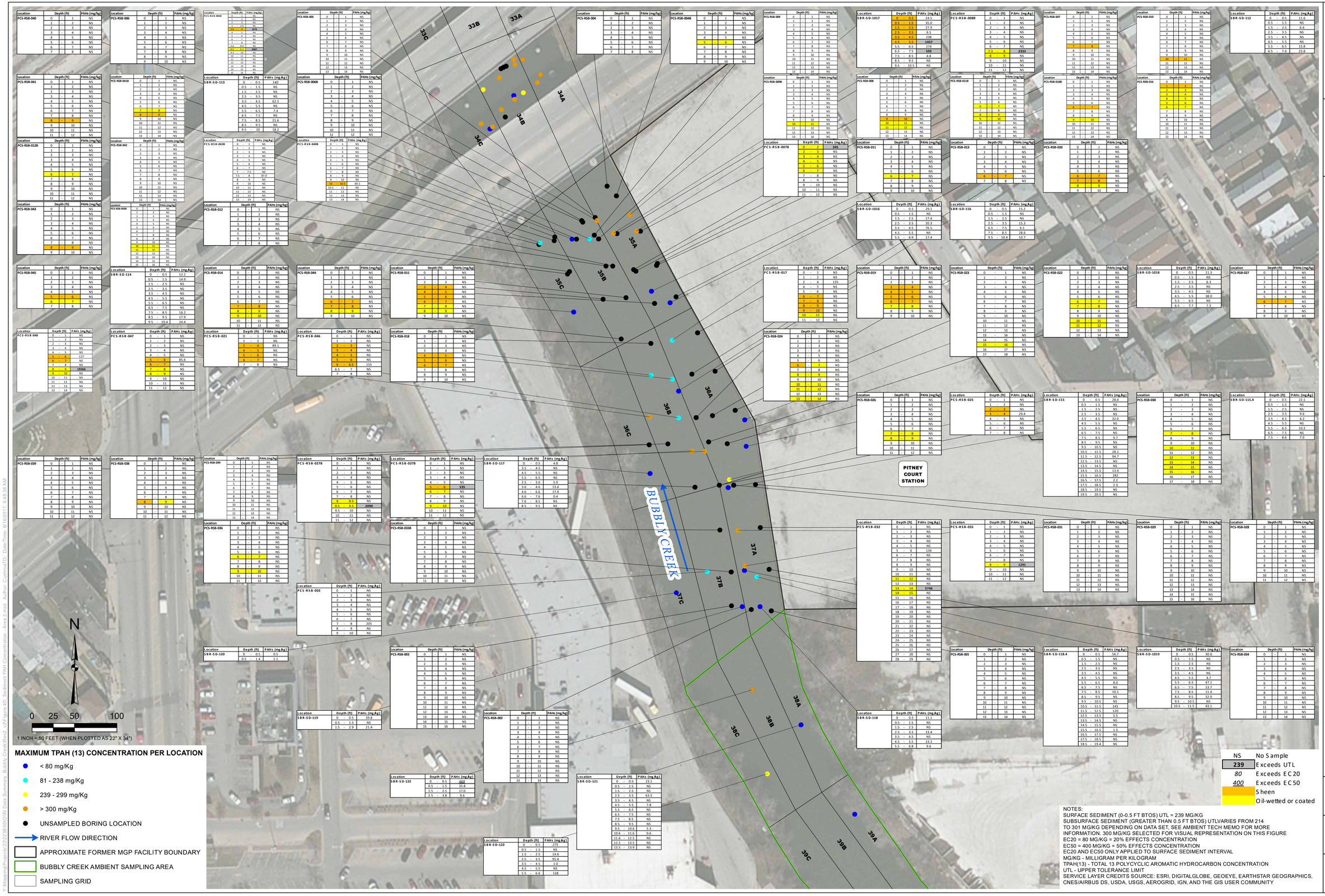
PROJECT NO. 2248

FIGURE 4C

SEDIMENT TPAH(13) CONCENTRATION
AREA 3

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

DRAWN BY: TDC — DATE: 6/16/17
CHECKED BY: EJH — DATE: 6/16/17
APPROVED BY: EJH — DATE: 8/18/17



Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-040	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	117
	6	-	7	85.6
	7	-	8	NS
	8	-	9	19266
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-038	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-039	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-041	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-012B	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-043	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-045	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-018	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	6.5	115
	6.5	-	7	NS
	7	-	8	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-046	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	6.5	115
	6.5	-	7	NS
	7	-	8	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-047	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-021	0	-	1	NS
	1	-	2	NS
	2	-	4	89.1
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-014	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS

Location	Depth (ft)			PAHs (mg/kg)
SBR-SD-114	0	-	0.5	12.2
	0.5	-	1.5	14.9
	1.5	-	2.5	NS
	2.5	-	3.5	NS
	3.5	-	4.5	NS
	4.5	-	5.5	NS
	5.5	-	6.5	NS
	6.5	-	7.5	NS
	7.5	-	8.5	16.2
	8.5	-	9.5	17.9
	9.5	-	10.4	24.4

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-005	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-006B	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-042	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-043B	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	NS
	14	-	15	NS
	15	-	16	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-044	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-015	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-004	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-004B	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-009	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-009B	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-007B	0	-	2	345
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS

Location	Depth (ft)			PAHs (mg/kg)
SBR-SD-1017	0	-	0.5	24.5
	0.5	-	1.5	35.0
	1.5	-	2.5	27.9
	2.5	-	3.5	9.5
	3.5	-	4.5	238
	4.5	-	5.5	1457
	5.5	-	6.5	274
	6.5	-	7.5	593
	7.5	-	8.5	4.8
	8.5	-	9.5	NS
	9.5	-	10.5	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-008	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-011	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS

Location	Depth (ft)			PAHs (mg/kg)
SBR-SD-1016	0	-	0.5	29.1
	0.5	-	1.5	NS
	1.5	-	2.5	17.4
	2.5	-	3.5	20.3
	3.5	-	4.5	76.5
	4.5	-	5.5	NS
	5.5	-	6.9	17.4

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-017	0	-	1	NS
	1	-	2	NS
	2	-	4	135
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-019	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-024	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-026	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-023	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	NS
	14	-	15	NS
	15	-	16	NS
	16	-	17	NS
	17	-	18	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-025	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	29.4
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-008B	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-013	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS

Location	Depth (ft)			PAHs (mg/kg)
SBR-SD-116	0	-	0.5	15.2
	0.5	-	1.5	NS
	1.5	-	2.5	NS
	2.5	-	3.5	15.3
	6.5	-	7.5	6.1
	7.5	-	8.5	28.6
	9.5	-	10.4	10.7

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-022	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	NS

Location	Depth (ft)			PAHs (mg/kg)
SBR-SD-1018	0	-	0.5	11.3
	0.5	-	1.5	NS
	1.5	-	2.5	6.3
	2.5	-	3.5	NS
	3.5	-	4.5	NS
	4.5	-	5.5	18.0
	5.5	-	6.5	NS
	6.5	-	7.7	7.3

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-027	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-007	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-010	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-028	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	NS

Location	Depth (ft)			PAHs (mg/kg)
SBR-SD-112	0	-	0.5	11.4
	0.5	-	1.5	NS
	1.5	-	2.5	6.6
	2.5	-	3.5	NS
	3.5	-	4.5	NS
	4.5	-	5.5	NS
	5.5	-	6.5	15.8
	6.5	-	7.6	25.8

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-016	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-029	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	NS
	14	-	15	NS
	15	-	16	NS

Location	Depth (ft)			PAHs (mg/kg)
SBR-SD-115-X	0	-	0.5	22.1
	0.5	-	1.5	NS
	1.5	-	2.5	NS
	2.5	-	3.5	9.6
	3.5	-	4.5	4.2
	4.5	-	5.5	NS
	5.5	-	6.5	10.2
	6.5	-	7.5	NS
	7.5	-	8.6	7.0

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-030	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	NS
	14	-	15	NS
	15	-	16	NS
	16	-	17	NS
	17	-	18	NS

Location	Depth (ft)			PAHs (mg/kg)
SBR-SD-115	0	-	0.5	28.4
	0.5	-	1.5	NS
	1.5	-	2.5	NS
	2.5	-	3.5	NS
	3.5	-	4.5	32.0
	4.5	-	5.5	NS
	5.5	-	6.5	NS
	6.5	-	7.5	NS
	7.5	-	8.5	9.7
	8.5	-	9.5	NS
	9.5	-	10.5	NS
	10.5	-	11.5	28.1
	11.5	-	12.5	94.7
	12.5	-	13.5	NS
	13.5	-	14.5	NS
	14.5	-	15.5	13.4
	15.5	-	16.5	282
	16.5	-	17.5	2.2
	17.5	-	18.5	2.3
	18.5	-	19.5	NS
	19.5	-	20.5	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-031	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-032	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	134
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	5746
	14	-	15	NS
	15	-	16	NS
	16	-	17	NS
	17	-	18	NS
	18	-	19	NS
	19	-	20	NS
	20	-	21	NS
	21	-	22	NS
	22	-	23	NS
	23	-	24	NS
	24	-	25	NS
	25	-	26	NS
	26	-	27	NS
	27	-	28	NS
	28	-	29	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-035	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	1293
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-001	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	NS

Location	Depth (ft)			PAHs (mg/kg)
SBR-SD-118	0	-	0.5	11.1
	0.5	-	1.5	NS
	1.5	-	2.5	NS
	2.5	-	3.5	13.4
	3.5	-	4.5	NS
	4.5	-	5.5	13.2
	5.5	-	6.8	9.6

Location	Depth (ft)			PAHs (mg/kg)
SBR-SD-118.4	0	-	0.5	56.7
	0.5	-	1.5	NS
	1.5	-	2.5	NS
	2.5	-	3.5	NS
	3.5	-	4.5	NS
	4.5	-	5.5	NS
	5.5	-	6.5	8.0
	6.5	-	7.5	NS
	7.5	-	8.5	10.1
	8.5	-	9.5	NS
	9.5	-	10.5	NS
	10.5	-	11.5	141
	11.5	-	12.5	120
	12.5	-	13.5	5.5
	13.5	-	14.5	NS
	14.5	-	15.5	NS
	15.5	-	16.5	1.3
	16.5	-	17.5	NS
	17.5	-	18.5	NS
	18.5	-	19.4	NS

Location	Depth (ft)			PAHs (mg/kg)
SBR-SD-1019	0	-	0.5	30.0
	0.5	-	1.5	NS
	1.5	-	2.5	NS
	2.5	-	3.5	NS
	3.5	-	4.5	NS
	4.5	-	5.5	4.7
	5.5	-	6.5	47.1
	6.5	-	7.5	13.7
	7.5	-	8.5	11.4
	8.5	-	9.5	52.9
	9.5	-	10.5	NS
	10.5	-	11.5	43.1

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-034	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	NS

Location	Depth (ft)			PAHs (mg/kg)
SBR-SD-120	0	-	0.5	0.5
	0.5	-	1.4	1.1

Location	Depth (ft)			PAHs (mg/kg)
SBR-SD-119	0	-	0.5	39.8
	0.5	-	1.5	NS
	1.5	-	2.9	21.4

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-003	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	NS
	14	-	15	NS
	15	-	16	NS

Location	Depth (ft)			PAHs (mg/kg)
PCS-RSB-002	0	-	1	NS
	1	-	2	NS
	2	-	3	NS
	3	-	4	NS
	4	-	5	NS
	5	-	6	NS
	6	-	7	NS
	7	-	8	NS
	8	-	9	NS
	9	-	10	NS
	10	-	11	NS
	11	-	12	NS
	12	-	13	NS
	13	-	14	NS

Location	Depth (ft)			PAHs (mg/kg)
SBR-SD-122	0	-	0.5	669
	0.5	-	1.5	35.8
	1.5	-	2.5	17.0
	2.5	-	3.8	9.6

Location	Depth (ft)			PAHs (mg/kg)
SBR-SD-121	0	-	0.5	23.1
	0.5	-	1.5	NS
	1.5	-	2.5	NS

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-124	0 - 0.5	9.6
	0.5 - 1.5	NS
	1.5 - 2.5	NS
	2.5 - 3.5	NS
	3.5 - 4.5	72.2
	4.5 - 5.5	NS
	5.5 - 6.5	NS
	6.5 - 7.5	NS
	7.5 - 8.7	24.4
	8.7 - 9.7	0.5
	9.7 - 10.7	NS
	10.7 - 11.7	0.6
	11.7 - 12.5	NS
	12.5 - 13	NS

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-125	0 - 0.5	41.1
	0.5 - 1.5	NS
	1.5 - 2.5	NS
	2.5 - 3.5	NS
	3.5 - 4.5	NS
	4.5 - 5.5	NS
	5.5 - 6.5	NS
	6.5 - 7.5	34.3
	7.5 - 8.5	NS
	8.5 - 9.5	227
	9.5 - 10.9	14.4
	10.9 - 11.5	0.2
	11.5 - 12.5	1.0
	12.5 - 13.5	NS
	13.5 - 14.5	NS
	14.5 - 14.9	NS

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-126.X	0 - 0.5	16.7
	0.5 - 1.9	5.2

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-126	0 - 0.5	21.8
	0.5 - 1.5	NS
	1.5 - 2.5	NS
	2.5 - 3.5	NS
	3.5 - 4.5	NS
	4.5 - 5.5	9.7
	5.5 - 6.5	NS
	6.5 - 7.5	5.0
	7.5 - 8.5	5.4
	8.5 - 9.5	11.8
	9.5 - 10.5	NS
	10.5 - 11.5	NS

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-127	0 - 0.5	56.9
	0.5 - 1.5	NS
	1.5 - 2.5	NS
	2.5 - 3.5	107
	3.5 - 4.5	41.9
	4.5 - 5.5	88.1
	5.5 - 6.5	NS
	6.5 - 7.5	NS
	7.5 - 8.5	NS
	8.5 - 9.5	NS
	9.5 - 10.5	81.3
	10.5 - 11.5	8.4
	11.5 - 12	0.8

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-128	0 - 0.5	31.2
	0.5 - 1.5	NS
	1.5 - 2.5	NS
	2.5 - 3.5	69.7
	3.5 - 4.1	83.7

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-128.X	0 - 0.5	3.7
	0.5 - 1.5	NS
	1.5 - 2.8	13.8

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-129	0 - 0.5	5.4
	0.5 - 1.5	NS
	1.5 - 2	12.3

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-130	0 - 0.5	2.1
	0.5 - 1.5	NS
	1.5 - 2.5	5.3
	2.5 - 3.5	NS
	3.5 - 4.5	27.9
	4.5 - 5.5	376
	5.5 - 6.5	758
	6.5 - 7.5	140
	7.5 - 8.5	NS
	8.5 - 9.8	162

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-131.4	0 - 0.5	17.6
	0.5 - 1.5	NS
	1.5 - 2.5	NS
	2.5 - 3.5	143
	3.5 - 4.5	NS
	4.5 - 5.5	NS
	5.5 - 6.5	NS
	6.5 - 7.5	NS
	7.5 - 8.5	45.9
	8.5 - 9.5	NS
	9.5 - 10.5	17.9
	10.5 - 11.5	NS
	11.5 - 12.5	NS
	12.5 - 13.5	NS
	13.5 - 14.5	29.0
	14.5 - 15.5	NS
	15.5 - 16.5	54.4
	16.5 - 17.5	NS
	17.5 - 18.5	72.0
	18.5 - 19.3	0.3

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-131	0 - 0.5	2.7
	0.5 - 1.5	93.5
	1.5 - 2.5	NS
	2.5 - 3.5	NS
	3.5 - 4.5	NS
	4.5 - 5.5	NS
	5.5 - 6.5	NS
	6.5 - 7.5	102
	7.5 - 8.1	40.1

Location	Depth (ft)	PAHs (mg/kg)
SBR-SD-132	0 - 0.5	15.7
	0.5 - 1.5	NS
	1.5 - 2.5	26.6
	2.5 - 3.5	NS
	3.5 - 4.5	NS
	4.5 - 5.5	60.7
	5.5 - 6.5	NS
	6.5 - 7.5	NS
	7.5 - 8.5	57.8
	8.5 - 9.3	38.5

38A 38B 38C 39A 39B 39C 40A 40B 40C 41A 41B 41C

BUBBLY CREEK

N

0 25 50 100

1 INCH = 50 FEET (WHEN PLOTTED AS 22" X 34")

MAXIMUM TPAH (13) CONCENTRATION PER LOCATION

- < 80 mg/Kg
- 81 - 238 mg/Kg
- 239 - 299 mg/Kg
- > 300 mg/Kg
- RIVER FLOW DIRECTION
- APPROXIMATE FORMER MGP FACILITY BOUNDARY
- BUBBLY CREEK AMBIENT SAMPLING AREA
- SAMPLING GRID

NS	No Sample
239	Exceeds UTL
80	Exceeds EC20
400	Exceeds EC50
	Sheen
	Oil-wetted or coated

NOTES:
SURFACE SEDIMENT (0-0.5 FT BTOS) UTL = 239 MG/KG
SUBSURFACE SEDIMENT (GREATER THAN 0.5 FT BTOS) UTLVARIES FROM 214 TO 301 MG/KG DEPENDING ON DATA SET, SEE AMBIENT TECH MEMO FOR MORE INFORMATION. 300 MG/KG SELECTED FOR VISUAL REPRESENTATION ON THIS FIGURE
EC20 = 80 MG/KG = 20% EFFECTS CONCENTRATION
EC50 = 400 MG/KG = 50% EFFECTS CONCENTRATION
EC20 AND EC50 ONLY APPLIED TO SURFACE SEDIMENT INTERVAL
MG/KG - MILLIGRAM PER KILOGRAM
TPAH(13) - TOTAL 13 POLYCYCLIC AROMATIC HYDROCARBON CONCENTRATION
UTL - UPPER TOLERANCE LIMIT
SERVICE LAYER CREDITS SOURCE: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

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CHECKED BY: EJH DATE: 6/16/17
APPROVED BY: EJH DATE: 8/18/17

SEDIMENT TPAH(13) CONCENTRATION AREA 4

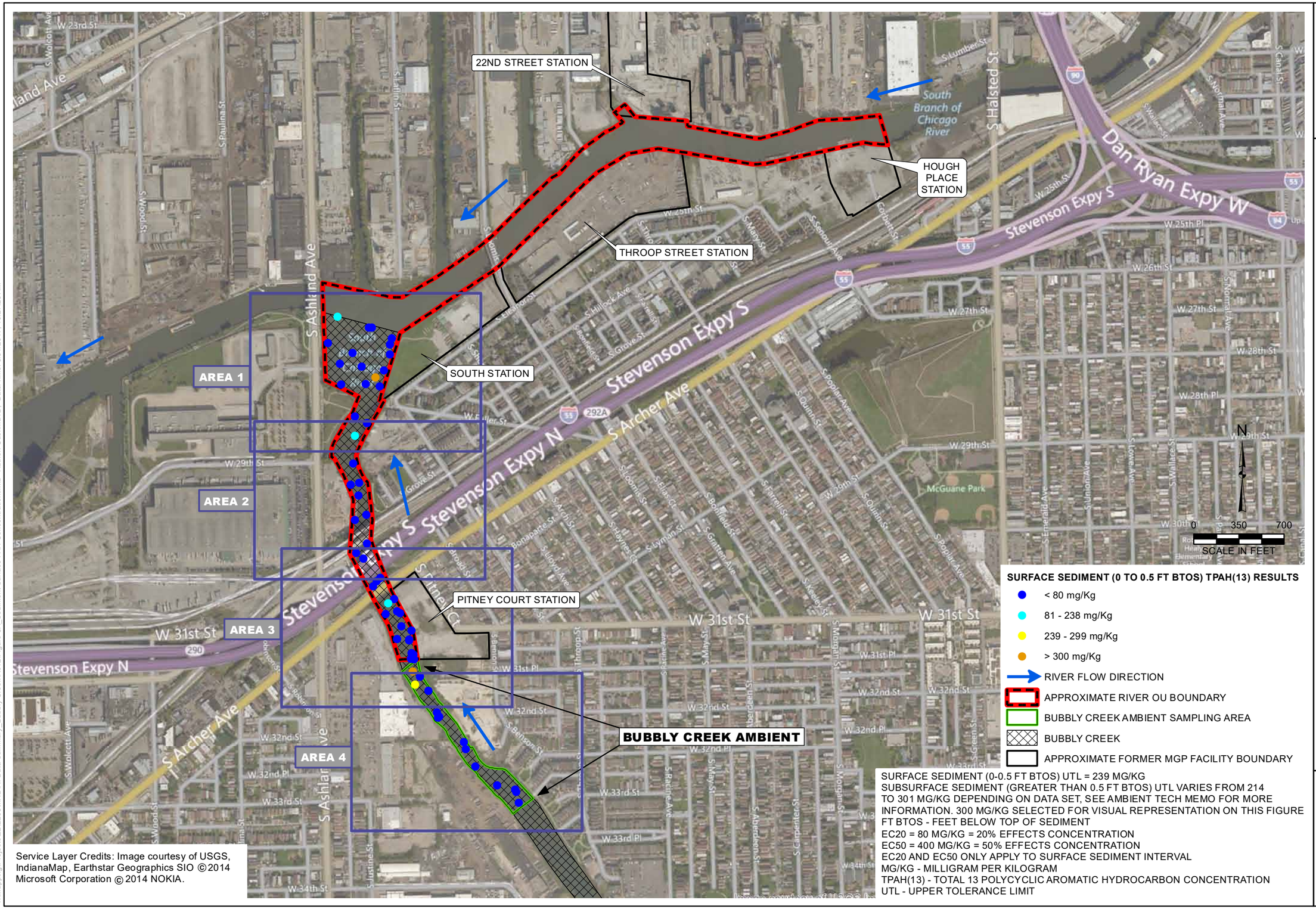
BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

Natural Resource Technology
AN OBG COMPANY

PROJECT NO. 2248

FIGURE 4E

M:\Maps\Projects\2248\MXD\BC Data Summary_Bubbly Creek\Rod_v2\Figure 4E_Sediment PAH Concentration_Area 4.mxd Author: Cushma(TD Date/Time: 6/16/2017 8:51:09 AM



SURFACE SEDIMENT (0 TO 0.5 FT BTOS) TPAH(13) RESULTS

- < 80 mg/Kg
- 81 - 238 mg/Kg
- 239 - 299 mg/Kg
- > 300 mg/Kg
- RIVER FLOW DIRECTION
- APPROXIMATE RIVER OU BOUNDARY
- BUBBLY CREEK AMBIENT SAMPLING AREA
- BUBBLY CREEK
- APPROXIMATE FORMER MGP FACILITY BOUNDARY

SURFACE SEDIMENT (0-0.5 FT BTOS) UTL = 239 MG/KG
SUBSURFACE SEDIMENT (GREATER THAN 0.5 FT BTOS) UTL VARIES FROM 214 TO 301 MG/KG DEPENDING ON DATA SET, SEE AMBIENT TECH MEMO FOR MORE INFORMATION. 300 MG/KG SELECTED FOR VISUAL REPRESENTATION ON THIS FIGURE
FT BTOS - FEET BELOW TOP OF SEDIMENT
EC20 = 80 MG/KG = 20% EFFECTS CONCENTRATION
EC50 = 400 MG/KG = 50% EFFECTS CONCENTRATION
EC20 AND EC50 ONLY APPLY TO SURFACE SEDIMENT INTERVAL
MG/KG - MILLIGRAM PER KILOGRAM
TPAH(13) - TOTAL 13 POLYCYCLIC AROMATIC HYDROCARBON CONCENTRATION
UTL - UPPER TOLERANCE LIMIT

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SEDIMENT SURFACE (0 TO 0.5 FT BTOS) TPAH(13) CONCENTRATIONS

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

PROJECT NO: 2238

FIGURE NO: 5A

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Y:\Mapping\Projects\2212238\MXD\RI Data Summary_Bubbly Creek\Rev2\Figure 5A_Sediment Surface PAH Concentration.mxd Author: CushmaTD; Date/Time: 3/31/2017, 10:27:26 AM

S ASHLAND AVE

SOUTH BRANCH OF CHICAGO RIVER

SOUTH STATION

TURNING BASIN

BUBBLY CREEK

SBR-SD-084
SBR-SD-078
SBR-SD-072
SBR-SD-073.4 MOB
SBR-SD-085
SBR-SD-073
SBR-SD-079
SBR-SD-074
SBR-SD-086
SBR-SD-080
SBR-SD-1014
SBR-SD-075
SBR-SD-087
SBR-SD-081
SBR-SD-1015
SBR-SD-097
SBR-SD-098
SBR-SD-099

26C
25C
24C
26D
24D
25D
26E
24E
25E
26F
24F
25F
30C
30B
30A
31C
31B
31A

N

0 62.5 125
SCALE IN FEET

SURFACE SEDIMENT (0 TO 0.5 FT BTOS) TPAH(13) RESULTS

- < 80 mg/Kg
- 81 - 238 mg/Kg
- 239 - 299 mg/Kg
- > 300 mg/Kg
- RIVER FLOW DIRECTION
- APPROXIMATE FORMER MGP FACILITY BOUNDARY
- SAMPLING GRID

NOTES:
SURFACE SEDIMENT (0-0.5 FT BTOS) UTL = 239 MG/KG
SUBSURFACE SEDIMENT (GREATER THAN 0.5 FT BTOS) UTLVARIES FROM 214 TO 301 MG/KG DEPENDING ON DATA SET, SEE AMBIENT TECH MEMO FOR MORE INFORMATION. 300 MG/KG SELECTED FOR VISUAL REPRESENTATION ON THIS FIGURE
EC20 = 80 MG/KG = 20% EFFECTS CONCENTRATION
EC50 = 400 MG/KG = 50% EFFECTS CONCENTRATION
EC20 AND EC50 ONLY APPLIED TO SURFACE SEDIMENT INTERVAL
MG/KG - MILLIGRAM PER KILOGRAM
TPAH(13) - TOTAL 13 POLYCYCLIC AROMATIC HYDROCARBON CONCENTRATION
UTL - UPPER TOLERANCE LIMIT

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SEDIMENT SURFACE (0 TO 0.5 FT BTOS) TPAH(13) CONCENTRATIONS AREA 1

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

PROJECT NO: 2238

FIGURE NO: 5B

Natural Resource Technology
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Y:\Mapping\Projects\2212238\MXD\RI Data Summary_Bubbly Creek\Rev2\Figure 5B_Sediment Surface PAH Concentration - Area 1.mxd Author: CushmaTD; Date/Time: 3/31/2017, 10:31:56 AM

SEDIMENT SURFACE (0 TO 0.5 FT BTOS) TPAH(13) CONCENTRATIONS AREA 2

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

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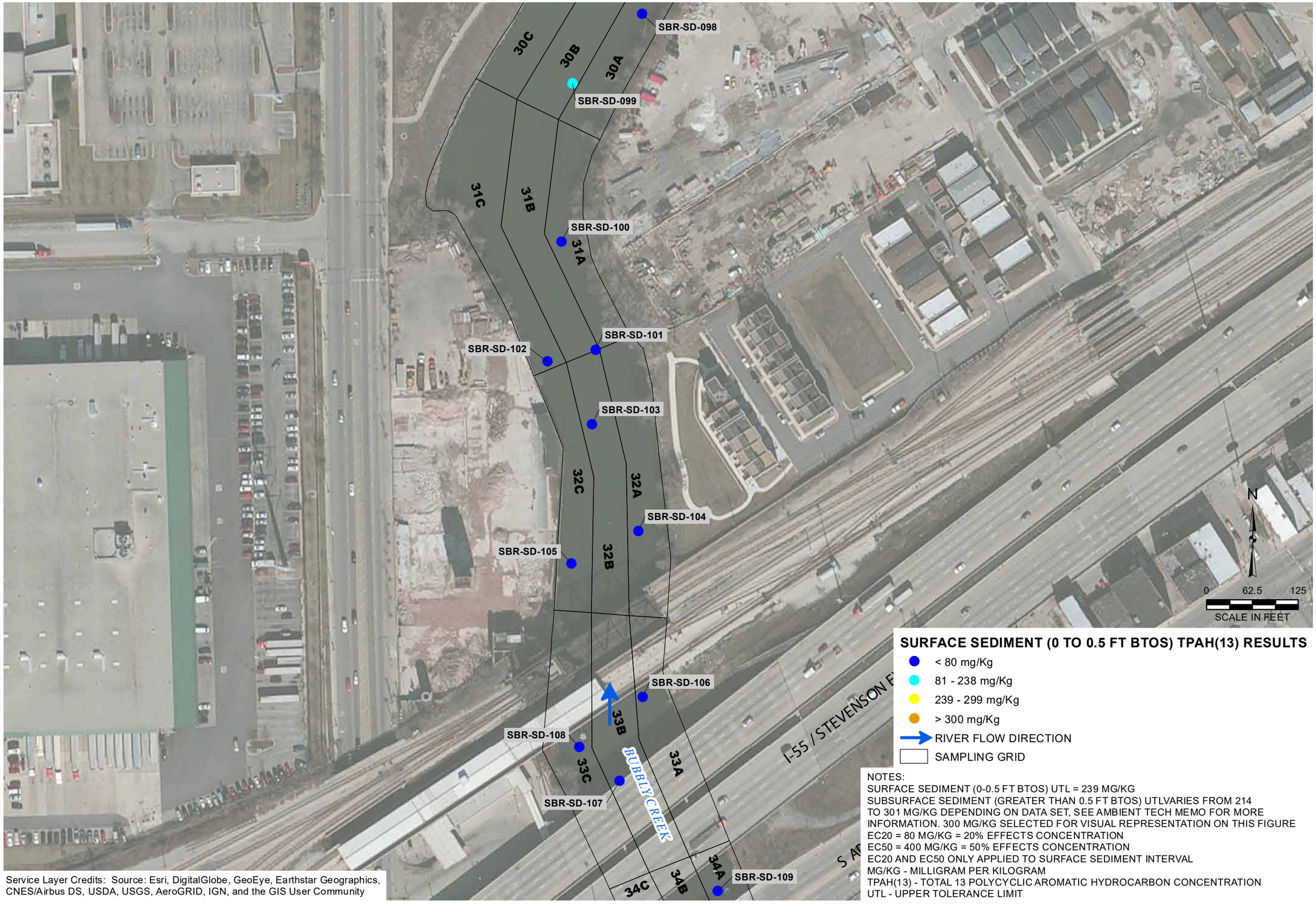

SURFACE SEDIMENT (0 TO 0.5 FT BTOS) TPAH(13) RESULTS

- < 80 mg/Kg
- 81 - 238 mg/Kg
- 239 - 299 mg/Kg
- > 300 mg/Kg
- RIVER FLOW DIRECTION
- SAMPLING GRID

NOTES:
SURFACE SEDIMENT (0-0.5 FT BTOS) UTL = 239 MG/KG
SUBSURFACE SEDIMENT (GREATER THAN 0.5 FT BTOS) UTLVARIES FROM 214 TO 301 MG/KG DEPENDING ON DATA SET, SEE AMBIENT TECH MEMO FOR MORE INFORMATION. 300 MG/KG SELECTED FOR VISUAL REPRESENTATION ON THIS FIGURE
EC20 = 80 MG/KG = 20% EFFECTS CONCENTRATION
EC50 = 400 MG/KG = 50% EFFECTS CONCENTRATION
EC20 AND EC50 ONLY APPLIED TO SURFACE SEDIMENT INTERVAL
MG/KG - MILLIGRAM PER KILOGRAM
TPAH(13) - TOTAL 13 POLYCYCLIC AROMATIC HYDROCARBON CONCENTRATION
UTL - UPPER TOLERANCE LIMIT

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PROJECT NO: 2238

FIGURE NO: 5C

Natural Resource Technology
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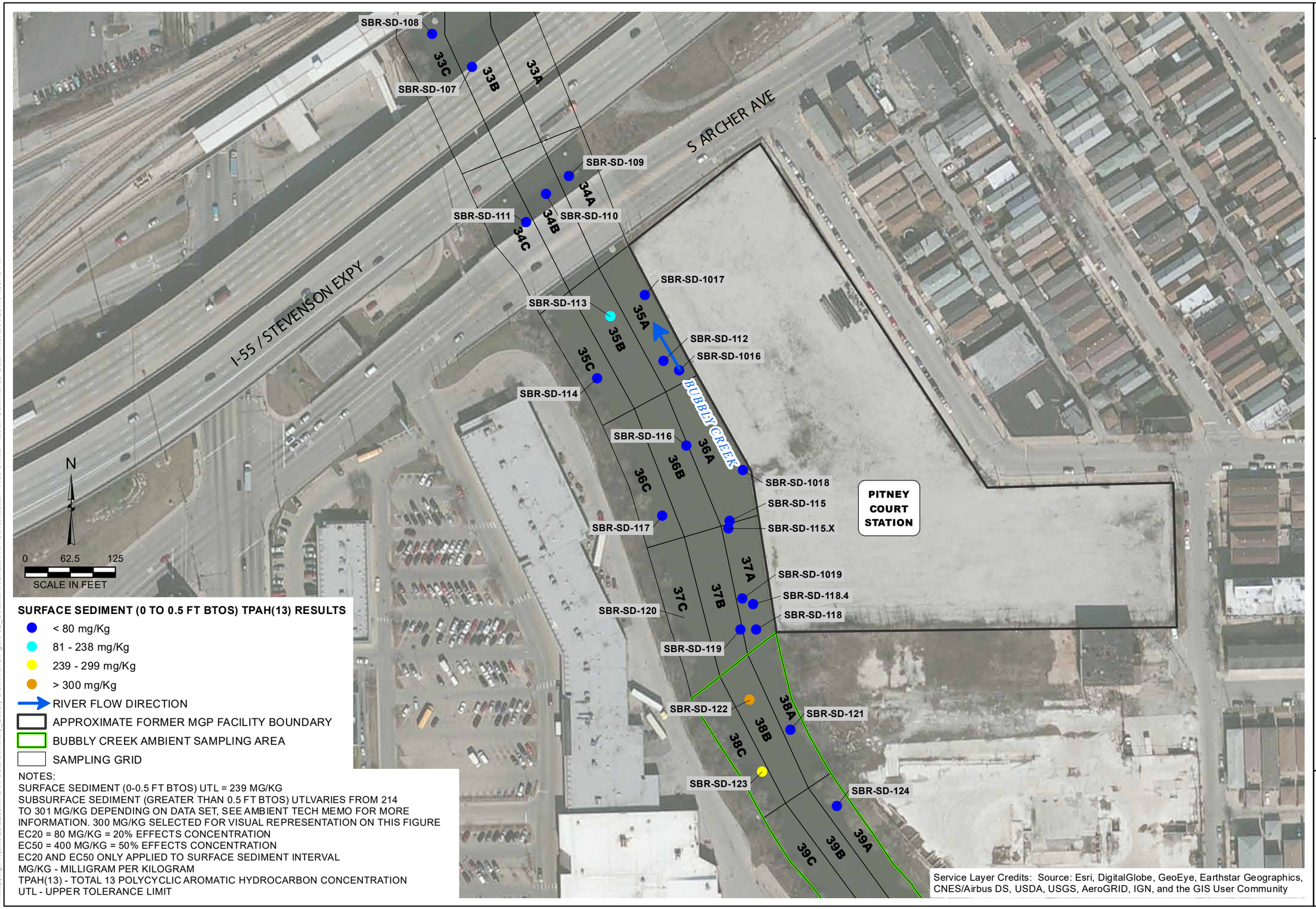

SURFACE SEDIMENT (0 TO 0.5 FT BTOS) TPAH(13) RESULTS

- < 80 mg/Kg
- 81 - 238 mg/Kg
- 239 - 299 mg/Kg
- > 300 mg/Kg
- RIVER FLOW DIRECTION
- APPROXIMATE FORMER MGP FACILITY BOUNDARY
- BUBBLY CREEK AMBIENT SAMPLING AREA
- SAMPLING GRID

NOTES:
SURFACE SEDIMENT (0-0.5 FT BTOS) UTL = 239 MG/KG
SUBSURFACE SEDIMENT (GREATER THAN 0.5 FT BTOS) UTLVARIES FROM 214 TO 301 MG/KG DEPENDING ON DATA SET, SEE AMBIENT TECH MEMO FOR MORE INFORMATION. 300 MG/KG SELECTED FOR VISUAL REPRESENTATION ON THIS FIGURE
EC20 = 80 MG/KG = 20% EFFECTS CONCENTRATION
EC50 = 400 MG/KG = 50% EFFECTS CONCENTRATION
EC20 AND EC50 ONLY APPLIED TO SURFACE SEDIMENT INTERVAL
MG/KG - MILLIGRAM PER KILOGRAM
TPAH(13) - TOTAL 13 POLYCYCLIC AROMATIC HYDROCARBON CONCENTRATION
UTL - UPPER TOLERANCE LIMIT

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SEDIMENT SURFACE (0 TO 0.5 FT BTOS) TPAH(13) CONCENTRATIONS AREA 3

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

PROJECT NO: 2238

FIGURE NO: 5D

Natural Resource Technology
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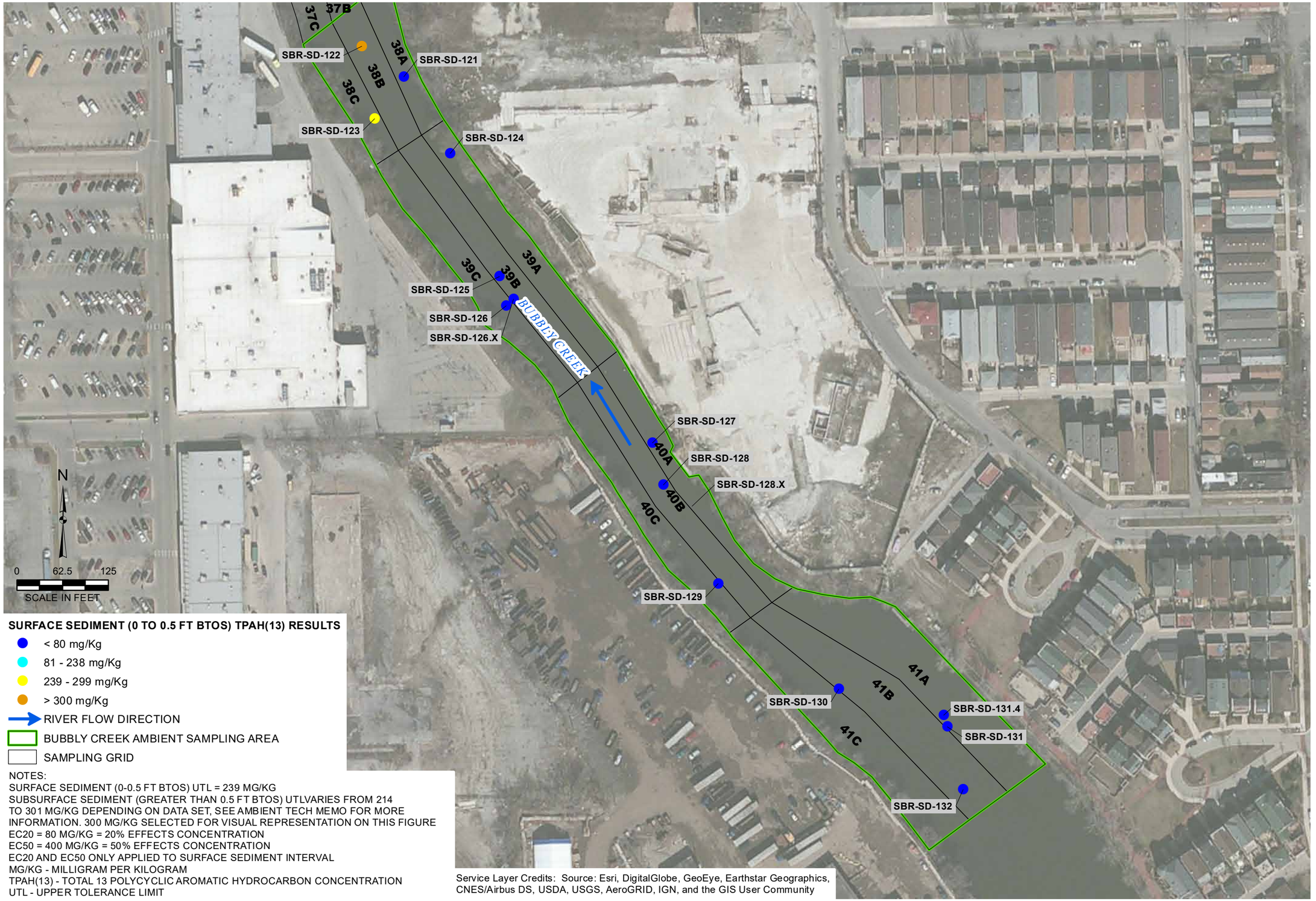

SURFACE SEDIMENT (0 TO 0.5 FT BTOS) TPAH(13) RESULTS

- < 80 mg/Kg
- 81 - 238 mg/Kg
- 239 - 299 mg/Kg
- > 300 mg/Kg
- RIVER FLOW DIRECTION
- BUBBLY CREEK AMBIENT SAMPLING AREA
- SAMPLING GRID

NOTES:
SURFACE SEDIMENT (0-0.5 FT BTOS) UTL = 239 MG/KG
SUBSURFACE SEDIMENT (GREATER THAN 0.5 FT BTOS) UTLVARIES FROM 214 TO 301 MG/KG DEPENDING ON DATA SET, SEE AMBIENT TECH MEMO FOR MORE INFORMATION. 300 MG/KG SELECTED FOR VISUAL REPRESENTATION ON THIS FIGURE
EC20 = 80 MG/KG = 20% EFFECTS CONCENTRATION
EC50 = 400 MG/KG = 50% EFFECTS CONCENTRATION
EC20 AND EC50 ONLY APPLIED TO SURFACE SEDIMENT INTERVAL
MG/KG - MILLIGRAM PER KILOGRAM
TPAH(13) - TOTAL 13 POLYCYCLIC AROMATIC HYDROCARBON CONCENTRATION
UTL - UPPER TOLERANCE LIMIT

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SEDIMENT SURFACE (0 TO 0.5 FT BTOS) TPAH(13) CONCENTRATIONS AREA 4

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

PROJECT NO: 2238

FIGURE NO: 5E

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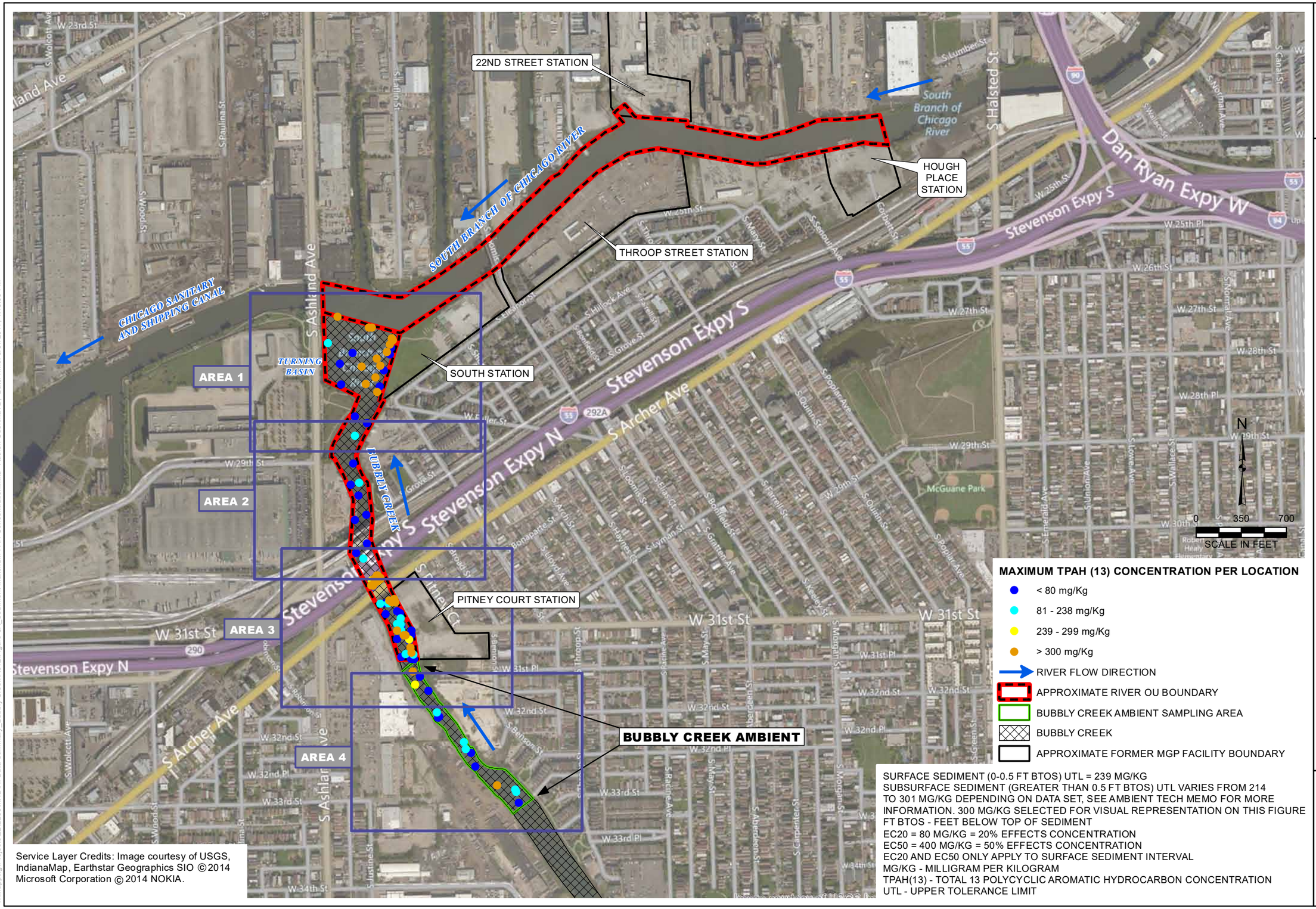
Y:\Mapping\Projects\22\2238\MXD\RI Data Summary_Bubbly Creek\Rev2\Figure 5E_Sediment Surface PAH Concentration - Area 4.mxd Author: CushmaTD; Date/Time: 3/31/2017, 4:41:53 PM



MAXIMUM TPAH (13) CONCENTRATION PER LOCATION

- < 80 mg/Kg
- 81 - 238 mg/Kg
- 239 - 299 mg/Kg
- > 300 mg/Kg
- RIVER FLOW DIRECTION
- APPROXIMATE RIVER OU BOUNDARY
- BUBBLY CREEK AMBIENT SAMPLING AREA
- BUBBLY CREEK
- APPROXIMATE FORMER MGP FACILITY BOUNDARY

SURFACE SEDIMENT (0-0.5 FT BTOS) UTL = 239 MG/KG
SUBSURFACE SEDIMENT (GREATER THAN 0.5 FT BTOS) UTL VARIES FROM 214 TO 301 MG/KG DEPENDING ON DATA SET, SEE AMBIENT TECH MEMO FOR MORE INFORMATION. 300 MG/KG SELECTED FOR VISUAL REPRESENTATION ON THIS FIGURE
FT BTOS - FEET BELOW TOP OF SEDIMENT
EC20 = 80 MG/KG = 20% EFFECTS CONCENTRATION
EC50 = 400 MG/KG = 50% EFFECTS CONCENTRATION
EC20 AND EC50 ONLY APPLY TO SURFACE SEDIMENT INTERVAL
MG/KG - MILLIGRAM PER KILOGRAM
TPAH(13) - TOTAL 13 POLYCYCLIC AROMATIC HYDROCARBON CONCENTRATION
UTL - UPPER TOLERANCE LIMIT

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REVIEWED BY/DATE: EJH 4/4/17
APPROVED BY/DATE: EJH 4/4/17

SEDIMENT MAXIMUM TPAH(13) CONCENTRATION

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

PROJECT NO: 2238

FIGURE NO: 6A

Natural Resource Technology
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Y:\Mapping\Projects\22\2238\MXD\RI Data Summary_Bubbly Creek\Rev2\Figure 6A_Sediment Maximum PAH Concentration.mxd Author: CushmaTD; Date/Time: 3/31/2017, 4:45:05 PM

S ASHLAND AVE

SOUTH BRANCH OF CHICAGO RIVER

SOUTH STATION

TURNING BASIN

BUBBLY CREEK

26C
26D
26E
26F
25C
25D
25E
25F
24C
24D
24E
24F
30C
30B
30A
31C
31B
31A

SBR-SD-084
SBR-SD-078
SBR-SD-072
SBR-SD-085
SBR-SD-079
SBR-SD-086
SBR-SD-080
SBR-SD-087
SBR-SD-081
SBR-SD-073.4 MOB
SSCD-RSB-011
SBR-SD-073
SSCD-RSB-010
SSCD-RSB-008
SBR-SD-074
SSCD-RSB-006
SSCD-RSB-005
SBR-SD-1014
SBR-SD-075
SBR-SD-1015
SSCD-RSB-001
SBR-SD-097
SBR-SD-098
SBR-SD-099

N

0 62.5 125
SCALE IN FEET

MAXIMUM TPAH (13) CONCENTRATION PER LOCATION

- < 80 mg/Kg
- 81 - 238 mg/Kg
- 239 - 299 mg/Kg
- > 300 mg/Kg
- RIVER FLOW DIRECTION
- APPROXIMATE FORMER MGP FACILITY BOUNDARY
- SAMPLING GRID

NOTES:
SURFACE SEDIMENT (0-0.5 FT BTOS) UTL = 239 MG/KG
SUBSURFACE SEDIMENT (GREATER THAN 0.5 FT BTOS) UTLVARIES FROM 214 TO 301 MG/KG DEPENDING ON DATA SET, SEE AMBIENT TECH MEMO FOR MORE INFORMATION. 300 MG/KG SELECTED FOR VISUAL REPRESENTATION ON THIS FIGURE
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EC50 = 400 MG/KG = 50% EFFECTS CONCENTRATION
EC20 AND EC50 ONLY APPLIED TO SURFACE SEDIMENT INTERVAL
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UTL - UPPER TOLERANCE LIMIT

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EJH 4/4/17
APPROVED BY/DATE:
EJH 4/4/17

SEDIMENT MAXIMUM TPAH(13) CONCENTRATION AREA 1

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE
CHICAGO, ILLINOIS

PROJECT NO: 2238

FIGURE NO: 6B

Natural Resource Technology
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Y:\Mapping\Projects\22\2238\MXD\RI Data Summary_Bubbly Creek\Rev2\Figure 6B_Sediment Maximum PAH Concentration - Area 1.mxd Author: CushmaTD; Date/Time: 3/31/2017, 4:47:36 PM

SEDIMENT MAXIMUM TPAH(13) CONCENTRATION AREA 2

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

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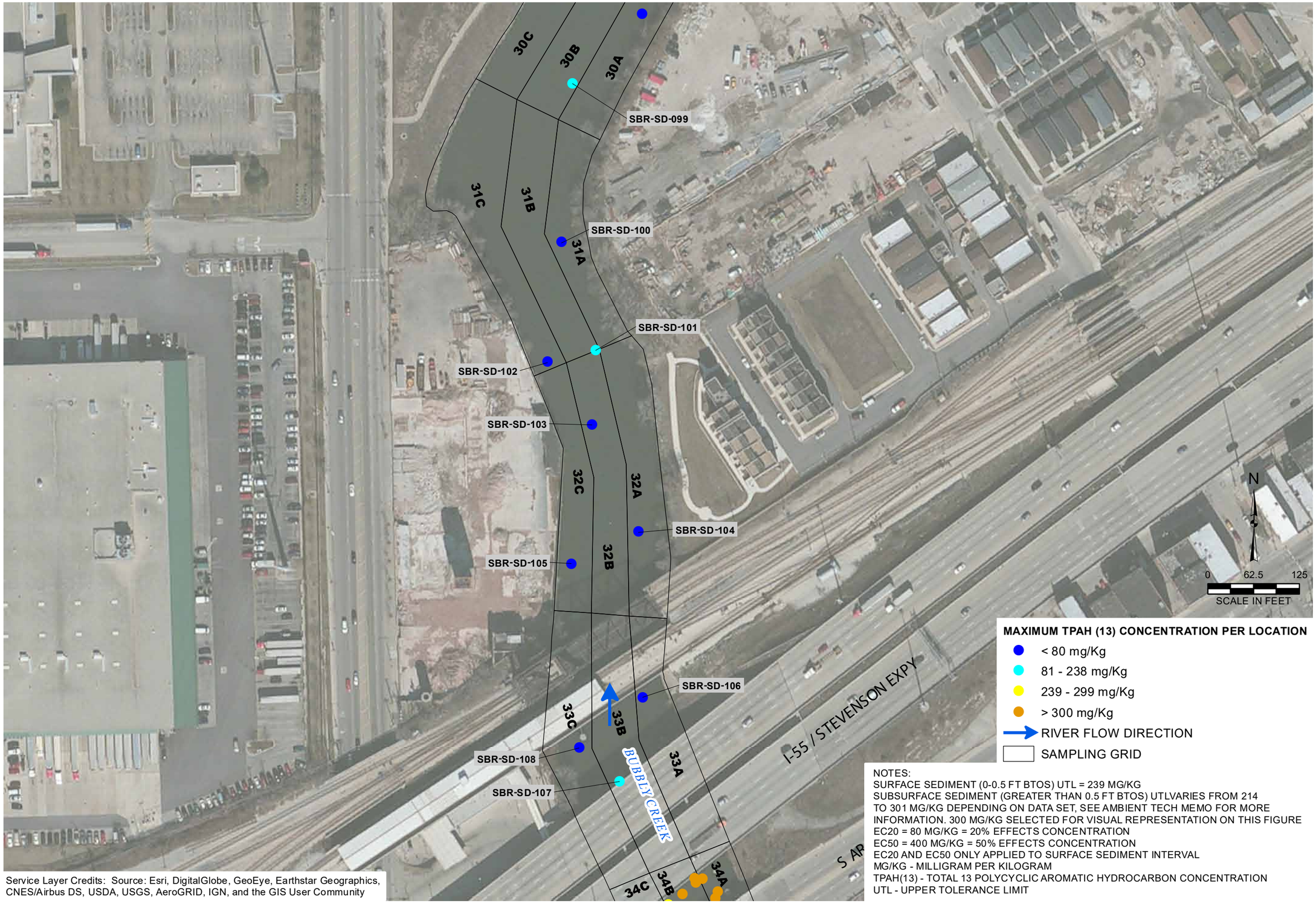
EJH 4/4/17
APPROVED BY/DATE:
EJH 4/4/17



MAXIMUM TPAH (13) CONCENTRATION PER LOCATION

- < 80 mg/Kg
- 81 - 238 mg/Kg
- 239 - 299 mg/Kg
- > 300 mg/Kg
- RIVER FLOW DIRECTION
- SAMPLING GRID

NOTES:
SURFACE SEDIMENT (0-0.5 FT BTOS) UTL = 239 MG/KG
SUBSURFACE SEDIMENT (GREATER THAN 0.5 FT BTOS) UTLVARIES FROM 214 TO 301 MG/KG DEPENDING ON DATA SET, SEE AMBIENT TECH MEMO FOR MORE INFORMATION. 300 MG/KG SELECTED FOR VISUAL REPRESENTATION ON THIS FIGURE
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EC50 = 400 MG/KG = 50% EFFECTS CONCENTRATION
EC20 AND EC50 ONLY APPLIED TO SURFACE SEDIMENT INTERVAL
MG/KG - MILLIGRAM PER KILOGRAM
TPAH(13) - TOTAL 13 POLYCYCLIC AROMATIC HYDROCARBON CONCENTRATION
UTL - UPPER TOLERANCE LIMIT

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PROJECT NO: 2238

FIGURE NO: 6C

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Y:\Mapping\Projects\2212238\MXD\RI Data Summary_Bubbly Creek\Rev2\Figure 6C_Sediment Maximum PAH Concentration - Area 2.mxd Author: CushmaTD; Date/Time: 3/31/2017, 4:48:47 PM

SEDIMENT MAXIMUM TPAH(13) CONCENTRATION AREA 3

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

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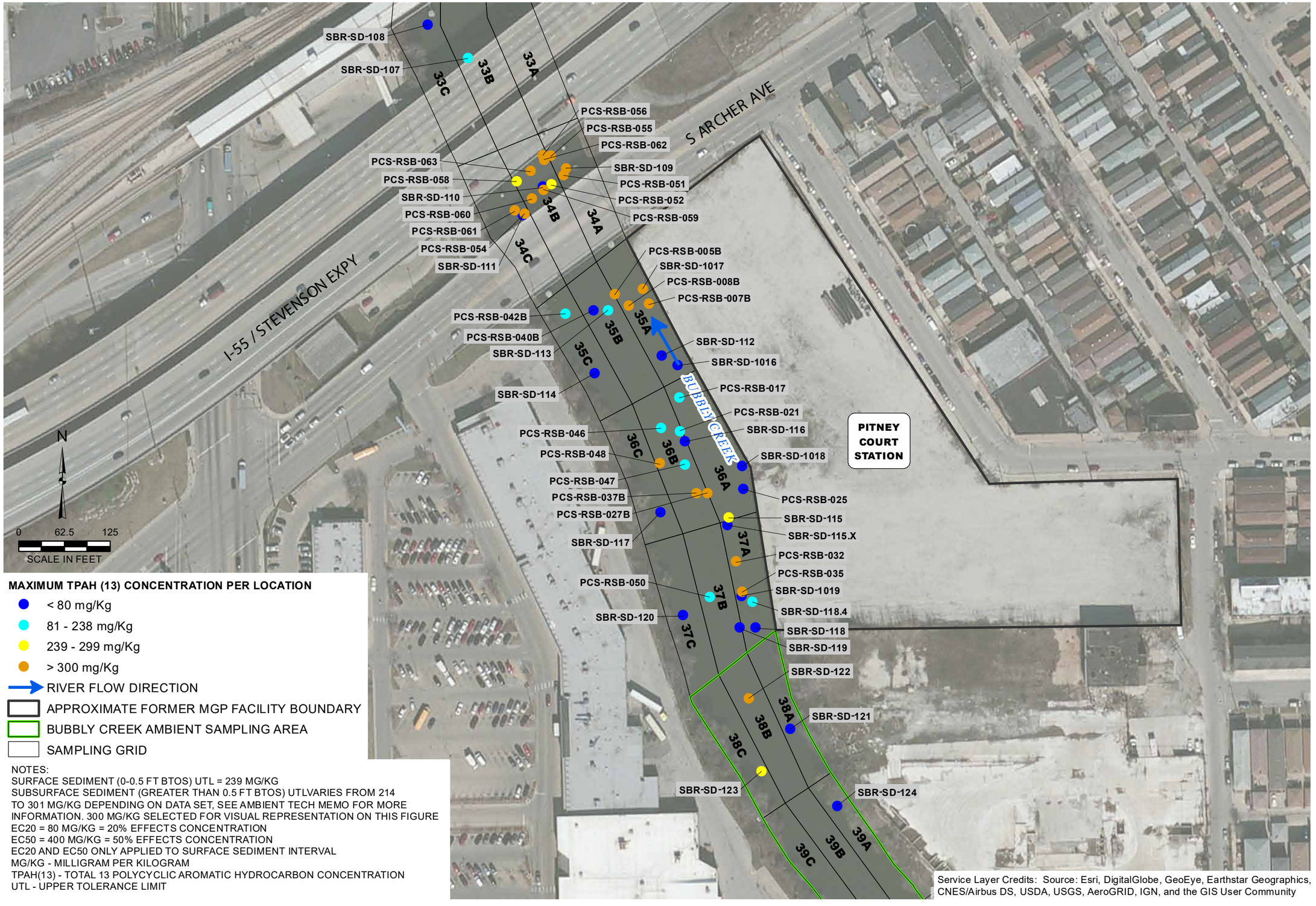
TDC 3/31/17
REVIEWED BY/DATE:
EJH 4/4/17
APPROVED BY/DATE:
EJH 4/4/17



MAXIMUM TPAH (13) CONCENTRATION PER LOCATION

- < 80 mg/Kg
- 81 - 238 mg/Kg
- 239 - 299 mg/Kg
- > 300 mg/Kg
- RIVER FLOW DIRECTION
- APPROXIMATE FORMER MGP FACILITY BOUNDARY
- BUBBLY CREEK AMBIENT SAMPLING AREA
- SAMPLING GRID

NOTES:
SURFACE SEDIMENT (0-0.5 FT BTOS) UTL = 239 MG/KG
SUBSURFACE SEDIMENT (GREATER THAN 0.5 FT BTOS) UTLVARIES FROM 214 TO 301 MG/KG DEPENDING ON DATA SET, SEE AMBIENT TECH MEMO FOR MORE INFORMATION. 300 MG/KG SELECTED FOR VISUAL REPRESENTATION ON THIS FIGURE
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EC50 = 400 MG/KG = 50% EFFECTS CONCENTRATION
EC20 AND EC50 ONLY APPLIED TO SURFACE SEDIMENT INTERVAL
MG/KG - MILLIGRAM PER KILOGRAM
TPAH(13) - TOTAL 13 POLYCYCLIC AROMATIC HYDROCARBON CONCENTRATION
UTL - UPPER TOLERANCE LIMIT

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PROJECT NO: 2238

FIGURE NO: 6D

Natural Resource Technology
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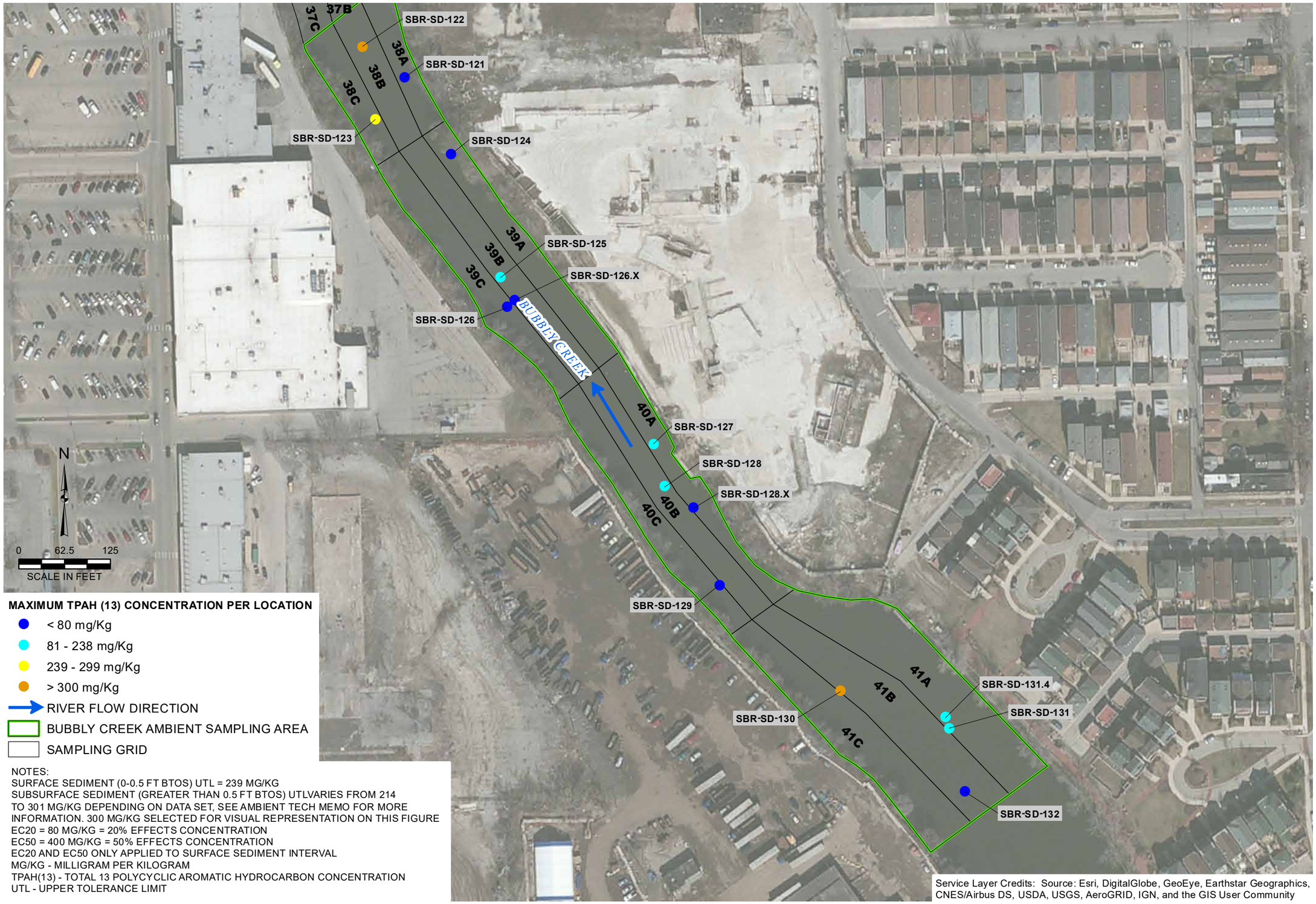
Y:\Mapping\Projects\22\2238\MXD\RI Data Summary_Bubbly Creek\Rev2\Figure 6D_Sediment Maximum PAH Concentration - Area 3.mxd Author: CushmaTD; Date/Time: 3/31/2017, 4:50:16 PM



MAXIMUM TPAH (13) CONCENTRATION PER LOCATION

- < 80 mg/Kg
- 81 - 238 mg/Kg
- 239 - 299 mg/Kg
- > 300 mg/Kg
- RIVER FLOW DIRECTION
- BUBBLY CREEK AMBIENT SAMPLING AREA
- SAMPLING GRID

NOTES:
SURFACE SEDIMENT (0-0.5 FT BTOS) UTL = 239 MG/KG
SUBSURFACE SEDIMENT (GREATER THAN 0.5 FT BTOS) UTLVARIES FROM 214 TO 301 MG/KG DEPENDING ON DATA SET, SEE AMBIENT TECH MEMO FOR MORE INFORMATION. 300 MG/KG SELECTED FOR VISUAL REPRESENTATION ON THIS FIGURE
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EC50 = 400 MG/KG = 50% EFFECTS CONCENTRATION
EC20 AND EC50 ONLY APPLIED TO SURFACE SEDIMENT INTERVAL
MG/KG - MILLIGRAM PER KILOGRAM
TPAH(13) - TOTAL 13 POLYCYCLIC AROMATIC HYDROCARBON CONCENTRATION
UTL - UPPER TOLERANCE LIMIT

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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EJH 4/4/17
APPROVED BY/DATE:
EJH 4/4/17

SEDIMENT SURFACE PAH CONCENTRATIONS AREA 4

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

PROJECT NO: 2238

FIGURE NO: 6E

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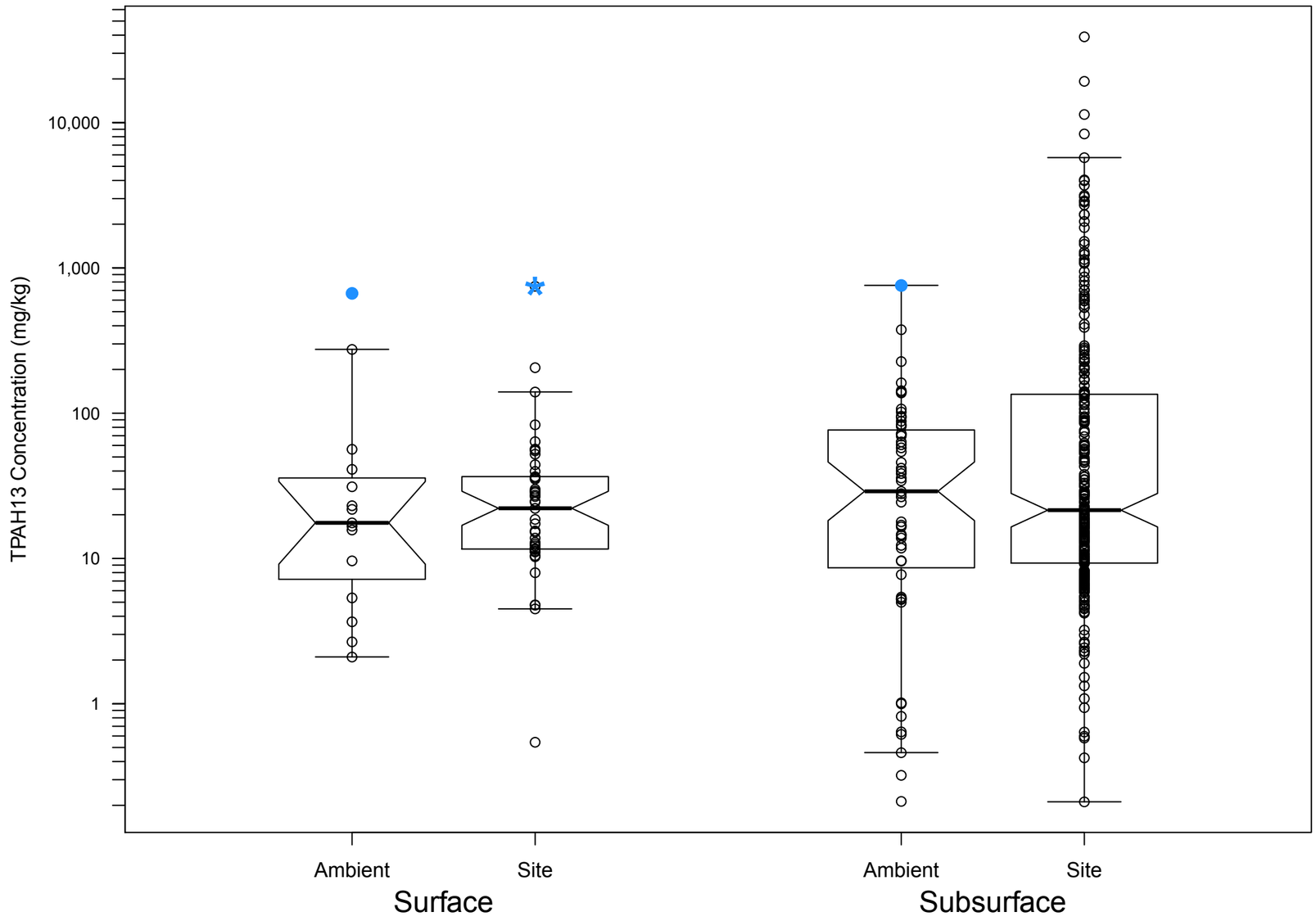
Y:\Mapping\Projects\22\2238\MXD\RI Data Summary_Bubbly Creek\Rev2\Figure 6E_Sediment Maximum PAH Concentration - Area 4.mxd Author: CushmaTD; Date/Time: 3/31/2017, 4:51:51 PM

TPAH13 − Ambient and Investigative Area Sediment Samples



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SEDIMENT TPAH13 BOXPLOT

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

PROJECT NO: 2238

FIGURE NO: 7A

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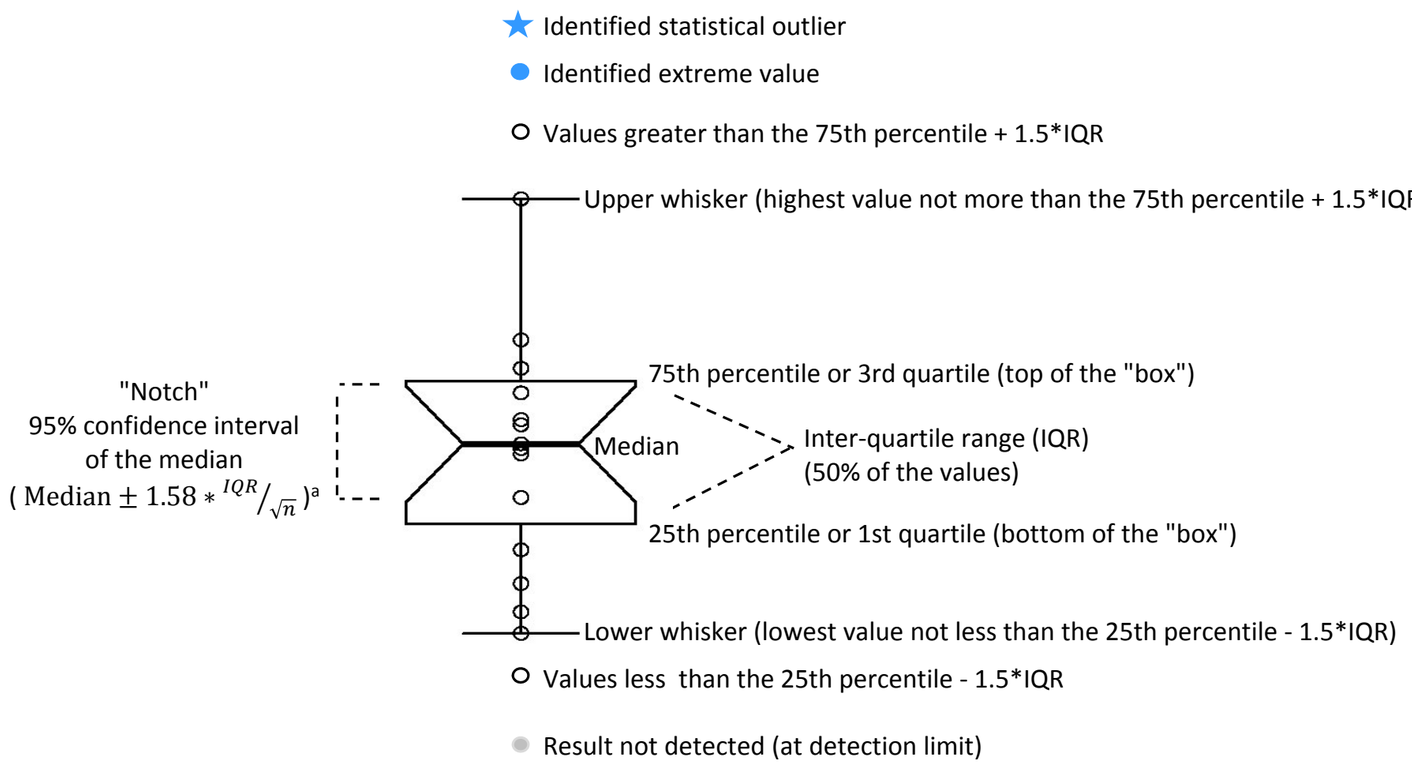
Boxplot Legend



[a] Chambers, J.M., W.S. Cleveland, B. Kleiner and P.A. Tukey. 1983. Graphical Methods for Data Analysis. Wadsworth & Brooks/Cole.

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BOXPLOT LEGEND

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

PROJECT NO: 2238

FIGURE NO: 7B

Natural Resource Technology
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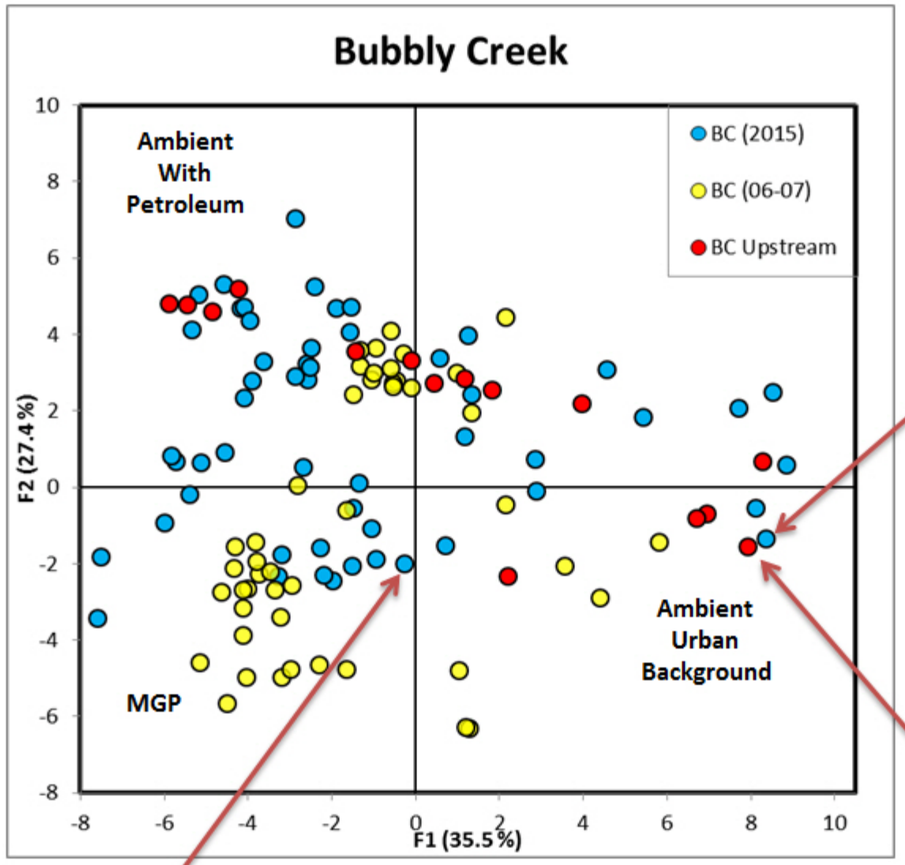

Note.
Principal Component Analysis (PCA) was performed for all the samples collected in both Bubbly Creek and South Branch Chicago River but only the Bubbly Creek samples are shown for presentation purpose.

Source: SBCR_PCA_Evaluation_08-02-2016 (with notes)_Final.xlsx

Note: Figure content generated by Exponent

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PRINCIPAL COMPONENT ANALYSIS BUBBLY CREEK

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

PROJECT NO: 2238

FIGURE NO: 8A

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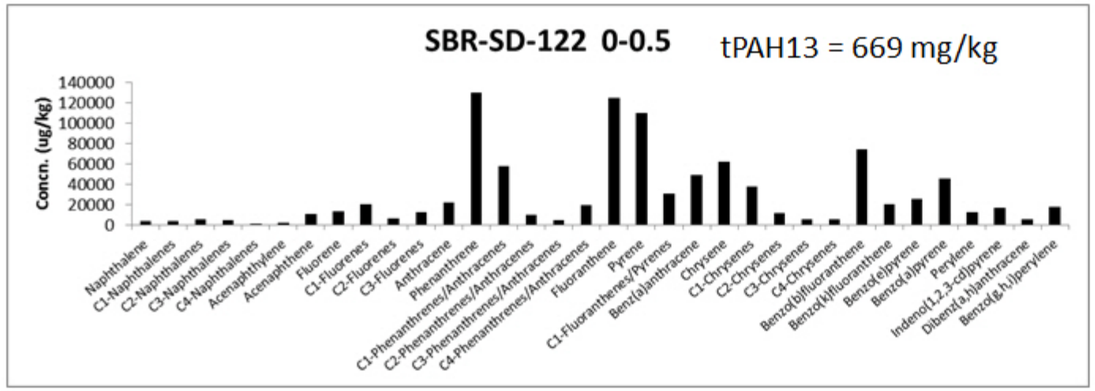
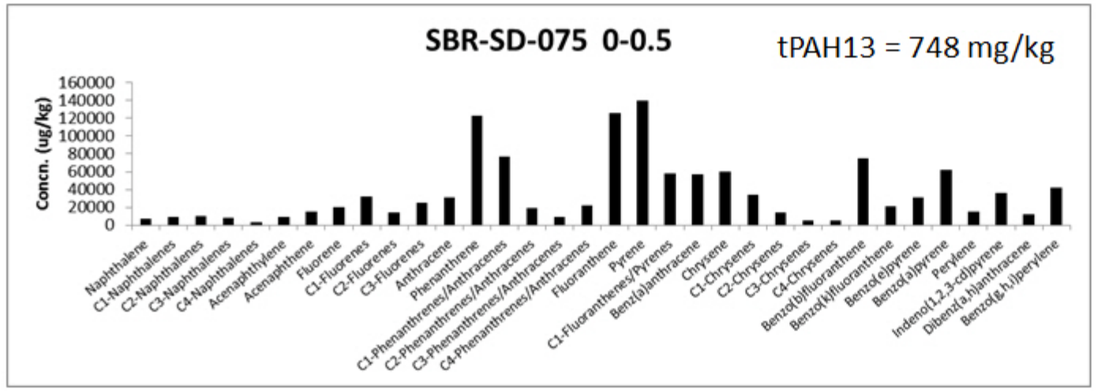
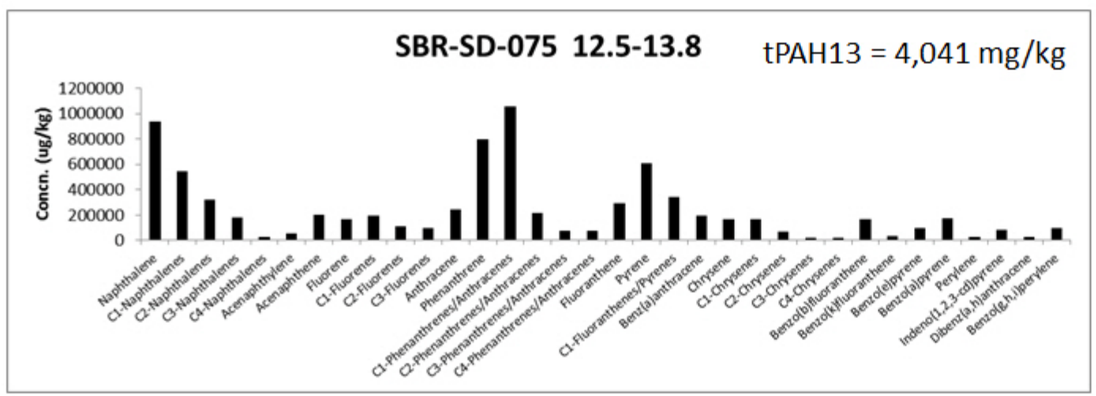


Ambient Urban Background PAH Profile



Ambient Urban Background PAH Profile



MGP PAH Profile

Source: SBCR_PCA_Evaluation_08-02-2016 (with notes)_Final.xlsx

Note: Figure content generated by Exponent

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REVIEWED BY/DATE: EJH 4/4/17
APPROVED BY/DATE: EJH 4/4/17

HISTOGRAMS OF SELECTED SAMPLES

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

PROJECT NO: 2238

FIGURE NO: 8B

Natural Resource Technology
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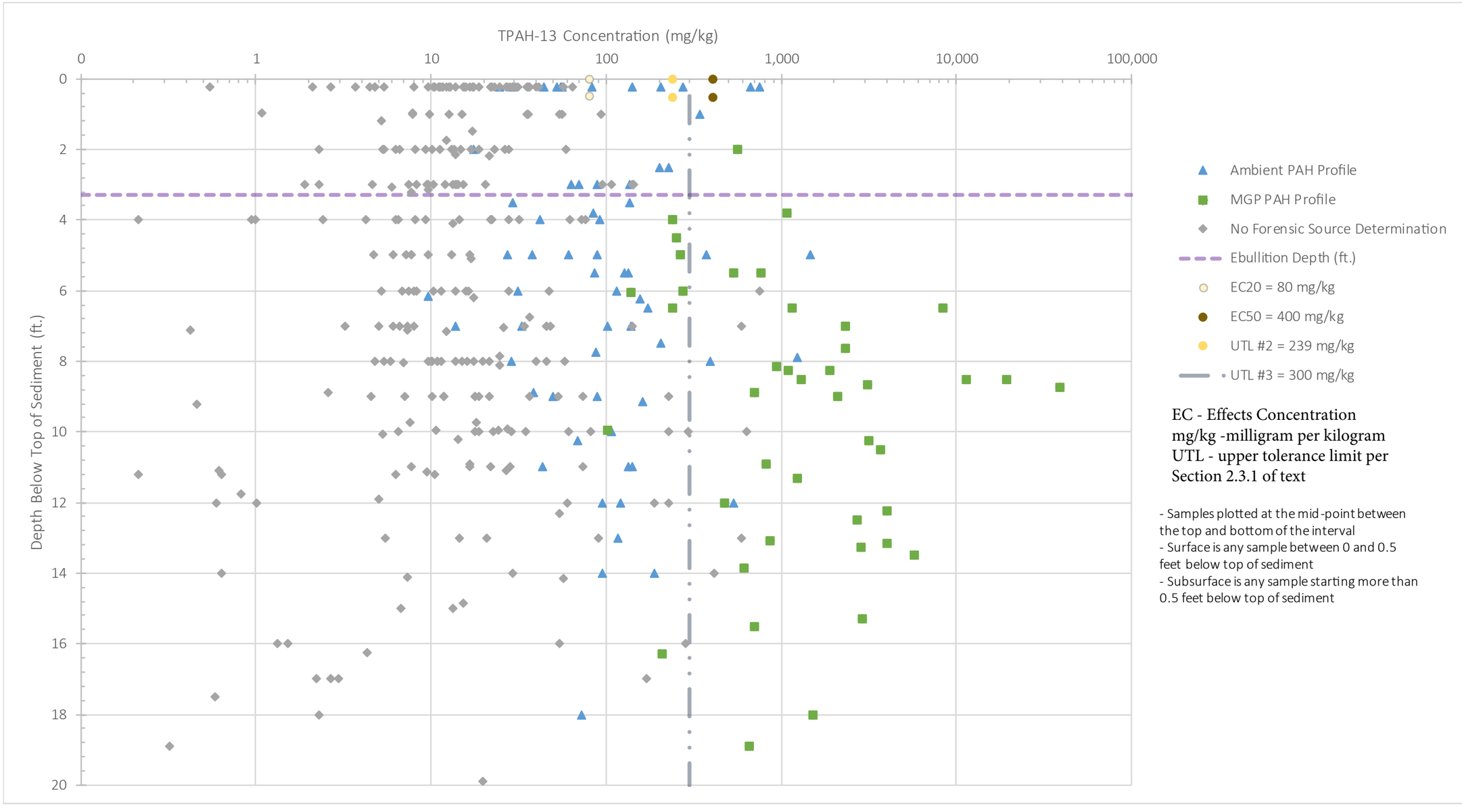

EC - Effects Concentration
mg/kg -milligram per kilogram
UTL - upper tolerance limit per Section 2.3.1 of text

- Samples plotted at the mid-point between the top and bottom of the interval
- Surface is any sample between 0 and 0.5 feet below top of sediment
- Subsurface is any sample starting more than 0.5 feet below top of sediment

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APPROVED BY/DATE: EJH 4/4/17

TPAH-13 CONCENTRATION (MG/KG), ALL SAMPLES, REFERENCE UTL SCATTER PLOT

BUBBLY CREEK INVESTIGATIVE AREA
BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

PROJECT NO: 2238

FIGURE NO: 9A

Natural Resource Technology
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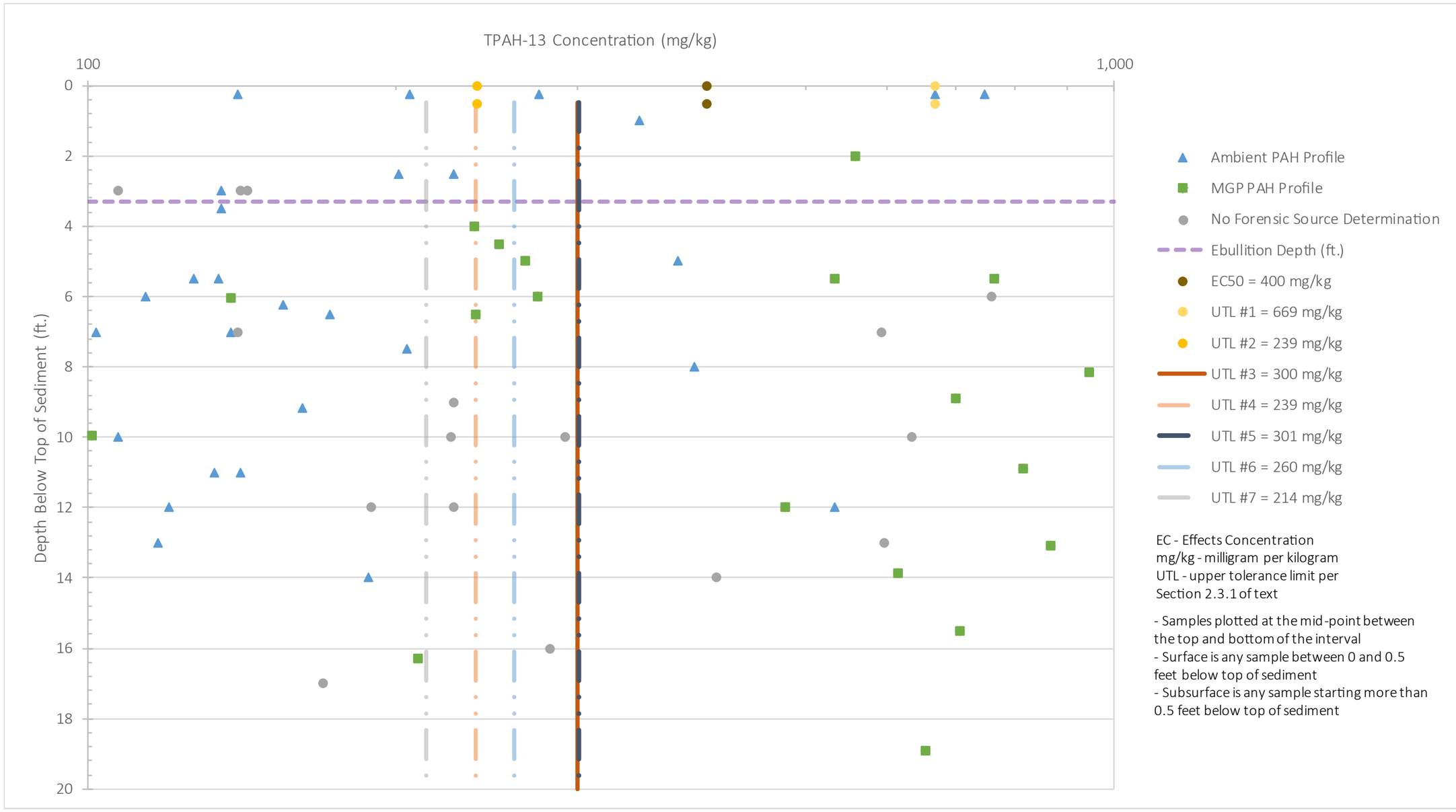

EC - Effects Concentration
mg/kg - milligram per kilogram
UTL - upper tolerance limit per Section 2.3.1 of text

- Samples plotted at the mid-point between the top and bottom of the interval
- Surface is any sample between 0 and 0.5 feet below top of sediment
- Subsurface is any sample starting more than 0.5 feet below top of sediment

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APPROVED BY/DATE: EJH 4/4/17

TPAH-13 CONCENTRATION (MG/KG), BETWEEN 100 AND 1,000 (MG/KG), ALL UTLS SCATTER PLOT

BUBBLY CREEK INVESTIGATIVE AREA
BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

PROJECT NO: 2238

FIGURE NO: 9B

Natural Resource Technology
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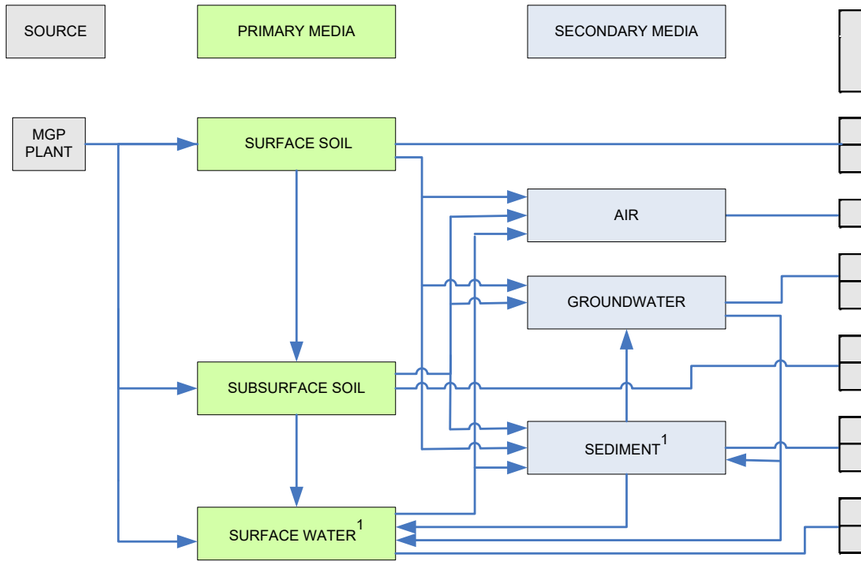

EXPOSURE ROUTE	HUMAN RECEPTORS				ECOLOGICAL RECEPTORS			
	INDUSTRIAL/ COMMERCIAL WORKER	CONSTRUCTION WORKER	RECREATIONAL	RESIDENTIAL	BIRDS	MAMMALS	FISH	BENTHIC INVERTEBRATES
INGESTION*	NA	NA	NA	NA	NA	NA	NA	NA
DERMAL*	NA	NA	NA	NA	NA	NA	NA	NA
INHALATION*	NA	NA	NA	NA	NA	NA	NA	NA
INGESTION*	NA	NA	NA	NA	NA	NA	NA	NA
DERMAL*	NA	NA	NA	NA	NA	NA	NA	NA
INGESTION*	NA	NA	NA	NA	NA	NA	NA	NA
DERMAL*	NA	NA	NA	NA	NA	NA	NA	NA
INGESTION	○	○	○	○	○	○	○	○
DERMAL	○	○	○	○	○	○	○	○
INGESTION	○	○	○	○	○	○	○	○
DERMAL	○	○	○	○	○	○	○	○

LEGEND:

- ● Pathway potentially complete and warrants further evaluation within the Baseline Risk Assessment. The level of evaluation will depend upon site conditions.
- ○ Pathway incomplete or considered insignificant; no further evaluation is recommended.
- * Surface soil, subsurface soil, air, and groundwater exposure routes not considered here but will be evaluated as separate operable units. Upland OU has been remediated and is not considered a potential ongoing source of COPCs to Bubbly Creek.

NA: Not Applicable

Footnote 1. The surface (0 to 0.5 ft) depth interval of sediment in Bubbly Creek was found to be consistent with upstream ambient conditions and unaffected by former MGP operations. The surface sediments represent the biologically active zone where ecological receptors will contact the sediments. Since these surface sediments reflect ambient conditions, they would not pose an exposure concern above background conditions to ecological receptors (e.g., benthic invertebrates, fish, and aquatic birds). In addition, because of the ambient surface sediment conditions, exposure to MGP-related constituents in surface water was considered an insignificant exposure pathway.

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SITE-SPECIFIC CONCEPTUAL SITE MODEL

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

PROJECT NO: 2238

FIGURE NO: 10

Natural Resource Technology
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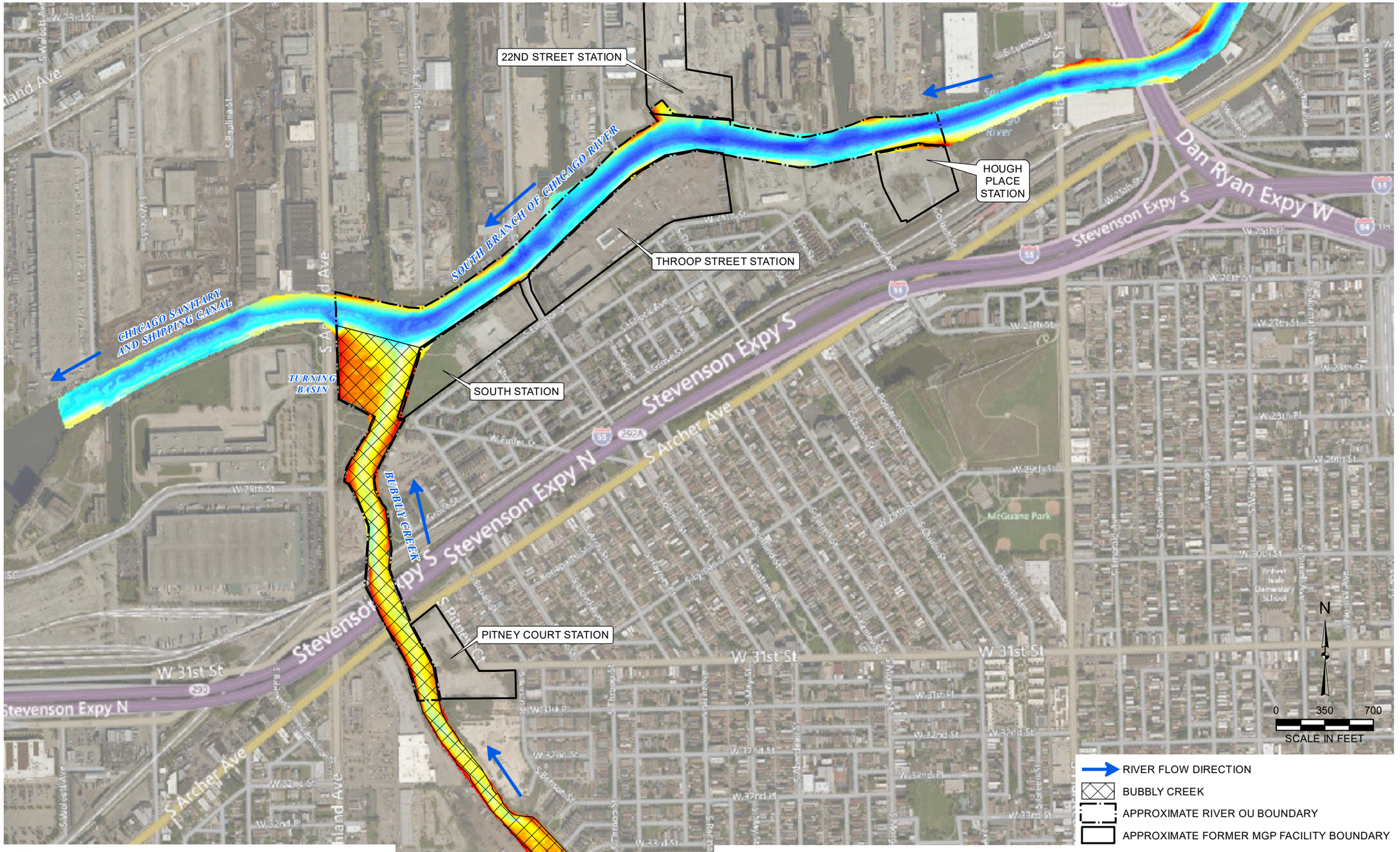

NOTE:
0.0 FEET CCD = 579.19 FEET NAVD88
SURFACE WATER TYPICALLY MAINTAINED AT -2.0 CCD
CCD - CITY OF CHICAGO DATUM
NAVD88 - NORTH AMERICAN VERTICAL DATUM OF 1988

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EJH 6/29/17
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EJH 6/29/17

2015 BATHYMETRIC SURVEY DATA

BUBBLY CREEK DATA SUMMARY REPORT
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

PROJECT NO: 2238

FIGURE NO: 11

Natural Resource Technology
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Y:\Mapping\Projects\22\2238\MXD\RI Data Summary_Bubbly Creek\Rev2_v2\Figure 11_2015 Bathymetric Survey Data.mxd Author: CushmaTD; Date/Time: 6/29/2017, 4:10:46 PM

Appendix A

Exponent's Bubbly Creek Ambient Evaluation Technical Memorandum Revision 0

Exponent
1800 Diagonal Road, Suite 500
Alexandria, VA 22314

Bubbly Creek Ambient Evaluation

This document provides an evaluation of the ambient sediment conditions within the Bubbly Creek portion of the South Branch Site River Operable Unit (OU), as specified in the Site-Specific Work Plan (SSWP), Revision 0, dated March 17, 2015, for the OU in Section 6.5.4.2 *Ambient Investigation*. In the *Preliminary South Branch Site River OU Ambient Evaluation* (Exponent April 2016), the sediment data in the South Branch Site River OU was reviewed to evaluate whether the North Branch Chicago River upper tolerance limits (UTLs) used to define ambient conditions for the North Branch Chicago River would also be applicable to the South Branch Site River OU. The North Branch UTLs were initially used for a point of comparison to the South Branch Site River OU sediment data by Natural Resource Technology, Inc. (NRT) in Technical Memorandum No. 2238, DRAFT Preliminary Summary of South Branch Site River OU 2015 Sediment Investigation, dated February 24, 2016. As specified in the SSWP, if ambient conditions in the South Branch River OU differ from those in the North Branch Chicago River, then an ambient investigation would be considered for the South Branch Chicago River similar to the investigation performed for the North Branch Chicago River.

To evaluate if North Branch Chicago River ambient conditions were similar to or different from the South Branch Site River Ambient conditions, sediment samples in these two areas were compared. The North Branch Chicago River ambient data set used to develop the UTLs was used to perform the comparative analysis with the South Branch Site River OU data.

Based on this comparative analysis (refer to Table 1 and 2), it was determined that the sediment chemistry data (i.e., tPAH-13 and many of the metals concentrations) in the two portions of the River (North Branch and South Branch) were significantly different, which required that ambient UTLs for the South Branch River OU water bodies be developed independently.[1] In general, the chemical concentrations of tPAH-13 and many of the metals were significantly lower in concentration in the Bubbly Creek ambient area than the North Branch Chicago River ambient area. This technical memorandum, which focuses on the Bubbly Creek portion of the South Branch Site River OU, documents development of UTLs for Bubbly Creek.

The methods used to develop the Bubbly Creek UTLs and to compare the ambient data with site samples are discussed in detail in the technical memorandum *Step I Data Evaluation for North Branch Sediment Sampling, North Branch Chicago River, Willow Street/Hawthorne Avenue Station and Division Street Station Former MGPs, The Peoples Gas Light and Coke Company* dated February 20, 2013. For brevity, the methods are not repeated here. However, where appropriate, specific additions to the methods or discussion of the results are provided to address comments from the U.S. Environmental Protection Agency (EPA) on the Preliminary Ambient

[1] Tables 1 and 2 from the Preliminary South Branch Site River OU Ambient Evaluation (Exponent April 2016) are provided for informational purposes only. The comparisons in these tables have not been updated to reflect additional sediment data analyzed since the preliminary evaluation was completed or to update the definitions of the surface and subsurface sediment depth intervals. Table 1 was revised to correct an error in the original version of the table as committed to in response to EPA comments on the preliminary ambient evaluation.

Evaluation that were agreed upon to be addressed in this Bubbly Creek specific ambient evaluation.

During the North Branch ambient evaluation, it was learned that contaminant concentrations in sediments of the Chicago River were moderately toxic to sensitive ecological receptors, such as benthic invertebrates, based on sediment toxicity tests run on a subset of the ambient sediment samples. Considering this result for the North Branch Chicago River, the expectation was that the South Branch Site River OU sediments would also be moderately toxic to these same sensitive receptors. Therefore, no sediment toxicity testing of South Branch Chicago River or Bubbly Creek sediments were performed as part of the South Brach Site River OU ambient evaluation. Rather, this Bubbly Creek ambient evaluation focuses on the chemical characterization of the sediments in the ambient area.

Evaluation of Ambient Conditions in Bubbly Creek—UTL Analysis of Ambient Data Sets

As specified in the South Branch Site River OU SSWP, if the North Branch Chicago River UTLs were not found to be applicable to the South Branch Site River OU, then an ambient investigation for the South Branch Site River OU would be considered. Based on the Preliminary Ambient Evaluation, the Bubbly Creek ambient data for TPAH-13 and some metals were significantly lower than the North Branch Chicago River ambient data.[2] For this reason, a Bubbly Creek analysis was performed to develop UTLs for tPAH-13 and metals for Bubbly Creek ambient data. The Bubbly Creek ambient sediment samples were defined as sediment samples upstream of the South Branch Site River OU in Bubbly Creek—SBR-SD-121 though SBR-SD-132 (including 126.X, 128.X, and 131.4). Refer to Figure 1 for an overview of the Bubbly Creek ambient area within the South Branch Site River OU and Figure 2, for a close-up of the Bubbly Creek ambient area and the specific ambient sediment sample locations. During a reconnaissance performed by NRT in July of 2016, the ambient sample locations were revisited and confirmed to be ambient sample locations and not influenced by point sources (e.g., combined sewer outfall [CSO]). This reconnaissance was performed to provide a similar level of evaluation of the ambient samples locations as was performed during the North Branch Chicago River ambient evaluation.

The Bubbly Creek ambient data were split into two subgroups:

- Surface sediment (0–0.5 ft below the sediment surface water interface), which is indicative of the bioactive zone, and
- Subsurface sediments (>0.5 ft below the sediment surface water interface).

[2] Note that ambient concentration limits (UTLs) were only developed for tPAH-13 and metals as these were the analytes that had elevated concentrations in the ambient areas in comparison to available ecological sediment benchmarks. Other analytes analyzed in ambient sediments (e.g., phenols and benzene, toluene, ethylbenzene, and xylenes [BTEX]) were not generally elevated above available ecological sediment benchmarks, so it was not necessary to develop ambient concentrations limits for these analytes.

Since the Preliminary Ambient Evaluation was performed, additional subsurface ambient sediment samples pulled from the archive of available sediment samples were analyzed for TPAH-13 and metals. All available surface ambient sediment samples from the sediment investigation had previously been analyzed. The updated sediment data reflecting the additional subsurface sediment samples was used in this evaluation to develop the UTLs for Bubbly Creek. Table 3 provides a summary of the UTLs developed for tPAH-13 based on the larger upstream Bubbly Creek ambient data set.

Within the Preliminary Ambient Evaluation, ambient UTLs were developed separately for surface and subsurface depth intervals. However, statistical test of the mean tPAH-13 concentrations between the two depth intervals indicated no significant difference (refer to worksheet "DepthComparison output" in file BubblyCreekUTLsummary-tPAH13.xlsx on the CD). For this reason, Table 3 provides tPAH-13 UTLs based on the combined surface and subsurface samples and separately by depth interval for consistency with the Preliminary Ambient Evaluation. It should be noted that all the analyses performed herein assume that multiple samples within the same sediment core can be treated as independent results for purposes of statistical analysis. EPA indicated in an e-mail response that while this approach of treating samples within a core as independent samples is not standard, it would be acceptable for this specific ambient evaluation (e-mail from Jenny Davis [EPA] to Naren Prasad [WBS] dated December 1, 2016).

Given the sensitivity of the UTL statistic to anomalous high values, outlier tests were performed for the surface and subsurface ambient Bubbly Creek tPAH-13 data sets. No outliers were identified for either of these data sets. Despite no statistical outliers, there was one surface sample with a tPAH-13 concentration of 669 mg/kg that, based on feedback from EPA, was considered an extreme value when reviewed earlier with the available ambient samples before the additional archived subsurface sample results were analyzed.[3] Among the additional archived subsurface samples analyzed, one subsurface sample had a tPAH-13 concentration of 758 mg/kg that could potentially be considered an extreme value. Forensic evaluation of the original sediment samples available from the ambient Bubbly Creek area before the archived samples were analyzed was conducted to determine if any of the ambient samples were potentially affected by manufactured gas plant (MGP) residuals. Based on the forensic evaluation (Exponent September 2016), none of the ambient Bubbly Creek sediment samples evaluated had PAH profiles consistent with an MGP source.[4] Results of the forensic evaluation indicated no reason to exclude any samples from the ambient Bubbly Creek data sets. For consistency with EPA review and comments, tPAH-13 UTLs developed with the two extreme sample results excluded are provided in Table 3.

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[3] Note that sample SBR-SD-122 0-0.5 with a tPAH-13 concentration of 669 mg/kg is located near the downstream end of the Bubbly Creek ambient area in the surface interval (0–0.5 feet), and sample SBR-SD-130 5.5-6.5 with a tPAH-13 concentration of 758 mg/kg is located near the upstream end of the Bubbly Creek ambient area in the subsurface interval (5.5–6.6 feet).

[4] The forensic evaluation focused on ambient sediment samples with tPAH-13 concentrations greater than 100 mg/kg. As discussed in the forensic evaluation report, the 100 mg/kg concentration limit was used to focus the forensic evaluation on the sources of PAHs in samples that would be above any likely background concentration limit determined using the ambient data set.

The tPAH-13 UTLs based on the combined (surface and subsurface) ambient samples are considered most appropriate because there was no significant difference between the depth intervals. The other UTLs based on surface and subsurface samples separately are provided in Table 3 for informational purposes.

The process for identifying a final UTL value for each of the three data sets (surface, subsurface, and combined) followed ProUCL technical guidance based on the output from ProUCL. The output provides an assessment of whether the data fit a normal, gamma, or lognormal distribution. If the data were fit by one or more of these distributions, then the UTL value for the respective distribution was selected in the priority order listed (i.e., a normal, then gamma, then lognormal if multiple distributions fit). The lower of the two UTL methods based on the gamma distribution was selected when the gamma distribution fit (and the normal distribution did not fit). A non-parametric UTL was selected for data that did not fit any of these three distributions or for data that fit a lognormal distribution but had a high skewness value. Table 3 provides all of the goodness-of-fit tests for all three distributions and the UTLs by all the methods.

The final tPAH-13 UTL based on all samples in the combined data set (no extreme values removed) is 301 mg/kg. With the one surface sample extreme value removed, the combined tPAH-13 UTL is 260 mg/kg, and if both extreme values are removed the combined tPAH-13 UTL is 214 mg/kg. The tPAH-13 UTL for only surface samples is 239 mg/kg with the one extreme value removed. The tPAH-13 UTL for only subsurface samples is also 239 mg/kg with one extreme value removed. If no extreme values are removed the surface sample tPAH-13 UTL is 669 mg/kg, and for the subsurface sediment data set, the t-PAH-13 UTL is 300 mg/kg.

Similar methods were used to develop the UTLs for metals concentrations in surface and subsurface sediment samples for the Bubbly Creek ambient area. The metals UTLs for surface sediment and subsurface sediments are summarized in Table 4. Unlike tPAH-13, the ambient surface and subsurface concentrations of metals and cyanide were significantly different, thus UTLs were developed separately for each depth interval (refer to worksheet “DepthComparison output” in file BubblyCreekUTLsummary-metals.xlsx on the CD). Additionally, statistical outliers were identified in the surface samples for a number of metals. For each of these metals, a separate UTL analysis was performed with the statistical outliers excluded. Back-up materials related to statistical analysis of the metals results for sediment from upstream Bubbly Creek are provided in the attached CD. The review of the surface and subsurface metal and cyanide UTLs shows that the surface sediment UTLs for each metal and cyanide are lower than for subsurface sediments. This reflects that subsurface sediment concentrations were statistically higher than surface sediment concentrations.

Comparison of Ambient and Investigative Conditions in Bubbly Creek—Comparison of Mean Concentrations

The mean concentrations of tPAH-13, metals and cyanide were compared between the ambient and investigative areas of Bubbly Creek. The results of these comparisons are summarized in Table 5, and the supporting back-up materials for these analyses are provided in the attached CD. To determine the most appropriate statistical test for comparing mean concentrations,

Shapiro-Wilks goodness of fit tests were performed on as-measured and log-transformed concentrations to evaluate whether the normality assumption of the t-test could be met by the data. Results of the F-test for equal variance determined whether to assume equal or unequal variance for the t-test comparison. If the normality assumption was not achievable, then the non-parametric Wilcoxon test was used to compare ambient and investigative concentrations. Table 5 provides the p-values associated with all of these statistical tests along with the final conclusion regarding significant differences between ambient and investigative concentrations.

The surface and subsurface tPAH-13 concentrations in the investigative area were each compared to the combined (surface and subsurface) ambient concentrations. While there was no statistically significant difference between surface and subsurface ambient tPAH-13 concentrations, there were significant differences in concentrations between depths in the investigative area. Therefore separate comparisons were performed for the investigative surface and subsurface samples. Results of the comparisons indicated no statistically significant differences between ambient tPAH-13 sediment concentrations and surface or subsurface sediment samples from the investigative area of Bubbly Creek.

For metals and cyanide, the surface and subsurface ambient concentrations were significantly different between depth intervals, therefore comparisons between the ambient and investigative areas were performed separately by depth interval (surface and subsurface). Surface concentrations for all metals were significantly higher in the investigative area when compared to surface concentrations in the ambient area. All but manganese had significantly higher subsurface sediment concentrations in the investigative area than ambient subsurface concentrations.[5]

Summary and Conclusions

Based on the results of the Preliminary Ambient Evaluation, the mean concentrations of tPAH-13 and a number of the metals were generally lower in the Bubbly Creek ambient area than the North Branch Chicago River ambient area. For this reason, the North Branch Chicago River UTLs for these parameters do not provide a representative concentration limit to define ambient conditions in Bubbly Creek. UTLs specific to the Bubbly Creek ambient area better characterize ambient conditions for this water body. Based on the Bubbly Creek statistical analysis performed, it appears ambient UTLs can be developed with the existing data collected during the sediment investigation. The number of samples collected from the Bubbly Creek ambient area were generally as many (or more) than the number of samples collected for the North Branch Chicago River ambient investigation and UTL analysis. A PAH forensic evaluation indicated none of the sediment samples from the Bubbly Creek ambient area were affected by MGP residuals. In addition, field reconnaissance of the ambient sample locations confirmed that these samples were ambient in nature (i.e., not affected by nearby point sources). Therefore, at

[5] If an adjusted significance level is used to consider all of the metals as a whole (16 metals plus cyanide), the conclusions are largely unchanged. Antimony for surface samples and antimony, lead, and zinc in subsurface samples would not be concluded to be statistically significantly elevated after a Bonferroni adjustment, but all other comparisons remain statistically significant. The Bonferroni adjusted significance level per comparison would be 0.05/17=0.0029 to achieve an overall 0.05 significance level across all the metals and cyanide compared for each depth interval.

this time, it does not appear that a separate supplemental ambient investigation of the Bubbly Creek area would be necessary.

Using the Bubbly Creek ambient data set, UTLs were developed for tPAH-13, individual metal analytes, and cyanide. If there were statistically significant differences in analyte concentrations between ambient depth intervals (surface and subsurface), then UTLs were developed separately for each depth interval. For metals, differences were found in concentrations by depth interval, whereas for tPAH-13 there was no difference. In addition, if any statistical outliers were detected for a chemical then an additional UTL was calculated for that analyte after the outlier(s) were removed. Outliers were identified for a number of metals, but none were identified among the tPAH-13 sample results. However, ambient samples with tPAH-13 concentrations considered extreme were removed, and additional UTLs were calculated to determine the effect on the UTL of removing these values. The ambient UTLs are used on a point-by-point basis in the main body of the Bubbly Creek Data Summary Report to evaluate where there are sediment samples in the investigative area of Bubbly Creek that depart from ambient conditions and could potentially be affected by MGP source material. For those samples with tPAH-13 concentrations above the UTL, other lines of evidence (e.g., forensic evaluation and visual observations) can be used to evaluate whether the source of the PAHs detected in a sample are associated with a potential MGP-related PAH source or an ambient background PAH source. For sample locations where a metal exceeds the respective UTL, there are no equivalent additional lines of evidence to evaluate the source of the metals in the investigative area.

In addition to the development of the ambient UTLs for Bubbly Creek, the concentrations of analytes in the ambient and investigative areas of Bubbly Creek were compared to determine whether there were statistically significant differences in chemical concentrations between the two areas. Based on comparison of tPAH-13 sediment concentrations, there appears to be no significant difference between the investigative area and ambient conditions. Concentrations of tPAH-13 in the investigative area were higher in the subsurface than surface sediment, but neither were statistically different from ambient conditions. Metals and cyanide concentrations were statistically higher compared to ambient conditions in both surface and subsurface sediments from the investigative area.

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22ND STREET STATION

HOUGH PLACE STATION

THROOP STREET STATION

SOUTH STATION

PITNEY COURT STATION

SOUTH BRANCH OF CHICAGO RIVER

CHICAGO SANITARY AND SHIPPING CANAL

TURNING BASIN

BUBBLY CREEK

South Branch of Chicago River

Stevenson Expy S

Stevenson Expy N

Dan Ryan Expy W

S Ashland Ave

S Archer Ave

S Halsted St

W 23rd St

W 25th St

W 25th Pl

W 26th St

W 27th St

W 28th St

W 28th Pl

W 29th St

W 30th St

W 31st St

W 31st Pl

W 32nd St

W 32nd Pl

W 33rd St

W 33rd Pl

W 34th St

W Fuller St

Grove St

McGuane Park

Robert Healy Elementary School

N

0 350 700

SCALE IN FEET

- AMBIENT BORING LOCATION
- AMBIENT SURFACE WATER SAMPLING LOCATION
- RIVER FLOW DIRECTION
- APPROXIMATE RIVER OU BOUNDARY
- SAMPLING GRID
- APPROXIMATE FORMER MGP FACILITY BOUNDARY

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DRAWN BY/DATE: MDM 7/5/16
REVIEWED BY/DATE: EJH 7/7/16
APPROVED BY/DATE: EJH 7/7/16

2015 AMBIENT SEDIMENT AND SURFACE WATER SAMPLING LOCATIONS

RESPONSE TO USEPA COMMENTS ON PRELIMINARY AMBIENT EVALUATION
WEC BUSINESS SERVICES, LLC
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

PROJECT NO: 2238

FIGURE NO: 1

NATURAL RESOURCE TECHNOLOGY

Y:\Mapping\Projects\22\2238\MXD\Ambient Evaluation_Rev 1\Figure 1_2015 Ambient Sampling Locations.mxd Author: mmejac:: Date/Time: 7/21/2016, 9:18:17 AM

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DRAWN BY/DATE:
MDM 7/5/16
REVIEWED BY/DATE:
EJH 7/7/16
APPROVED BY/DATE:
EJH 7/7/16

2015 AMBIENT SEDIMENT AND SURFACE WATER SAMPLING LOCATIONS BUBBLY CREEK

RESPONSE TO USEPA COMMENTS ON PRELIMINARY AMBIENT EVALUATION
WEC BUSINESS SERVICES, LLC
SOUTH BRANCH SITE RIVER OU
CHICAGO, ILLINOIS

PROJECT NO: 2238

FIGURE NO: 2

NATURAL RESOURCE TECHNOLOGY

Y:\Mapping\Projects\22\2238\MXD\Ambient Evaluation, Rev 1\Figure 3_2015 Ambient Sampling Locations - Bubbly Creek.mxd Author: mmejac; Date/Time: 7/21/2016, 11:37:09 AM

Table 1. Summary of statistical comparison of means for ambient surface sediment samples (0–1.5 ft depth)

	Summary of Measured Concentrations						Summary of Statistical Assessment				
Area	N	Min	Max	Arithmetic Mean	Geometric Mean	Median	Log Transform	Levene	ANOVA	Kruskal-Wallis	Comparison to ACR
Sum of 13 PAHs (µg/kg dry)							Yes	0.1609	0.0027		
upBC	16	2,122	669,260	80,314	22,047	19,699			Signif.		Lower
upSBCR	15	3,961	145,336	49,574	31,352	39,334			Signif.		Lower
ACR w/o outlier[a]	23	5,950	326,000	126,430	87,771	96,000					
Aluminum (mg/kg dry)							Yes	0.9918	<0.0001		
upBC	16	1,730	10,400	3,940	3,551	3,420			Signif.		Lower
upSBCR	15	3,560	32,200	11,685	10,421	11,300			Not signif.		No diff.
ACR	24	2,220	16,200	8,999	8,277	9,265					
Antimony (mg/kg dry)							Yes	0.1301	0.1620		
upBC	16	0.42	14.3	3.3	1.8	1.1			Not signif.		No diff.
upSBCR	15	0.85	19.6	3.3	2.3	2.2			Not signif.		No diff.
ACR	24	0.98	9.7	3.9	3.0	3.1					
Arsenic (mg/kg dry)							Non-param.	0.0217		<0.0001	
upBC	16	1.6	19.2	4.6	3.7	3.0				Signif.	Lower
upSBCR	15	3.6	10.1	7.5	7.3	7.3				Not signif.	No diff.
ACR	24	3.8	35.0	12.9	10.6	8.8					
Barium (mg/kg dry)							Yes	0.4522	<0.0001		
upBC	16	10.9	253	67.8	50.7	45.9			Signif.		Lower
upSBCR	15	42.3	403	255	229	274			Not signif.		No diff.
ACR	24	31.6	738	288	240	294					
Cadmium (mg/kg dry)							Non-param.	0.0287		0.0000	
upBC	16	0.26	4.5	1.1	0.89	0.9				Signif.	Lower
upSBCR	15	1.40	64.6	22.4	13.8	16.4				Not signif.	No diff.
ACR	24	0.75	185	35.5	18.1	17.8					
Chromium (mg/kg dry)							Yes	0.2476	<0.0001		
upBC	16	7.5	106	29.5	23.9	22.7			Signif.		Lower
upSBCR	15	26.2	445	186	150	151			Not signif.		No diff.
ACR	24	12.4	2,120	320	197	183					

Table 1. (*Cont.*)

	Summary of Measured Concentrations						Summary of Statistical Assessment				
Area	N	Min	Max	Arithmetic Mean	Geometric Mean	Median	Log Transform	Levene	ANOVA	Kruskal-Wallis	Comparison to ACR
Copper (mg/kg dry)							Yes	0.8636	<0.0001		
upBC	16	8.4	170	67.8	57.4	63.0			Signif.		Lower
upSBCR	15	28	499	273	226	276			Not signif.		No diff.
ACR	24	9.9	977	393	309	371					
Iron (mg/kg dry)							No	0.8935	<0.0001		
upBC	16	4,580	26,000	11,101	9,719	8,980			Signif.		Lower
upSBCR	15	10,500	42,500	26,320	25,311	26,700			Not signif.		No diff.
ACR	24	10,800	71,400	23,342	21,767	20,950					
Lead (mg/kg dry)							Yes	0.8455	<0.0001		
upBC	16	25.2	509	134	106	114			Signif.		Lower
upSBCR	15	23.5	1,260	576	425	534			Not signif.		No diff.
ACR	24	26.4	1,190	459	373	525					
Manganese (mg/kg dry)							Yes	0.7879	<0.0001		
upBC	16	106	461	223	206	201			Signif.		Lower
upSBCR	15	336	1,170	510	475	424			Signif.		Higher
ACR	24	120	648	335	314	301					
Mercury (mg/kg dry)							Non-param.	0.0251		0.0005	
upBC	16	0.042	3.5	0.67	0.35	0.34				Signif.	Lower
upSBCR	15	0.44	2.6	1.1	0.95	0.96				Not signif.	No diff.
ACR	24	0.074	10.1	2.6	1.4	1.6					
Nickel (mg/kg dry)							Yes	0.7133	<0.0001		
upBC	16	5.1	54.0	15.7	13.4	12.4			Signif.		Lower
upSBCR	15	15.8	164	73.0	62.8	58.0			Not signif.		No diff.
ACR	24	19.7	227	84.4	75.2	75.2					
Selenium (mg/kg dry)							Yes	0.6426	<0.0001		
upBC	16	0.35	2.0	0.83	0.75	0.76			Signif.		Lower
upSBCR	15	0.24	2.9	1.9	1.7	1.9			Signif.		Lower
ACR	24	1.5	6.7	3.3	3.1	3.1					

Table 1. (*Cont.*)

	Summary of Measured Concentrations						Summary of Statistical Assessment				
Area	N	Min	Max	Arithmetic Mean	Geometric Mean	Median	Log Transform	Levene	ANOVA	Kruskal-Wallis	Comparison to ACR
Silver (mg/kg dry)							Yes	0.7084	0.0168		
upBC	16	0.23	10.9	2.5	1.6	1.8			Signif.		Lower
upSBCR	15	0.043	21.0	8.2	4.6	6.8			Not signif.		No diff.
ACR	24	0.17	23.3	7.7	5.0	7.6					
Vanadium (mg/kg dry)							Yes	0.8757	<0.0001		
upBC	16	5.8	31.0	12.0	10.8	9.7			Signif.		Lower
upSBCR	15	12.8	61.6	27.0	23.9	21.9			Not signif.		No diff.
ACR	24	15.5	165	35.8	30.0	28.5					
Zinc (mg/kg dry)							Yes	0.6567	<0.0001		
upBC	16	40.2	802	258	214	251			Signif.		Lower
upSBCR	15	127	1,720	967	798	900			Not signif.		No diff.
ACR	24	57.7	2,990	1,043	809	939					

Notes: Levene's test evaluated whether the variability in concentrations was similar across all locations. ANOVA was not used if variances were not similar, as homogeneity of variance is an underlying assumption of ANOVA. ANOVA is robust to deviations from normality, and the consistency of results indicated deviations from normality did not impact the analysis.

ANOVA evaluates whether any difference exists between any locations. Specific comparisons of interest were only evaluated if the ANOVA was significant (p-value<0.05). Dunnett's multiple comparison method was used to evaluate specifically whether upBC or upSBCR had significantly different concentrations compared to the ACR.

Kruskal-Wallis test is a non-parametric overall assessment similar to the ANOVA. If this test indicated any significant difference (p-value<0.05) then Wilcoxon tests were used to evaluate whether upBC, or upSBCR had significantly different concentrations compared to the ACR. The significance level per test was adjusted to achieve 0.05 across the two tests, i.e., 0.05/2 = 0.025.

ACR—North Branch Chicago River ambient samples

ANOVA—analysis of variance

upBC—upstream Bubble Creek ambient area

upSBCR—upstream South Branch Chicago River ambient area

[a] —Highest concentration sample was excluded (ACR-12 at 725,000 µg/kg)

Table 2. Summary of statistical comparison of means for ambient subsurface sediment samples (>1.5 ft. depth)

	Summary of Measured Concentrations						Summary of Statistical Assessment				
Area	N	Min	Max	Arithmetic Mean	Geometric Mean	Median	Log Transform	Levene	ANOVA	Kruskal-Wallis	Comparison to ACR
Sum of 13 PAHs (µg/kg dry)							No	0.0540	<0.0001		
upBC	49	196	376,460	51,832	17,464	26,585			Signif.		Lower
upSBCR	27	1,530	559,600	98,560	39,195	34,857			Signif.		Lower
ACR w/o outlier[a]	26	775	389,000	198,899	153,044	203,000					
Aluminum (mg/kg dry)							No	0.4805	<0.0001		
upBC	49	2,930	13,000	8,256	7,690	8,820			Signif.		Lower
upSBCR	27	5,570	25,900	12,067	11,377	12,200			Not signif.		No diff.
ACR	27	3,780	15,000	10,363	9,847	10,800					
Antimony (mg/kg dry)							Non-param.	0.0001		0.1468	
upBC	49	0.052	68.9	11.5	4.4	5.6				Not signif.	No diff.
upSBCR	27	0.74	7.1	3.3	2.8	3.5				Not signif.	No diff.
ACR	27	0.28	8.3	3.8	3.1	3.2					
Arsenic (mg/kg dry)							Yes	0.0918	0.0001		
upBC	49	2.0	39.0	15.4	12.6	13.3			Signif.		Lower
upSBCR	27	6.9	51.1	17.0	15.6	14.9			Signif.		Lower
ACR	27	6.7	46.1	26.6	23.4	26.8					
Barium (mg/kg dry)							No	0.1293	0.0281		
upBC	49	14.7	787	267	176	233			Signif.		No diff.
upSBCR	27	32.3	747	350	270	368			Not signif.		No diff.
ACR	27	32.7	652	384	336	408					
Cadmium (mg/kg dry)							Yes	0.9742	0.0001		
upBC	49	0.089	36.6	7.8	3.4	4.3			Signif.		Lower
upSBCR	27	0.75	88.5	35.4	17.2	39.3			Not signif.		No diff.
ACR	27	0.21	147	22.7	9.6	10.6					
Chromium (mg/kg dry)							Yes	0.0951	0.0028		
upBC	49	11.7	2,260	265	123	147			Signif.		Lower
upSBCR	27	20.8	942	356	228	401			Not signif.		No diff.
ACR	27	19.4	1,740	444	315	328					

Table 2. (*Cont.*)

	Summary of Measured Concentrations						Summary of Statistical Assessment				
Area	N	Min	Max	Arithmetic Mean	Geometric Mean	Median	Log Transform	Levene	ANOVA	Kruskal-Wallis	Comparison to ACR
Copper (mg/kg dry)							No	0.4132	0.0003		
upBC	49	10.3	609	206	146	176			Signif.		Lower
upSBCR	27	35.4	611	331	249	385			Not signif.		No diff.
ACR	27	32.1	661	358	299	379					
Iron (mg/kg dry)							Non-param.	0.0081		0.2668	
upBC	49	6,340	45,600	25,372	23,592	24,700				Not signif.	No diff.
upSBCR	27	14,100	44,300	25,111	24,394	25,400				Not signif.	No diff.
ACR	27	20,900	50,700	27,756	27,216	26,800					
Lead (mg/kg dry)							Non-param.	0.0054		0.7439	
upBC	49	6.9	4,360	861	389	522				Not signif.	No diff.
upSBCR	27	22.4	1,930	726	491	690				Not signif.	No diff.
ACR	27	18.3	1,040	672	569	709					
Manganese (mg/kg dry)							Non-param.	0.0402		0.6849	
upBC	49	149	1,900	467	390	332				Not signif.	No diff.
upSBCR	27	183	723	353	337	327				Not signif.	No diff.
ACR	27	246	603	387	371	342					
Mercury (mg/kg dry)							Non-param.	0.0483		0.0005	
upBC	49	0.016	13.7	3.1	1.0	1.5				Signif.	Lower
upSBCR	27	0.013	15.1	3.3	1.9	2.8				Signif.	Lower
ACR	27	0.028	22.5	7.0	4.3	6.4					
Nickel (mg/kg dry)							Non-param.	0.0434		0.5755	
upBC	49	10.0	327	83.8	57.4	48.0				Not signif.	No diff.
upSBCR	27	30.1	163	73.1	65.2	72.5				Not signif.	No diff.
ACR	27	29.0	205	72.4	64.1	57.7					
Selenium (mg/kg dry)							No	0.4051	<0.0001		
upBC	49	0.52	6.3	2.3	1.9	1.8			Signif.		Lower
upSBCR	27	0.94	3.9	2.5	2.4	2.6			Signif.		Lower
ACR	27	1.9	5.8	3.7	3.5	3.5					

Table 2. (*Cont.*)

	Summary of Measured Concentrations						Summary of Statistical Assessment				
Area	N	Min	Max	Arithmetic Mean	Geometric Mean	Median	Log Transform	Levene	ANOVA	Kruskal-Wallis	Comparison to ACR
Silver (mg/kg dry)							No	0.1280	0.8960		
upBC	49	0.020	73.5	11.6	3.3	4.2			Not signif.		No diff.
upSBCR	27	0.37	22.9	11.3	6.6	12.8			Not signif.		No diff.
ACR	27	0.25	25.0	10.3	7.1	9.1					
Vanadium (mg/kg dry)							No	0.2182	0.5570		
upBC	49	8.6	148	42.9	35.6	33.3			Not signif.		No diff.
upSBCR	27	5.4	108	38.3	30.0	30.6			Not signif.		No diff.
ACR	27	20.3	138	46.1	42.5	40.5					
Zinc (mg/kg dry)							Non-param.	0.0114		0.2234	
upBC	49	34.0	9,440	1,975	897	1,050				Not signif.	No diff.
upSBCR	27	65.7	1,860	1,009	725	1,080				Not signif.	No diff.
ACR	27	60.9	2,640	1,426	1,133	1,540					

Notes: Levene's test evaluated whether the variability in concentrations was similar across all locations. ANOVA was not used if variances were not similar, as homogeneity of variance is an underlying assumption of ANOVA. ANOVA is robust to deviations from normality, and the consistency of results indicated deviations from normality did not impact the analysis.

ANOVA evaluates whether any difference exists between any locations. Specific comparisons of interest were only evaluated if the ANOVA was significant (p-value<0.05). Dunnett's multiple comparison method was used to evaluate specifically whether upBC or upSBCR had significantly different concentrations compared to the ACR.

Kruskal-Wallis test is a non-parametric overall assessment similar to the ANOVA. If this test indicated any significant difference (p-value<0.05) then Wilcoxon tests were used to evaluate whether upBC, or upSBCR had significantly different concentrations compared to the ACR. The significance level per test was adjusted to achieve 0.05 across the two tests, i.e., 0.05/2 = 0.025.

ACR—North Branch Chicago River ambient samples

ANOVA—analysis of variance

upBC—upstream Bubble Creek ambient area

upSBCR—upstream South Branch Chicago River ambient area

[a] —Highest concentration sample was excluded (ACR-11-4 at 803,000 µg/kg)

Table 3. Summary of ProUCL output for tPAH-13 upper tolerance limit (UTL) concentrations for ambient Bubbly Creek sediments

	Surface samples (0–0.5 ft)		Subsurface samples (>0.5 ft)		Surface and Subsurface Combined		
	All Surface	Exclude 1 (669)	All Subsurface	Exclude 1 (758)	All Samples	Exclude 1 (669)	Exclude 2 (669, 758)
N	15	14	55	54	70	69	68
Min. (ND = DL)	2.1	2.1	0.21	0.21	0.21	0.21	0.21
Max. (detect)	669	275	758	376	758	758	376
Mean	79.4	37.3	64.9	52.0	68.0	59.3	49.0
Median	17.6	17.2	29.0	28.5	25.5	24.4	23.8
SD	177	70.2	116	66.9	130	108.4	67.3
Skewness	3.1	3.4	4.5	2.7	4.0	4.6	2.7
Normal							
Shapiro Wilk GOF	No	No	No	No	No	No	No
Lilliefors GOF	No	No	No	No	No	No	No
Distribution Assessment	No	No	No	No	No	No	No
Normal UTL	533	221	301	189	326	275	183
Gamma							
Anderson Darling GOF	No	Yes	Yes	Yes	No	Yes	Yes
Kolmogorov Smirnoff GOF	No	Yes	Yes	Yes	Yes	Yes	Yes
Distribution Assessment	No	Yes	Yes	Yes	Yes	Yes	Yes
Gamma UTL, WH	571	239	300	239	301	260	214
Gamma UTL, HW	616	259	336	274	326	284	239
Lognormal							
Shapiro Wilk GOF	Yes	Yes	No	No	Yes	No	No
Lilliefors GOF	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Distribution Assessment	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lognormal UTL	1184 [a]	474 [a]	912	776	724	642	558
Non-Parametric							
Non-parametric UTL	669	275	376	227	669	376	275
Percentile bootstrap UTL	669	275	491	279	586	376	275
BCA bootstrap UTL	669	275	386	237	537	336	258
Selected UTL	669	239	300	239	301	260	214
UTL Method	*Non-parametric*	*Gamma, WH*	*Gamma, WH*	*Gamma, WH*	*Gamma, WH*	*Gamma, WH*	*Gamma, WH*

Notes: tPAH-13 sediment concentrations reported in mg/kg.

[a] Lognormal UTL is unreliable and overly high because of small sample size with high skewness.

HW- Hawkins Wixley gamma UTL method

UTL- 95% upper tolerance limit on the 95th percentile

WH- Wilson Hilferty gamma UTL method

Table 4. Summary of ProUCL output for metals and cyanide UTL concentrations from ambient Bub

Metal	Sample Count		Minimum	Maximum	Distribution Assessment			Selected	
	Total	ND	(ND at DL)	Detect	Normal	Gamma	Lognormal	UTL	UTL Method
Surface samples (0-0.5 ft)									
Aluminum	15	0	1,730	10,400	Yes	Yes	Yes	9,530	Normal
without outlier	14	0	1,730	5,690	Yes	Yes	Yes	6,876	Normal
Antimony	15	1	0.42	14.3	No	Yes	Yes	18.4	Gamma, WH
Arsenic	15	0	1.6	19.2	No	Yes	Yes	16.8	Gamma, WH
without outlier	14	0	1.6	9.4	Yes	Yes	Yes	8.9	Normal
Barium	15	0	10.9	253	No	Yes	Yes	280	Gamma, WH
Cadmium	15	1	0.26	4.5	No	Yes	Yes	3.9	Gamma, WH
without outlier	14	1	0.26	1.6	Yes	Yes	Yes	1.9	Normal
Chromium	15	0	7.5	106	No	Yes	Yes	105	Gamma, WH
without outlier	14	0	7.5	64.3	Yes	Yes	Yes	60.6	Normal
Copper	15	0	8.4	170	Yes	Yes	Yes	167	Normal
without outlier	14	0	8.4	102	Yes	Yes	Yes	132	Normal
Cyanide	13	5	0.046	1.7	Yes	Yes	Yes	1.5	Normal
without outlier	12	5	0.046	0.66	Yes	Yes	Yes	0.84	Normal
Iron	15	0	4,580	26,000	Yes	Yes	Yes	27,500	Normal
Lead	15	0	25.2	509	No	Yes	Yes	501	Gamma, WH
Manganese	15	0	106	461	No	Yes	Yes	546	Gamma, WH
Mercury	15	0	0.042	3.5	No	No	Yes	3.5 [a]	Nonparametric
Nickel	15	0	5.1	54.0	No	Yes	Yes	49.9	Gamma, WH
Selenium	15	1	0.35	2.0	Yes	Yes	Yes	2.1	Gamma, WH
without outlier	14	1	0.35	1.3	Yes	Yes	Yes	1.4	Normal
Silver	15	1	0.23	10.9	No	Yes	Yes	12.0	Gamma, WH
Vanadium	15	0	5.8	31.0	Yes	Yes	Yes	29.0	Normal
without outlier	14	0	5.8	21.5	Yes	Yes	Yes	21.7	Normal
Zinc	15	0	40.2	802	No	Yes	Yes	872	Gamma, WH
Subsurface samples (≥0.5 ft)									
Aluminum	55	0	2,930	14,100	Yes	No	No	14,800	Normal
Antimony	55	2	0.052	68.9	No	Yes	Yes	48.8	Gamma, WH
Arsenic	55	0	2.0	40.4	No	Yes	Yes	41.9	Gamma, WH
Barium	55	0	14.7	787	No	Yes	Yes	889	Gamma, WH
Cadmium	55	2	0.089	36.6	No	Yes	Yes	32.5	Gamma, WH
Chromium	55	0	11.7	2,260	No	Yes	Yes	1,030	Gamma, WH
Copper	55	0	10.3	609	No	Yes	Yes	644	Gamma, WH
Cyanide	50	16	0.043	7.8	No	Yes	Yes	5.4	Gamma, WH
Iron	55	0	6,340	45,600	Yes	Yes	Yes	43,700	Normal
Lead	55	0	6.9	4,360	No	Yes	No	3,500	Gamma, WH
Manganese	55	0	149	1,900	No	No	Yes	1,170	Lognormal
Mercury	55	1	0.016	13.7	No	Yes	Yes	14.0	Gamma, WH
Nickel	55	0	10.0	327	No	No	Yes	301 [a]	Nonparametric
Selenium	55	1	0.52	6.3	No	Yes	Yes	5.9	Gamma, WH
Silver	55	4	0.020	73.5	No	Yes	Yes	56.8	Gamma, WH
Vanadium	55	0	8.3	148	No	Yes	Yes	111	Gamma, WH
Zinc	55	0	34.0	9,440	No	Yes	Yes	7,930	Gamma, WH

Notes: Concentrations reported in mg/kg.

[a] Lognormal UTL is unreliable and overly high because of small sample size with high skewness.

UTL- 95% upper tolerance limit on the 95th percentile

WH- Wilson Hilferty gamma UTL method

Table 5. Comparison of mean analyte concentrations in sediments between ambient and investigative areas of Bubbly Creek

	Concentrations as measured					Log-Transformed Concentrations					Non-Parametric	
	Goodness of Fit[a]		Variance	T-Test[c]		Goodness of Fit[a]		Variance	T-Test[c]		Wilcoxon	
	Ambient	Site	test[b]	Equal Var.	Unequal	Ambient	Site	test[b]	Equal Var.	Unequal	Test	Conclusion
Surface samples (0-0.5 ft)												
tPAH-13, all samples[d]	0.0000	0.0000	0.3177	0.8062	0.8134	0.0674	0.0148	0.0014	0.4066	0.3975	0.7206	No difference
w/o 1 extreme[d,e]	0.0000	0.0000	0.7550	0.7108	0.7091	0.0377	0.0148	0.0023	0.3408	0.3270	0.6796	No difference
w/o 2 extremes[d,e]	0.0000	0.0000	0.0001	0.5349	0.5316	0.0086	0.0148	0.0041	0.2732	0.2567	0.6331	No difference
Aluminum	0.0063	0.0909	0.0054	0.0000	0.0000	0.8450	0.2336	0.0487	0.0000	0.0000	0.0000	Site significantly higher
Antimony	0.0005	0.0000	0.8521	0.1846	0.1902	0.2495	0.0120	0.0512	0.0095	0.0306	0.0151	Site significantly higher[f]
Arsenic	0.0000	0.0603	0.0075	0.0000	0.0002	0.0460	0.4793	0.0000	0.0000	0.0000	0.0000	Site significantly higher
Barium	0.0010	0.5631	0.4806	0.0000	0.0000	0.9890	0.0036	0.0033	0.0000	0.0000	0.0000	Site significantly higher
Cadmium	0.0001	0.0001	0.0000	0.0003	0.0000	0.4726	0.1422	0.3582	0.0000	0.0000	0.0000	Site significantly higher
Chromium	0.0003	0.0000	0.0023	0.0001	0.0000	0.5171	0.5027	0.2379	0.0000	0.0000	0.0000	Site significantly higher
Copper	0.2661	0.5671	0.0612	0.0000	0.0000	0.0680	0.0000	0.0043	0.0000	0.0000	0.0000	Site significantly higher
Cyanide	0.0018	0.0000	0.0013	0.0006	0.0000	0.3682	0.5769	0.0636	0.0000	0.0001	0.0000	Site significantly higher
Iron	0.0789	0.0000	0.0000	0.0508	0.0041	0.7002	0.0000	0.1592	0.0000	0.0000	0.0000	Site significantly higher
Lead	0.0003	0.0000	0.0001	0.0030	0.0000	0.3319	0.0037	0.7904	0.0000	0.0000	0.0000	Site significantly higher
Manganese	0.0080	0.0000	0.0000	0.1067	0.0237	0.3777	0.0000	0.7842	0.0007	0.0015	0.0002	Site significantly higher
Mercury	0.0001	0.0000	0.0003	0.0567	0.0099	0.5358	0.0259	0.2891	0.0002	0.0014	0.0004	Site significantly higher
Nickel	0.0003	0.0000	0.1295	0.0000	0.0000	0.5574	0.0444	0.0115	0.0000	0.0000	0.0000	Site significantly higher
Selenium	0.0369	0.5204	0.1922	0.0000	0.0000	0.9808	0.1614	0.0176	0.0000	0.0000	0.0000	Site significantly higher
Silver	0.0006	0.0000	0.0005	0.0047	0.0001	0.8836	0.4940	0.7170	0.0001	0.0005	0.0004	Site significantly higher
Vanadium	0.0033	0.0000	0.0011	0.0000	0.0000	0.4885	0.0030	0.2183	0.0000	0.0000	0.0000	Site significantly higher
Zinc	0.0019	0.0016	0.0298	0.0000	0.0000	0.1004	0.0000	0.0690	0.0000	0.0000	0.0000	Site significantly higher
Subsurface samples (>0.5 ft)												
tPAH-13, all samples[d]	0.0000	0.0000	0.0000	0.0691	0.0026	0.0674	0.0000	0.0971	0.0106	0.0060	0.1244	No difference
w/o 1 extreme[d,e]	0.0000	0.0000	0.0000	0.0673	0.0022	0.0377	0.0000	0.0640	0.0066	0.0032	0.0963	No difference
w/o 2 extremes[d,e]	0.0000	0.0000	0.0000	0.0650	0.0019	0.0086	0.0000	0.0369	0.0039	0.0015	0.0724	No difference
Aluminum	0.0328	0.0000	0.0000	0.0004	0.0000	0.0041	0.0000	0.2584	0.0000	0.0000	0.0000	Site significantly higher
Antimony	0.0000	0.0000	0.2968	0.1614	0.1453	0.3815	0.0000	0.0427	0.0109	0.0222	0.0304	Site significantly higher[f]
Arsenic	0.0001	0.0000	0.6851	0.0001	0.0001	0.1768	0.1880	0.0003	0.0000	0.0000	0.0000	Site significantly higher
Barium	0.0017	0.0000	0.4117	0.0009	0.0006	0.0040	0.0000	0.2121	0.0008	0.0020	0.0004	Site significantly higher
Cadmium	0.0000	0.0000	0.0000	0.0000	0.0000	0.1786	0.0000	0.9975	0.0000	0.0000	0.0000	Site significantly higher
Chromium	0.0000	0.0000	0.0000	0.0007	0.0000	0.1829	0.0000	0.0162	0.0000	0.0000	0.0000	Site significantly higher
Copper	0.0017	0.0000	0.0000	0.0004	0.0000	0.0372	0.0000	0.8956	0.0001	0.0002	0.0000	Site significantly higher
Cyanide	0.0000	0.0000	0.0000	0.0037	0.0001	0.0604	0.0002	0.8573	0.0006	0.0008	0.0006	Site significantly higher
Iron	0.7824	0.0000	0.0569	0.0016	0.0005	0.0039	0.0000	0.0024	0.0000	0.0007	0.0020	Site significantly higher
Lead	0.0000	0.0000	0.3166	0.0268	0.0358	0.0020	0.0000	0.2335	0.0100	0.0162	0.0069	Site significantly higher[f]
Manganese	0.0000	0.0000	0.0000	0.9969	0.9723	0.0109	0.0000	0.0000	0.9792	0.9353	0.8253	No difference
Mercury	0.0000	0.0000	0.0000	0.0045	0.0003	0.0047	0.0000	0.4107	0.0010	0.0020	0.0005	Site significantly higher
Nickel	0.0000	0.0000	0.1186	0.0012	0.0005	0.2074	0.0000	0.3721	0.0000	0.0002	0.0002	Site significantly higher
Selenium	0.0001	0.0000	0.0025	0.0000	0.0000	0.5955	0.0480	0.0537	0.0000	0.0000	0.0000	Site significantly higher
Silver	0.0000	0.0000	0.0658	0.0120	0.0058	0.0050	0.0000	0.0131	0.0002	0.0013	0.0008	Site significantly higher
Vanadium	0.0000	0.0000	0.0000	0.0016	0.0000	0.5890	0.0000	0.0000	0.0000	0.0000	0.0000	Site significantly higher
Zinc	0.0000	0.0000	0.0292	0.0153	0.0067	0.2477	0.0000	0.8539	0.0083	0.0095	0.0036	Site significantly higher[f]

Notes: Values shown are the p-value associated with the indicated test as reported, without any adjustment for multiple comparisons.
The comparisons between ambient and site samples were performed on the full data sets unless noted.

[a] Shapiro-Wilks goodness of fit test

[b] F-test for equal variance

[c] T-test assuming equal variance and unequal variance

[d] Investigative area samples were compared with the combined surface and subsurface ambient samples because there was no significant difference in tPAH-13 concentrations.

[e] EPA review identified an ambient surface sample an extreme (669 mg/kg). A second extreme result was possible in the subsurface sample results (758 mg/kg).

[f] No significant difference with Bonferroni adjusted significance level for 17 metals and cyanide compared (0.05/17=0.0029)

Appendix B

Bubbly Creek Boring Logs

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Drilling Log

DRAFT

Burns & McDonnell SINCE 1898

Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-001/TG001
Coordinates: N 1883975.151 E 1166906.426		Sediment Elevation (CCD): -9.60	Page: 1 of 2
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.3
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-21-06	To: 6-21-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-10	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		1.0/2		0.0, 0.0	Sample intervals 1-4 were collected with a 3" SS, N values were not recorded.
-11											
-12	2			SS	2	WOH, WOH, 1, 1		0.9/2.0		0.0, 0.0	
-13	3										
-14	4			SS	3	1, 2, 2, 4	4	1.3/2.0		0.0, 0.0	
-15	5										
-16	6	No recovery		SS	4	3, 2, 2, 2	4	0.0/2.0		0.0	
-17	7										
-18	8	Black coarse SAND (SP), some silt, little fine gravel, loose, wet		SS	5	2, 2, 3, 3	5	0.1/2.0		0.0	
-19	9										
-20	10	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	6	2, 3, 15, 27	18	1.0/2.0	>4.5	0.0, 0.0	
-21	11										
-22	12			SS	7	8, 14	30	1.9/2.0	>4.5	0.0	

Depth to water while drilling ▽
Depth to water after drilling ▼

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log, continued

DRAFT

Burns & McDonnell
SINCE 1898

Project Name: Pitney Court
Project Number: 27112

Boring/Monitoring Well Number: RSB-001/TG001
Page: 2 of 2
Date: 6-21-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-23	14	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	7	16 16	30	1.9/2.0	>4.5	0.0	
		End of boring at 14 feet									

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log

DRAFT

Burns & McDonnell SINCE 1898

Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-002/TG002
Coordinates: N 1883976.79 E 1166882.976		Sediment Elevation (CCD): -13.90	Page: 1 of 2
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.4
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-21-06	To: 6-21-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-14	0	greenish Black (5GY 2/1) organic SILT (OL), some gravel, some debris, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		0.6/2.0		0.0, 0.0	Sample intervals 1-5 were colelcted with a 3" SS, no N value was recorded.
-15	1										
-16	2			SS	2	WOH, WOH, WOH, WOH		0.6/2.0		0.0, 0.0	
-17	3										
-18	4			SS	3	WOH, WOH, WOH, WOH		0.6/2.0		0.0, 0.0	
-19	5										
-20	6			SS	4	WOH, WOH, WOH, WOH		1.5/2.0		0.0, 0.0	
-21	7										
-22	8			SS	5	WOH, WOH, 1, 6		2.0/2.0		0.0, 0.0	
-23	9										
-24	10	light olive Gray (5Y 6/1) silty CLAY (CL), little gravel, little sand, very hard, low plasticity, dry		SS	6	24, 50/4"		1.0/2.0		0.0, 0.9	
-25	11										
-26	12	Black coarse gravel seam at 12.0-12.1'		SS	7	11, 41		1.0/2.0		0.0	

Depth to water while drilling ▽
Depth to water after drilling ▼

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log, continued

DRAFT

Burns & McDonnell
SINCE 1898

Boring/Monitoring Well Number: RSB-002/TG002

Project Name: Pitney Court
Page: 2 of 2

Project Number: 27112
Date: 6-21-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-27		light olive Gray (5Y 6/1) silty CLAY (CL), little gravel, little sand, very hard, low plasticity, dry		SS	7	50/3"	.	1.0/2.0		0.0	
	14	End of boring at 14 feet									
	15										
	16										
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log

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Burns & McDonnell SINCE 1898

Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-003/TG003
Coordinates: N 1883981.585 E 1166859.545		Sediment Elevation (CCD): -14.90	Page: 1 of 2
Total Depth (feet): 16	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.2
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-22-06	To: 6-22-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-15		**River Sediment Investigation**									▽ Depth to water while drilling ▼ Depth to water after drilling
-16	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, very loose, saturated		SS	1	WOH WOH WOH WOH		0.2/2.0		0.0	Sample intervals 1-4 were collected witha 3" SS, no N value was recorded.
-17	2										
-18	3			SS	2	WOH WOH WOH WOH		0.2/2.0		0.0	
-19	4										
-20	5			SS	3	WOH WOH WOH WOH		2.0/2.0		3.0 5.0 7.0	
-21	6										
-22	7			SS	4	WOH WOH WOH WOH		0.7/2.0		1.0	
-23	8										
-24	9	light olive Gray (5Y 6/1) silty CLAY (CL), little gravel, little sand, very hard, low plasticity, dry		SS	5	7 37 50/3"		1.3/2.0	>4.5	0.0	
-25	10										
-26	11			SS	6	34 50/3"		0.9/2.0	>4.5	0.0	
-27	12										
				SS	7	38 50/4"		1.1/2.0	>4.5	0.0	

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Drilling Log, continued

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Boring/Monitoring Well Number: RSB-003/TG003

Project Name: Pitney Court
Page: 2 of 2

Project Number: 27112
Date: 6-22-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-28		light olive Gray (5Y 6/1) silty CLAY (CL), little gravel, little sand, very hard, low plasticity, dry		SS	7		.	1.1/2.0	>4.5	0.0	
-29	14					28					
-30	15			SS	8	39 50/3"		1.1/2.0	>4.5	0.0	
	16	End of boring at 16 feet									
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-004/TG004
Coordinates: N 1884476.416 E 1166713.022		Sediment Elevation (CCD): -16.10	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.2
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-22-06	To: 6-22-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-17	1	No recovery		SS	1	WOH, 1, 1, 2	2	0/2.0			Sample intervals 1-2 were collected with a 3" SS, no value was recorded.
-18	2	greenish Black (5GY 2/1) organic SILT (OL), very loose, saturated		SS	2	WOH, WOH, WOH, 5		0.5/2.0		0.0	tar-like odor at 2-4'
-19	3										
-20	4			SS	3	16, 22, 38, 50/4"	60	1.1/2.0	2.5	0.0	slight odor at 5-5.1'
-21	5	Black coarse GRAVEL (GP), little fine sand, little silt, little clay, dense, wet									
-22	6	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very hard, low plasticity, dry		SS	4	8, 11, 20, 20	31	1.4/2.0	>4.5	0.0	
-23	7										
-24	8	End of boring at 8 feet									
	9										
	10										
	11										
	12										

Depth to water while drilling ▽
Depth to water after drilling ▼

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Project Name: Pitney Court	Project No.: 27112	Boring/Monitoring Well Number: RSB-004B/TG004	
Coordinates: N 1884464.828 E 1166723.923	Sediment Elevation (CCD): -14.20	Page: 1 of 1	
Total Depth (feet): 10	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -1.9
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-14-06	To: 7-14-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-15	1	FILL: gray clay, high plasticity, wet		SS	1	WOH WOH WOH WOH		1.0/2.0	<0.25	0.0 0.0	Sample intervals 1-3 were collected with a 3" SS, no N values were recorded.
-16	2										
-17	3	no recovery		SS	2	WOH WOH WOH WOH		0.0/2.0			
-18	4										
-19	5	FILL: gray clay, high plasticity, wet		SS	3	WOH WOH 16 19		1.4/2.0	<0.25	0.0 86.4	strong tar-like odor at 5.5-6'
-20	6	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, medium dense, wet tar saturated at 5.5-6'									
-21	7	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, stiff, dry		SS	4	7 9 16 20	25	1.8/2.0	>4.5 >4.5	0.0 0.0	
-22	8										
-23	9			SS	5	5 9 15 19	24	2.0/2.0	3.5 >4.5	0.0 0.0	
-24	10	End of boring at 10 feet									
	11										
	12										

Depth to water while drilling ▽
Depth to water after drilling ▼

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-005/TG005
Coordinates: N 1884439.443 E 1166699.095		Sediment Elevation (CCD): -14.80	Page: 1 of 2
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.3
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-22-06	To: 6-22-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-15	0	greenish Black (5GY 2/1) organic SILT (OL), very loose, saturated		SS	1	WOH, WOH, WOH, WOH		2.0/2.0		0.6, 2.4	Sample intervals 1-3 were collected with a 3" SS, no N values were recorded.
-16	1										
-17	2			SS	2	WOH, WOH, WOH, 2		2.0/2.0		0.8, 28	
-18	3										
-19	4			SS	3	WOH, WOH, WOH, 3		1.0/2.0		0.9	
-20	5										
-21	6			SS	4	12, 14, 14, 20	28	2.0/2.0	<0.5	11.2, 0.2	strong tar-like odor at 6-6.6'
-22	7	light olive Gray (5Y 6/1) silty CLAY (CL), soft to hard, medium plasticity to low plasticity, wet to dry									
-23	8			SS	5	7, 16, 20, 20	36	2.0/2.0	>4.5	18.0, 1.7	
-24	9										
-25	10			SS	6	11, 11, 11, 50	22	1.3/2.0	>4.5	1.6, 0	
-26	11										
-27	12			SS	7	15, 50/3"		0.9/2.0	3.5	0.1	

Depth to water while drilling ▽
Depth to water after drilling ▼

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Drilling Log, continued

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Project Name Pitney Court
Project Number 27112

Boring/Monitoring Well Number RSB-005/TG005
Page 2 of 2
Date 6-22-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-28		light olive Gray (5Y 6/1) silty CLAY (CL), soft to hard, medium plasticity to low plasticity, wet to dry		SS	7		.	0.9/2.0	3.5	0	
	14	End of boring at 14									
	15										
	16										
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log

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Project Name: Pitney Court	Project No.: 27112	Boring/Monitoring Well Number: RSB-005B/TG005B	
Coordinates: N 1884436.226 E 1166701.173	Sediment Elevation (CCD): -14.40	Page: 1 of 2	
Total Depth (feet): 16	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.3
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-10-06	To: 7-10-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-15	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		1.4/2.0		0.0, 0.0, 0.0	Sample intervals 1-4 were collected with a 3" SS, no N values were recorded.
-16											
-17	2			SS	2	WOH, WOH, WOH, WOH		2.0/2.0		0.0, 0.0, 5.0	
-18		slight sheen at 3.6-4'									petroleum/tar-like odor at 3.6-4' Sampled RSB-005B-001 from 3.6-4'
-19	3			SS	3	WOH, WOH, WOH, WOH		2.0/2.0		0.0, 0.0, 0.0	
-20											
-21	4			SS	4	5, 8, 11, 14	19	2.0/2.0	>4.5	0.0, 0.0, 0.0	
-22		light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry									
-23	5	greenish Black (5GY 2/1) organic SILT (OL), loose, saturated tar globules at 8 to 9.3'		SS	5	4, 7, 12, 19	19	2.0/2.0	>4.5	0.0, 0.0, 0.0	tar-like odor at 8-9.3' Sampled RSB-005B-002 from 8-9.3' slight odor at 9.3-10.7'
-24		light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry									
-25	6	greenish Black (5GY 2/1) organic SILT (OL), very loose, saturated		SS	6	4, 5, 8, 8	13	2.0/2.0	>4.5	2.3, 0.8, 0.0	
-26		light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry									
-27	7	greenish Black (5GY 2/1) organic SILT (OL), loose, saturated light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very hard, low plasticity, dry		SS	7	6, 10		1.4/2.0	>4.5	0.0	

Depth to water while drilling ▽
Depth to water after drilling ▼

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Drilling Log, continued

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Boring/Monitoring Well Number: RSB-005B/TG005B

Project Name: Pitney Court
Page: 2 of 2

Project Number: 27112
Date: 7-10-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-28	14	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very hard, low plasticity, dry		SS	7	50/4"	.	1.4/2.0	>4.5	0.0	
-29	15			SS	8	19 26 27 32	53	1.8/2.0	>4.5	0.0 0.0	
-30	16	End of boring at 16 feet									
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-006/TG006
Coordinates: N 1884433.862 E 1166684.377		Sediment Elevation (CCD): -14.90	Page: 1 of 1
Total Depth (feet): 10	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-23-06	To: 6-23-06	Logged By: M. Kelley/J. Kerstiens	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Depth to water while drilling ▽
Depth to water after drilling ▼

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-15		greenish Black (5GY 2/1) organic SILT (OL), very loose, saturated				WOH					petroleum odor at 0-2'
						WOH				0.0	
-16	1			SS	1	WOH		2.0/2.0		2.0	Sample intervals 1-3 were collected using a 3" SS, no N values were recorded.
						WOH				0.9	
-17	2					WOH					tar odor, slight sulfur odor at 2-4'
						WOH				0.4	
-18	3			SS	2			1.9/2.0		2.4	
						WOH					
						WOH				1.4	
-19	4					WOH					petroleum odor at 4-6'
						WOH				1.9	
-20	5			SS	3			1.7/2.0		1.2	
						WOH					
						6				2.0	
-21	6					9					
		light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, stiff to very hard, low plasticity, dry				11			>4.5	2.7	
-22	7			SS	4		26	2.0/2.0		1.4	
						15					
						18			>4.5	0.2	
-23	8	dry to moist at 8'				7					slight chemical odor at 8-10'
		moist to dry at 8.4'				16			1.0	0.0	
-24	9			SS	5		40	1.1/2.0			
						24					
	10					50/3"			>4.5	2.7	
		End of boring at 10 feet									
	11										
	12										

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-006B/TG006
Coordinates: N 1884435.538 E 1166682.919		Sediment Elevation (CCD): -14.60	Page: 1 of 1
Total Depth (feet): 12	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -1.8
Drilling Rig: CME 55LC		Drilling Company: Matedo	
Date: 7-14-06	To: 7-14-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-15	1	greenish Black (5Gy 2/1) organic SILT (OL), some organic debris, very loose, saturated		SS	1	WOH WOH WOH WOH		1.3/2.0		0.0 0.0	Sample intervals 1-4 were collected using a 3" SS, no N values were recorded.
-16											
-17	2			SS	2	WOH WOH WOH WOH		1.6/2.0		0.0 1.0	
-18	3										
-19	4			SS	3	WOH WOH WOH WOH		2.0/2.0		6.0 11.1 8.6	
-20	5										
-21	6			SS	4	WOH 6 9 12	15	1.9/2.0	>4.5	22.8 11.2 0.0	
-22	7	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry									
-23	8			SS	5	8 11 16 24	27	2.0/2.0	>4.5	14.4 11.4 0.0	
-24	9										
-25	10			SS	6	50/5"		0.4/2.0			
-26	11										
	12	End of boring at 12 feet bgs									

Depth to water while drilling

Depth to water after drilling

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-007/TG007
Coordinates: N 1884422.911 E 1166752.229		Sediment Elevation (CCD): -13.40	Page: 1 of 2
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-23-06	To: 6-23-06	Logged By: M. Kelley/J. Kerstiens	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Depth to water while drilling ▽
Depth to water after drilling ▼

Elevation (CCD)	Depth (feet)	River Sediment Investigation – Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-14	1	greenish Black (5GY 2/1) organic SILT (OL), very loose, saturated		SS	1	WOH WOH WOH WOH		2.0/2.0		0.6 0.0 1.2	Sample intervals 1-4 were collected with a 3" SS, no N values were recorded.
-15	2	some organic silt, some coarse gravel									
-16	3			SS	2	2 2 2 2	4	1.1/2.0		0.0	
-17	4										
-18	5	No recovery		SS	3	1 1 2 2	3	0/2.0			
-19	6										
-20	7	Coarse GRAVEL (GW), very loose, wet sheen at 7-8'		SS	4	WOH WOH WOH 5		0.5/2.0		0.0	slight tar and petroleum odor at 7-8'
-21	8										
-22	9	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard to very hard, low plasticity, dry		SS	5	5 11 14 18	25	1.1/2.0	>4.5	1.9	
-23	10										
-24	11			SS	6	7 10 10 18	20	1.0/2.0	>4.5	0.0 0.0	slight chemical, petroleum odor at 11-12'
-25	12										
-26				SS	7	16 16	32	1.8/2.0	>4.5	0.0 0.0	

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Drilling Log, continued

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Boring/Monitoring Well Number: RSB-007/TG007

Project Name: Pitney Court
Page: 2 of 2

Project Number: 27112
Date: 6-23-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-27	14	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard to very hard, low plasticity, dry		SS	7	16 22	32	1.8/2.0	>4.5	0.0 0.0	
		End of boring at 14 feet									
	15										
	16										
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-007B/TG007
Coordinates: N 1884423.435 E 1166747.9		Sediment Elevation (CCD): -13.50	Page: 1 of 1
Total Depth (feet): 12	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.2
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-12-06	To: 7-12-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-14	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, some coal, very loose, saturated tar saturated at 0-2' tar globules at 2-6.6'		SS	1	WOH WOH WOH WOH		0.2/2.0		3.9	tar-like odor at 0-2' Sampled RSB-007B-001 from 0-2' Sample intervals 1-4 were collected using a 3" SS, no N values were recorded.
-15	2										
-16	3			SS	2	2 1 1 1	2	0.7/2.0		1.4	
-17	4										
-18	5	Coarse to fine GRAVEL (GW) (coal), very loose, wet		SS	3	2 2 2 3	4	0.3/2.0			tar-like odor at 4-6.6'
-19	6										
-20	7	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	4	6 9 11 17	20	1.6/2.0	>4.5	30.1 0	
-21	8										
-22	9			SS	5	10 10 15 18	25	1.4/2.0	>4.5 >4.5	0 0	
-23	10										
-24	11			SS	6	9 9 14 19	23	1.7/2.0	>4.5 >4.5	0 0	
-25	12	End of boring at 12 feet									

Depth to water while drilling

Depth to water after drilling

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log

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Burns & McDonnell SINCE 1898

Project Name: Pitney Court	Project No.: 27112	Boring/Monitoring Well Number: RSB-008/TG008	
Coordinates: N 1884420.202 E 1166724.453	Sediment Elevation (CCD): -12.30	Page: 1 of 2	
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.0
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-23-06	To: 6-23-06	Logged By: M. Kelley/J. Kerstiens	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-13	1	greenish Black (5GY 2/1) organic SILT (OL), very loose, saturated		SS	1	WOH WOH WOH WOH		2.0/2.0		0.0 0.0 0.0	Sample intervals 1-5 were collected using a 3" SS, no N values were recorded.
-14	2										
-15	3			SS	2	WOH WOH WOH WOH		1.8/2.0		0.0 0.0 0.0	
-16	4										
-17	5			SS	3	WOH WOH 3 5		2.0/2.0		0.0 0.0 0.0	
-18	6	some coarse gravel									
-19	7			SS	4	WOH WOH 1 1		0.3/2.0		0.0	
-20	8										
-21	9	sheen at 9-10'		SS	5	WOH 1 2 1	3	0.7/2.0		0.0	
-22	10	some gravel									tar odor at 10-12'
-23	11	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry tar coated at 10.6-12'		SS	6	4 5 5 7	10	0.9/2.0	0 >4.5	0.0 1.4	
-24	12										
-25				SS	7	4 7	19	0.8/2.0	>4.5	0.0	

Depth to water while drilling ▽
Depth to water after drilling ▼

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Drilling Log, continued

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Boring/Monitoring Well Number: RSB-008/TG008

Project Name: Pitney Court
Page: 2 of 2

Project Number: 27112
Date: 6-23-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-26	14			SS	7	12 12	19	0.8/2.0	>4.5	0.0	
		End of boring at 14 feet									

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-008B/TG008
Coordinates: N 1884421.076 E 1166721.048		Sediment Elevation (CCD): -12.00	Page: 1 of 1
Total Depth (feet): 12	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.2
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-12-06 To: 7-12-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal	Approved by: Don Schilling

Depth to water while drilling ▽
Depth to water after drilling ▼

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-13	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, very loose, saturated		SS	1	WOH WOH WOH WOH		1.4/2.0		0 0	Sample intervals 1-5 were collected with a 3" SS, no N values were recorded.
-14	2										
-15	3			SS	2	WOH WOH WOH 4		1.1/2.0		0 0	
-16	4										
-17	5			SS	3	WOH WOH WOH WOH		0.5/2.0		0	
-18	6										
-19	7	tar saturated 7.3-9.2'		SS	4	WOH WOH WOH WOH		2.0/2.0		0 34.7	tar/diesel-like odor at 7.3-9.2' Sampled RSB-008B-001 from 7.3-8'
-20	8										
-21	9			SS	5	WOH WOH WOH 8		1.5/2.0	>4.5	23.6 0	
-22	10	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, stiff, low plasticity, dry									
-23	11	greenish Black (5GY 2/1) organic SILT (OL), loose, wet gravel to coarse sand seam at 10.3-10.5' light olive Gray (Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	6	9 11 15 22	26	2.0/2.0	>4.5	42.9 0	tar-like odor at 10.2-10.9'
-24	12	End of boring at 12 feet									

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-009/TG009
Coordinates: N 1884418.114 E 1166697.853		Sediment Elevation (CCD): -15.00	Page: 1 of 2
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.0
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-23-06	To: 6-23-06	Logged By: M. Kelley/J. Kerstiens	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation – Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-16	1	greenish Black (5GY 2/1) organic SILT (OL), very loose, saturated		SS	1	WOH WOH WOH WOH		1.0/2.0		0.0 0.0	Samples 1-5 were collected with a 3" SS, no N values were recorded.
-17	2										
-18	3			SS	2	WOH WOH WOH WOH		0.5/2.0		0.0	
-19	4	some organic debris									
-20	5			SS	3	WOH WOH WOH WOH		1.2/2.0		0.0	
-21	6										
-22	7			SS	4	WOH WOH WOH WOH		2.0/2.0		0.0 1.0 1.3	slight tar odor at 7-8'
-23	8										
-24	9	light olive Gray (5Y 6/1) silty CLAY (CL), hard, low plasticity, dry tar stained at 8.8-10'		SS	5	6 6 12 15	18	1.8/2.0	0 >4.5	0.6 0.7 0.7	tar odor at 8.8-12'
-25	10	greenish Black (5GY 2/1) organic SILT (OL), medium dense, dry									
-26	11	light olive Gray (5Y 6/1) silty CLAY (CL), hard, low plasticity, dry		SS	6	5 7 7 12	14	2.0/2.0	0 4.0 0	0.6 5.1 0.4	
-27	12	greenish Black (5GY 2/1) organic SILT (OL), medium dense, saturated									
				SS	7	7 12	27	2.0/2.0	0	0.0 0.0	

Depth to water while drilling ▽
Depth to water after drilling ▼

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Drilling Log, continued

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Boring/Monitoring Well Number: RSB-009/TG009

Project Name: Pitney Court
Page: 2 of 2

Project Number: 27112
Date: 6-23-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-29	14	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	7	15 23	27	2.0/2.0	>4.5	0.0 0.0	
		End of boring at 14 feet									

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log

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Project Name: Pitney Court	Project No.: 27112	Boring/Monitoring Well Number: RSB-009B/TG009	
Coordinates: N 1884413.718 E 1166702.792	Sediment Elevation (CCD): -13.40	Page: 1 of 2	
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-12-06 To: 7-12-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal	Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
		River Sediment Investigation		SAMPLING							▽ Depth to water while drilling; ▼ Depth to water after drilling
-14	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		0.1/2.0			Sample intervals 1-4 were collected using a 3" SS, no N values were recorded.
-15											
-16	2			SS	2	WOH, WOH, WOH, WOH		2.0/2.0		0.0, 0.0, 0.0	
-17	3										
-18	4			SS	3	WOH, WOH, WOH, WOH		2.0/2.0		0.0, 0.0, 0.0	
-19	5										
-20	6			SS	4	WOH, 10, 10, 15	20	1.0/2.0	>4.5	0.0, 0.0	tar-like odor at 6-7.4'
-21	7	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry									
-22	8	greenish Black (5GY 2/1) organic SILT (OL), medium dense, wet		SS	5	6, 9, 15, 24	24	2.0/2.0	>4.5	13.1, 17.8, 0.0	tar-like odor at 8.2-9.4'
-23	9	tar stained at 8.2-9.4'									
-24	10	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very hard, low plasticity, dry		SS	6	8, 10, 14, 19	24	2.0/2.0	>4.5, >4.5	28.7, 0.0, 0.0	tar-like odor at 10-10.3'
-25	11	greenish Black (5GY 2/1) organic SILT (OL), medium dense, saturated tar saturated at 10-10.3' light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry									
-26	12			SS	7	10, 10	24	1.7/2.0	>4.5	0.0, 0.0	

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Drilling Log, continued

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Boring/Monitoring Well Number: RSB-009B/TG009

Project Name: Pitney Court
Page: 2 of 2

Project Number: 27112
Date: 7-12-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-27	14	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	7	14 22	24	1.7/2.0	>4.5	0.0 0.0	
		End of boring at 14 feet									

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log

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Burns & McDonnell SINCE 1898

Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-010/TG010
Coordinates: N 1884384.986 E 1166772.236		Sediment Elevation (CCD): -11.00	Page: 1 of 2
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.2
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-27-06	To: 6-27-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

River Sediment Investigation

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-12	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		2.0/2.0		0.0, 1.4, 3.0	Sample intervals 1-4 were collected with a 3" SS, no N values were recorded. petroleum/sulfur-like odor at 1'
-13	2										
-14	3			SS	2	WOH, WOH, WOH, WOH		0.8/2.0		4.3	
-15	4										
-16	5			SS	3	1, 1, 1, 1	2	0.5/2.0		6.2	
-17	6										
-18	7			SS	4	WOH, 2, 2, 2	4	0.7/2.0		4.5	
-19	8										
-20	9			SS	5	1, 1, 1, 3	2	0.0/2.0		0.0	
-21	10	slight sheen at 10-10.9'									tar-like odor at 10-10.9'
-22	11	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	6	3, 7, 11, 12	18	1.4/2.0	>4.5	7.5, 1.1	
-23	12			SS	7	6, 10	24	1.3/2.0	>4.5	1.4	

Depth to water while drilling

Depth to water after drilling

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log, continued

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Burns & McDonnell
SINCE 1898

Boring/Monitoring Well Number: RSB-010/TG010

Project Name: Pitney Court
Page: 2 of 2

Project Number: 27112
Date: 6-27-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-25	14	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	7	14 19	24	1.3/2.0	>4.5	0.8	
		End of boring at 14 feet									
	15										
	16										
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log

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Burns & McDonnell SINCE 1898

Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-010B/TG010
Coordinates: N 1884382.801 E 1166771.108		Sediment Elevation (CCD): -7.60	Page: 1 of 2
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.3
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-13-06	To: 7-13-06	Logged By: Sara Struttman	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-8	0	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, some coal, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		0.2/2.0		0	Sample intervals 1-5 were collected witha 3" SS, no N values were recorded.
-9	1										
-10	2			SS	2	WOH, WOH, WOH, WOH		0.6/2.0		0	
-11	3										
-12	4			SS	3	1, 1, 3, 3	4	0.5/2.0		0	
-13	5										
-14	6	fine to coarse GRAVEL (GW) seam, very loose, wet		SS	4	1, 1, 1, 1	2	1.0/2.0		0	slight tar odor at 6.4-7'
-15	7	slight sheen at 6.4-7' / greenish Black (5GY 2/1) organic SILT (OL), some organic debris, some coal, very loose, saturated									
-16	8			SS	5	WOH, WOH, 2, 3		0.4/2.0		0.5	
-17	9										
-18	10	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry / tar globules at 9.8-10'		SS	6	9, 9, 9, 17	18	1.4/2.0	>4.5	0	
-19	11										
-20	12			SS	7	8, 8	20	2.0/2.0	>4.5	0, 0	

Depth to water while drilling ▽
Depth to water after drilling ▼

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Drilling Log, continued

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Burns & McDonnell
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Boring/Monitoring Well Number: RSB-010B/TG010

Project Name: Pitney Court
Page: 2 of 2

Project Number: 27112
Date: 7-13-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-21	14	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	7	12 17	20	2.0/2.0	>4.5	0	
		End of boring at 14 feet									

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log

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Burns & McDonnell SINCE 1898

Project Name: Pitney Court	Project No.: 27112	Boring/Monitoring Well Number: RSB-011/TG011	
Coordinates: N 1884375.92 E 1166747.099	Sediment Elevation (CCD): -14.50	Page: 1 of 1	
Total Depth (feet): 10	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.2
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-27-06	To: 6-27-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Depth to water while drilling ▽
Depth to water after drilling ▼

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-15	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, very loose, saturated		SS	1	WOH WOH WOH WOH		2.0/2.0		0.2 0.2 0.1	Sample intervals 1-3 were collected witha 3" SS, no N values were recorded.
-16	2										
-17	3			SS	2	WOH WOH WOH WOH		1.4/2.0		0.9 1.0	
-18	4										
-19	5			SS	3	WOH WOH 1 1		0.2/2.0		9.1	
-20	6										
-21	7	Black coarse GRAVEL (GP), coal seam, medium dense, wet tar globules at 6.5-7.1' light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very hard, low plasticity, dry		SS	4	8 14 17 26	31	1.3/2.0	>4.5	4.0 1.6	tar-like odor at 6.5-7.1'
-22	8										
-23	9			SS	5	12 18 18 18	36	0.9/2.0	>4.5		
-24	10	End of boring at 10 feet									
	11										
	12										

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log

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Burns & McDonnell SINCE 1898

Project Name: Pitney Court	Project No.: 27112	Boring/Monitoring Well Number: RSB-011B/TG011	
Coordinates: N 1884377.6 E 1166744.306	Sediment Elevation (CCD): -11.50	Page: 1 of 2	
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.2
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-13-06	To: 7-13-06	Logged By: Sara Struttman	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-12	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, some coal, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		2.0/2.0		0.0, 0.0	Sample intervals 1-5 were collected using a 3" SS, no N values were recorded.
-13											
-14	2			SS	2	WOH, WOH, WOH, WOH		2.0/2.0		0.0, 0.0	
-15	3										
-16	4			SS	3	WOH, WOH, WOH, WOH		1.7/2.0		0.0, 0.0	
-17	5										
-18	6	tar globules at 6-7'		SS	4	1, 1, 1, 3	2	1.0/2.0		0.0, 0.0	tar-like odor at 6-7'
-19	7										
-20	8	tar globules at 8-9.6'		SS	5	WOH, WOH, WOH, 8		1.6/2.0		0.0, 0.0	tar-like odor at 8-9.6'
-21	9										
-22	10			SS	6	7, 7, 10, 16	17	2.0/2.0		20.8, 32.8, 0.0	strong tar-like odor at 10-10.5' slight odor at 10.5-10.9'
-23	11	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry									
-24	12			SS	7	6, 8	21	1.7/2.0	>4.5	0.0	

Depth to water while drilling ▽
Depth to water after drilling ▼

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Drilling Log, continued

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Boring/Monitoring Well Number: RSB-011B/TG011

Project Name: Pitney Court
Page: 2 of 2

Project Number: 27112
Date: 7-13-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-25	14	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	7	13 16	21	1.7/2.0	>4.5	0.0	
		End of boring at 14 feet									

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Drilling Log

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-012/TG012
Coordinates: N 1884381.781 E 1166711.716		Sediment Elevation (CCD): -13.90	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-27-06	To: 6-27-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-14	0	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, some coal, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		0.2/2.0		0.0	All sample intervals were collected using a 3" SS, no N values were recorded.
-15	1										
-16	2			SS	2	WOH, WOH, WOH, WOH		1.8/2.0		10.3, 10.1, 6.9	Petroleum/sulfur/tar-like odor at 2-6.9'
-17	3										
-18	4			SS	3	WOH, WOH, WOH, WOH		1.8/2.0		4.5, 8.3, 8.1	
-19	5										
-20	6			SS	4	9, 10, 14, 17	24	1.8/2.0	>4.5	6.2, 7.6, 0	
-21	7	light olive Gray (5Y 6/1) silty CLAY (CL), little gravel, little sand, hard, low plasticity, dry									
	8	End of boring at 8 feet									
	9										
	10										
	11										
	12										

Depth to water while drilling ▽
Depth to water after drilling ▼

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-012B/TG012
Coordinates: N 1884382.072 E 1166719.581		Sediment Elevation (CCD): -13.50	Page: 1 of 1
Total Depth (feet): 12	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.2
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-13-06 To: 7-13-06	Logged By: Sara Struttman	Reviewed by: Kathi Wotal	Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-14	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, very loose, saturated		SS	1	WOH WOH WOH WOH		1.6/2.0		0.0 0.0	Sample intervals 1-4 were collected with a 3" SS, no N values were recorded.
-15											
-16	2			SS	2	WOH WOH WOH WOH		1.7/2.0		0.0 0.0	
-17	3										
-18	4			SS	3	WOH WOH WOH 2		1.5/2.0		0.0 0.0	
-19	5										
-20	6	tar globules at 6-6.8'		SS	4	WOH WOH 8 10		1.6/2.0		0.0 19.2	strong odor at 6-7.2'
-21	7	tar saturated at 6.8-7.2' light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry									
-22	8			SS	5	8 8 16 22	24	1.8/2.0	>4.5	0.0 0.0	
-23	9										
-24	10			SS	6	9 10 19 26	29	1.8/2.0	>4.5	0.0 0.0	
-25	11										
	12	End of boring at 12 feet									

Depth to water while drilling ▽
Depth to water after drilling ▼

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-013/TG013
Coordinates: N 1884345.86 E 1166794.433		Sediment Elevation (CCD): -11.50	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.2
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-27-06	To: 6-27-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-12	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, very loose, saturated		SS	1	4 1 1 1	2	0.1/2.0		0.0	Sample intervals 1-3 were collected with a 3" SS, no N values were recorded.
-13	2										
-14	3			SS	2	WOH WOH 1 1		1.1/2.0		0.0	
-15	4										
-16	5			SS	3	2 2 2 2	4	0.1/2.0		0.0	
-17	6	tar staining, sheen at 6-6.7'									strong tar-like odor at 6-6.7'
-18	7	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	4	8 11 15 22	26	2.0/2.0	>4.5	50.3 0.0	
-19	8	End of boring at 8 feet									
	9										
	10										
	11										
	12										

Depth to water while drilling

Depth to water after drilling

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-014/TG014
Coordinates: N 1884337.888 E 1166768.924		Sediment Elevation (CCD): -12.30	Page: 1 of 1
Total Depth (feet): 12	Hole Size (inches): 8.25	Driller (s): Gary Swfit	River Elevation (CCD): -2.0
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-28-06	To: 6-28-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

▽ Depth to water while drilling
▼ Depth to water after drilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-13	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, very loose, saturated		SS	1	WOH WOH WOH WOH		2.0/2.0		0.0 0.0 0.5	Sample intervals 1-4 were collected with a 3" SS, no N values were recorded.
-14	2										
-15	3			SS	2	WOH WOH WOH 1		2.0/2.0		1.0 3.4 3.8	
-16	4										
-17	5			SS	3	WOH WOH WOH WOH		1.5/2.0		1.5 1.9	
-18	6										
-19	7	slight sheen at 7-7.7'		SS	4	1 2 2 2	4	1.7/2.0		1.8 3.3 18.2	tar-like odor at 7-9.6'
-20	8	Coarse coal GRAVEL (GW) seam, loose, wet tar saturated at 7.7-9.6'									
-21	9	greenish Black (5GY 2/1) organic SILT (OL), loose, saturated		SS	5	2 2 2 10	4	1.6/2.0	>4.5	20.6 42.3 16.1	
-22	10	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry									
-23	11			SS	6	8 10 14 21	24	0.5/2.0	>4.5	0.0	
-24	12										
		End of boring at 12 feet									

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Project Name: Pitney Court	Project No.: 27112	Boring/Monitoring Well Number: RSB-015/TG015	
Coordinates: N 1884344.55 E 1166735.353	Sediment Elevation (CCD): -13.80	Page: 1 of 1	
Total Depth (feet): 10	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.0
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-28-06	To: 6-28-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-14	0	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, some coal, very loose, saturated		SS	1	WOH, WOH, WOH, 1		2.0/2.0		0.0, 0.2, 0.4	All sample intervals were collected with a 3" SS, no N values were recorded.
-15	1										
-16	2			SS	2	WOH, WOH, WOH, WOH		1.5/2.0		0.3, 3.2	tar-like odor at 3-8.6'
-17	3	slight sheen at 3-7.2'									
-18	4			SS	3	WOH, WOH, WOH, 2		1.8/2.0		1.6, 4.8, 8.6	
-19	5										
-20	6			SS	4	WOH, WOH, WOH, WOH		1.8/2.0		2.5, 2.6, 33.9	
-21	7	Coarse GRAVEL (GW), coal seam, very loose, wet									
-22	8	tar saturated at 7.2-8.6'		SS	5	6, 11, 15, 18	26	2.0/2.0	>4.5	6.4, 27.4, 0.0	
-23	9	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry									
	10	End of boring at 10 feet									
	11										
	12										

Depth to water while drilling ▽
Depth to water after drilling ▼

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Drilling Log

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Project Name: Pitney Court	Project No.: 27112	Boring/Monitoring Well Number: RSB-016/TG016	
Coordinates: N 1884303.3 E 1166819.7	Sediment Elevation (CCD): -13.30	Page: 1 of 2	
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.0
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-28-06	To: 6-28-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-14 / -15	1 / 2	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, very loose, saturated slight sheen at 1-2' tar globules at 2-6.7'		SS	1	WOH, 1, 8, 15	9	2.0/2.0		1.7, 4.0, 4.8	Sample intevals 1-3 were collected with a 3" SS, no N values were recorded. tar-like odor at 1-6.7'
-16 / -17	3 / 4			SS	2	WOH, WOH, 1, 2		0.5/2.0		10.0	
-18 / -19	5 / 6			SS	3	WOH, WOH, 24, 46		0.8/2.0		36.8	
-20 / -21	7 / 8	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry No recovery		SS	4	8, 11, 15, 20	26	1.7/2.0	>4.5	22.0, 0.0	
-22 / -23	9 / 10			SS	5	WOH, WOH, WOH, WOH		0.0/2.0			
-24 / -25	11 / 12	greenish Black (5GY 2/1) organic SILT (OL), medium dense, saturated light olive Gray (5Y 6/1) CLAY (CL), fractured, very soft to very hard, low plasticity, dry 11-12' slightly tar stained around fractures		SS	6	8, 13, 13, 16	26	1.8/2.0	2.5, >4.5	7.2, 1.4	tar-like odor at 11-12'
-26				SS	7	8, 13	33	1.5/2.0	1.5	0.0	

Depth to water while drilling ▽
Depth to water after drilling ▼

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Drilling Log, continued

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Boring/Monitoring Well Number: RSB-016/TG016

Project Name: Pitney Court
Page: 2 of 2

Project Number: 27112
Date: 6-28-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-27	14			SS	7	20 22	33	1.5/2.0	>4.5	0.0	
		End of boring at 14 feet									
	15										
	16										
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

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Project Name: Pitney Court	Project No.: 27112	Boring/Monitoring Well Number: RSB-017/TG017	
Coordinates: N 1884292.168 E 1166794.126	Sediment Elevation (CCD): -11.90	Page: 1 of 1	
Total Depth (feet): 12	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-29-06	To: 6-29-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-12	0	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, some coal, very loose, saturated									Sample intervals 1-5 were collected with a 3" SS, no N values were recorded.
-13	1			SS	1	WOH WOH WOH WOH		1.2/2.0		5.9 7.8	
-14	2										Sampled RSB-017-001 from 2-4'
-15	3			SS	2	WOH WOH WOH WOH		2.0/2.0		4.4 6.5 13.6	petroleum/sulfur-like odor at 3-6'
-16	4										
-17	5			SS	3	WOH WOH WOH WOH		2.0/2.0		6.1 11.0 7.7	
-18	6	slight sheen at 6-10'									
-19	7			SS	4	WOH WOH WOH WOH		2.0/2.0		10.4 8.6 7.7	
-20	8										
-21	9			SS	5	WOH WOH WOH 4		2.0/2.0		5.4 9.8 11.5	
-22	10	tar saturated at 10-10.6'									strong tar-like odor at 10-10.6'
-23	11	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	6	8 12 15 19	27	2.0/2.0	> 4.5	7.4 64.1 0.0	
	12	End of boring at 12 feet									

Depth to water while drilling

Depth to water after drilling

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-018/TG018
Coordinates: N 1884290.298 E 1166764.663		Sediment Elevation (CCD): -13.40	Page: 1 of 1
Total Depth (feet): 10	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-29-06	To: 6-29-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-14	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, some coal, very loose, saturated		SS	1	WOH WOH WOH WOH		2.0/2.0		0.0 0.7 1.7	Samples intervals 1-4 were collected with a 3" SS, no N values were recorded.
-15	2										
-16	3			SS	2	WOH WOH WOH WOH		1.1/2.0		0.7 3.6	petroleum/sulfur-like odor at 3-6'
-17	4	slight sheen at 4-6.8'									
-18	5			SS	3	WOH WOH WOH WOH		0.8/2.0		1.7	
-19	6										
-20	7	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry to moist		SS	4	WOH WOH WOH 4		2.0/2.0	>4.5	29.3 51.3 27.4	tar-like odor at 6-6.8' slight odor at 6.8-8.7'
-21	8	greenish Black (5GY 2/1) organic SILT (OL), some coal, very loose, saturated									
-22	9	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	5	6 10 15 18	25	2.0/2.0	> 4.5	8.2 21.7 0.0	
-23	10	End of boring at 10 feet									
	11										
	12										

▽ Depth to water while drilling

▼ Depth to water after drilling

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-019/TG019
Coordinates: N 1884257.726 E 1166840.268		Sediment Elevation (CCD): -7.90	Page: 1 of 1
Total Depth (feet): 10	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-29-06	To: 6-29-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Depth to water while drilling ▽ / Depth to water after drilling ▼

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-8		greenish Black (5GY 2/1) organic SILT (OL), some organic debris, some coal, very loose, saturated									Samples intervals 1-3 were collected using a 3" SS, no N values were recorded.
-9	1			SS	1	WOH WOH WOH WOH		2.0/2.0		0.0 0.0	
-10	2										
-11	3	sheen at 3-7'		SS	2	WOH WOH WOH WOH		2.0/2.0			tar-like odor at 3-8.2'
-12	4										
-13	5			SS	3	2 1 1 2	2	1.1/2.0			
-14	6										
-15	7	tar globules at 7-8.2'		SS	4	2 2 2 2	4	0.7/2.0			
-16	8	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very hard, low plasticity, dry									
-17	9			SS	5	18 18 18 29	36	2.0/2.0	> 4.5		
	10	End of boring at 10 feet									
	11										
	12										

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-020/TG020
Coordinates: N 1884254.9 E 1166813.038		Sediment Elevation (CCD): -10.00	Page: 1 of 1
Total Depth (feet): 10	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.2
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-29-06	To: 6-29-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-11	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, some coal, very loose, saturated		SS	1	WOH / WOH / WOH / WOH		2.0/2.0		0.0 / 0.0 / 0.0	Sample intervals 1-4 were sampled with a 3" SS, no N values were recorded.
-12	2										
-13	3			SS	2	WOH / WOH / WOH / WOH		2.0/2.0		0.6 / 0.8 / 1.3	tar-like odor at 3.5-8.6'
-14	4										
-15	5			SS	3	WOH / WOH / WOH / WOH		2.0/2.0		2.5 / 2.5 / 3.1	
-16	6	slight sheen at 6-8'									
-17	7			SS	4	WOH / WOH / WOH / 3		1.2/2.0		0.6 / 1.2	
-18	8	tar saturated at 8-8.6'									
-19	9	light olive gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very hard, low plasticity, dry		SS	5	10 / 10 / 23 / 50/4"	33	2.0/2.0	> 4.5	153 / 0.0 / 0.0	
-20	10	End of boring at 10 feet									
	11										
	12										

Depth to water while drilling

Depth to water after drilling

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log

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Burns & McDonnell SINCE 1898

Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-021/TG021
Coordinates: N 1884249.257 E 1166790.327		Sediment Elevation (CCD): -12.80	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -1.9
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-30-06	To: 6-30-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation – Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-13	0	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, some coal, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		2.0/2.0		0.0, 0.1, 2.0	All sample intervals were collected with a 3" SS, no N values were recorded.
-14	1										
-15	2	slight sheen at 2-6'		SS	2	WOH, WOH, WOH, WOH		2.0/2.0		3.0, 5.6, 2.7	petroleum/sulfur-like odor at 2-6' Sampled RSB-021-001 from 2-4'
-16	3										
-17	4			SS	3	WOH, WOH, WOH, 2		0.7/2.0		2.9	
-18	5										
-19	6	sheen at 6-6.5'		SS	4	5, 9, 12, 15	21	1.7/2.0	>4.5	6.4, 0.0	tar-like odor at 6-6.5'
-20	7	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry									
	8	End of boring at 8 feet									
	9										
	10										
	11										
	12										

Depth to water while drilling ▽
Depth to water after drilling ▼

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-022/TG022
Coordinates: N 1884211.812 E 1166863.973		Sediment Elevation (CCD): -7.40	Page: 1 of 2
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -1.9
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-30-06	To: 6-30-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-8	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, some coal, very loose, saturated		SS	1	8, 3, 2, 1	5	2.0/2.0		0.0, 0.0, 2.7	Sample intervals 1-4 were collected with a 3" SS, no N values were recorded.
-9	2										
-10	3			SS	2	WOH, WOH, WOH, WOH		2.0/2.0		0.4, 0.3, 0.6	
-11	4										
-12	5			SS	3	3, 1, 1, 1	2	0.9/2.0		1.1, 1.2	
-13	6										
-14	7	tar saturated at 6.3-7.5'		SS	4	WOH, WOH, WOH, 3		1.6/2.0	1.0	7.9, 36.2, 96.1	tar-like odor at 6.3-8.6'
-15	8	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, soft to medium stiff, medium plasticity, moist									
-16	9	tar staining 7.5-8.6' light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, stiff to very hard, low plasticity, dry		SS	5	11, 17, 23, 34	40	1.5/2.0	1.0, >4.5	0.0, 0.0	
-17	10										
-18	11	olive Gray (5Y 4/1) silty CLAY (CL), fractured, little fine gravel, little sand, soft, medium plasticity, moist; tar in fractures at 10.2-11.7'		SS	6	11, 13, 25, 33	38	2.0/2.0	<0.5, >4.5	29.3, 31.2, 0.0	
-19	12	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very hard, low plasticity, dry									
-20				SS	7	9, 15	38	1.2/2.0	>4.5	0.0	

Depth to water while drilling ▽
Depth to water after drilling ▼

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Drilling Log, continued

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Boring/Monitoring Well Number: RSB-022/TG022

Project Name: Pitney Court
Page: 2 of 2

Project Number: 27112
Date: 6-30-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-21	14	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very hard, low plasticity, dry		SS	7	23 34	38	1.2/2.0	>4.5	0.0	
		End of boring at 14 feet									
	15										
	16										
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log

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Burns & McDonnell SINCE 1898

Project Name: Pitney Court	Project No.: 27112	Boring/Monitoring Well Number: RSB-023/TG023	
Coordinates: N 1884205.771 E 1166837.084	Sediment Elevation (CCD): -7.80	Page: 1 of 2	
Total Depth (feet): 18	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -1.9
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-30-06	To: 6-30-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-8	0	River Sediment Investigation greenish Black (5GY 2/1) organic SILT (OL), some organic debris, some coal, very loose, saturated									Sample intervals 1-6 were collected with a 3" SS, no N values were recorded.
-9	1			SS	1	WOH WOH WOH WOH		2.0/2.0		0.0 0.0 0.0	
-10	2			SS	2	WOH WOH WOH WOH		1.5/2.0		0.0 0.0	
-11	3			SS	3	WOH WOH WOH WOH		1.9/2.0		0.0 0.0 0.6	
-12	4			SS	4	WOH WOH WOH 1		1.2/2.0		0.6 3.1	
-13	5										
-14	6										
-15	7										
-16	8			SS	5	WOH WOH 2 2		0.6/2.0		0.3	
-17	9										
-18	10			SS	6	25 8 1 6	9	1.8/2.0		1.0 1.6	tar-like odor at 10-12.3'
-19	11										
-20	12			SS	7	8 11	27	2.0/2.0		37.1	slight tar-like odor at 12.3-14'

Depth to water while drilling

Depth to water after drilling

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Drilling Log, continued

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SINCE 1898

Project Name: Pitney Court
Project Number: 27112

Boring/Monitoring Well Number: RSB-023/TG023
Page: 2 of 2
Date: 6-30-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-21	14	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very stiff, medium plasticity, moist tar stained at 12.3-15.2'		SS	7	16 19	27	2.0/2.0	2.0	2.6	
-22	15			SS	8	8 8 8 9	16	1.9/2.0		13.9 206 145	tar-like odor at 15.2-16.2'
-23	16	greenish Black (5GY 2/1) organic SILT (OL), very loose, saturated tar saturated 15.2-16.2'									
-24	17	light olive Gray (5Y 6/1) CLAY (CL), little fine gravel, little sand, very hard, low plasticity, dry		SS	9	7 12 33 50/3"	45	1.8/2.0	>4.5	0.0 0.0	
-25	18	End of boring at 18 feet									
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

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Drilling Log

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Project Name: Pitney Court	Project No.: 27112	Boring/Monitoring Well Number: RSB-024/TG024	
Coordinates: N 1884203.317 E 1166818.12	Sediment Elevation (CCD): -13.90	Page: 1 of 2	
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.2
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-5-06	To: 7-5-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-14		**River Sediment Investigation**									Depth to water while drilling ▽ / Depth to water after drilling ▼
-14		greenish Black (5GY 2/1) organic SILT (OL), some organic debris, very loose, saturated		SS	1	WOH WOH WOH WOH		2.0/2.0		0.0 0.0 0.0	Sample intervals 1-4 were collected with a 3" SS, no N values were recorded.
-15	1										
-16	2			SS	2	WOH WOH WOH WOH		0.8/2.0		0.0 0.7	
-17	3										
-18	4			SS	3	WOH WOH 1 1		2.0/2.0		0.6 0.9 1.0	
-19	5										
-20	6	sheen at 6-6.6'		SS	4	WOH 5 8 10	13	2.0/2.0	> 4.5	1.2 10.5 1.2	tar-like odor at 6-6.6' strong tar-like odor at 6.6-7.3' slight odor at 7.3-8'
-21	7	tar saturated at 6.6-7.3'									
-22	8	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry Black (N1) coarse SAND (SP) and fine gravel, wet		SS	5	5 5 6 15	11	2.0/2.0	3.0 3.0	26.3 97.4	strong odor at 8-8.6'
-23	9	tar saturated at 8-8.6' dark greenish Gray (5GY 4/1) silty CLAY (CL), very stiff, medium plasticity, moist tar stained at 8.6-10.0'									
-24	10	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very stiff, low plasticity, moist Black (N1) coarse SAND (SP) and fine gravel, some debris, some coal, medium dense, wet		SS	6	3 10 18 39	28	2.0/2.0	4.25	76.3 88.2 15.6	slight odor at 9.9-10' strong odor at 10-11.6' slight odor at 11.6-13.1'
-25	11	tar saturated at 10-11.6'									
-26	12			SS	7	17 17	39	1.2/2.0	> 4.5	0.0	

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Drilling Log, continued

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Project Name: Pitney Court
Project Number: 27112

Boring/Monitoring Well Number: RSB-024/TG024
Page: 2 of 2
Date: 7-5-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-27		light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very hard, low plasticity, moist		SS	7	22 39	39	1.2/2.0	> 4.5	0.0	
	14	little tar stained at 11.6-13'									
		tar observed in fractures at 13-13.1'									
	15	moist to dry at 13.1-14'									
		End of boring at 14 feet									
	16										
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

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Drilling Log

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Burns & McDonnell SINCE 1898

Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-025/TG025
Coordinates: N 1884169.705 E 1166877.247		Sediment Elevation (CCD): -12.00	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-6-06	To: 7-6-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
		River Sediment Investigation									▽ Depth to water while drilling ▼ Depth to water after drilling
-13	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, very loose, saturated		SS	1	WOH WOH WOH WOH		2.0/2.0		0.0 5.3 3.0	Sample intervals 1-3 were collected with a 3" SS, no N values were recorded.
-14	2	slight sheen at 2-4'									
-15	3			SS	2	WOH WOH WOH WOH		2.0/2.0		0.8 2.8 4.1	Sampled RSB-025-001 from 3-4'
-16	4	white clay-like substance at 3.5-3.7'									
-17	5			SS	3	WOH WOH 8 19		2.0/2.0	0.5	0.0 1.4 0.0	
-18	6	medium Gray (N5) silty CLAY (CL), little fine gravel, little sand, medium stiff, medium plasticity, moist medium Gray to light olive Gray (5Y 6/1) at 6'									
-19	7			SS	4	9 12 16 22	28	1.9/2.0	>4.5 >4.5	0.0 0.0 0.0	
-20	8	End of boring at 8 feet									
	9										
	10										
	11										
	12										

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Burns & McDonnell SINCE 1898

Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-026/TG026
Coordinates: N 1884172.626 E 1166854.694		Sediment Elevation (CCD): -13.90	Page: 1 of 1
Total Depth (feet): 12	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-6-06	To: 7-6-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-14		**River Sediment Investigation**									▽ Depth to water while drilling; ▼ Depth to water after drilling
-14	0	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, very loose, saturated		SS	1	WOH WOH WOH WOH		2.0/2.0		0.0 0.0 0.0	Sample intervals 1-4 were collected with a 3" SS, no N values were recorded.
-15	1										
-16	2			SS	2	WOH WOH WOH WOH		2.0/2.0		0.0 0.0 0.0	
-17	3										
-18	4			SS	3	WOH WOH WOH WOH		2.0/2.0		0.0 0.1 0.5	
-19	5										
-20	6			SS	4	WOH WOH WOH 1		0.8/2.0		0.8 15.3	tar-like odor at 7.6-8.4'
-21	7	tar saturated at 7.6-8.4'									
-22	8	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very hard, low plasticity, moist		SS	5	9 13 18 21	31	1.8/2.0	>4.5	134 0.7 0.6	
-23	9										
-24	10			SS	6	10 10 50/4"		1.3/2.0	>4.5	0.4 0.2	
-25	11										
	12	End of boring at 12 feet									

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Drilling Log

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Burns & McDonnell SINCE 1898

Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-027/TG027
Coordinates: N 1884174.762 E 1166832.83		Sediment Elevation (CCD): -13.20	Page: 1 of 2
Total Depth (feet): 16	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-6-06	To: 7-6-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-14	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		2.0/2.0		0.0, 0.0, 0.0	Sample intervals 1-4 were collected with a 3" SS, no N values were recorded.
-15	2										
-16	3			SS	2	WOH, WOH, WOH, WOH		1.8/2.0		0.0, 0.0, 0.0	
-17	4										
-18	5			SS	3	WOH, WOH, 1, 1		1.3/2.0		0.0, 0.7	
-19	6	sheen at 6-7.1'									
-20	7			SS	4	WOH, WOH, 5, 8		1.3/2.0	3.0	5.4, 1.3	tar-like odor at 6-7.1'
-21	8	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, medium stiif to very stiff, low plasticity, moist									
-22	9	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, moist		SS	5	5, 8, 11, 16	19	1.6/2.0	>4.5	6.2, 0.0	
-23	10	moist to dry at 10'									
-24	11			SS	6	5, 7, 12, 16	19	1.5/2.0	>4.5	0.0, 0.0	
-25	12										
-26				SS	7	12, 16	35	1.5/2.0	>4.5	0.0	

Depth to water while drilling ▽
Depth to water after drilling ▼

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Drilling Log, continued

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Boring/Monitoring Well Number: RSB-027/TG027

Project Name: Pitney Court
Page: 2 of 2

Project Number: 27112
Date: 7-6-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-27	14	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, moist		SS	7	19 32	35	1.5/2.0	>4.5	0.0	
-28	15			SS	8	9 14 31 46	45	1.5/2.0	>4.5	0.0 0.0	
-29	16	End of boring at 16 feet									
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-027B/TG027
Coordinates: N 1884163.915 E 1166828.374		Sediment Elevation (CCD): -12.30	Page: 1 of 1
Total Depth (feet): 12	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.0
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-7-06 To: 7-7-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal	Approved by: Don Schilling

Depth to water while drilling ▽
Depth to water after drilling ▼

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-13 / -14	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, some coal, very loose, saturated		SS	1	2, 1, 1, 1	2	2.0/2.0		0.0 / 0.0	Sample intervals 1-5 were collected with a 3" SS, no N values were recorded.
-15 / -16	2–3			SS	2	1, 1, 9, 5	10	1.2/2.0		0.0 / 0.5	
-17 / -18	4–5			SS	3	3, 1, 2, 3	3	1.1/2.0		0.0 / 0.0	
-19 / -20	6–7	wood encountered at 6.0-6.4'		SS	4	44, 5, 7, 3	12	1.5/2.0		0.0 / 0.0	
-21 / -22	8–9	tar saturated at 8-9.4'		SS	5	WOH, WOH, 6, 11		2.0/2.0	>4.5	25.4, 86.6, 114	tar-like odor at 8-9.4' Sampled RSB-027B-001 from 8.5-9.5' slight odor at 9.4-9.7'
-23 / -24	10–11	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	6	9, 9, 16, 24	25	1.9/2.0	>4.5 / >4.5	0.0 / 0.0	
	12	End of boring at 12 feet									

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Drilling Log

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Burns & McDonnell SINCE 1898

Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-028/TG028
Coordinates: N 1884124.054 E 1166887.959		Sediment Elevation (CCD): -7.60	Page: 1 of 1
Total Depth (feet): 12	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-10-06	To: 7-10-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

▽ Depth to water while drilling
▼ Depth to water after drilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-8	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		2.0/2.0		0.0, 0.0, 1.8	Sample intervals 1-5 were collected with a 3" SS, no N values were recorded.
-9		white clay-like substance, high plasticity, at 1.5-1.9'									
-10	2			SS	2	WOH, WOH, WOH, WOH		2.0/2.0		0.0, 1.4, 2.7	
-11	3	white clay-like substance, high plasticity, at 3.5-3.9'									
-12	4			SS	3	WOH, WOH, WOH, WOH		1.4/2.0		2.5, 2.4	
-13	5	white clay-like substance, high plasticity, at 5.5-5.9'									
-14	6			SS	4	WOH, 1, 1, 1	2	1.6/2.0		2.4, 6.2, 5.4	
-15	7										
-16	8	fine gravel seam at 7.8-8' white clay-like substance, high plasticity, at 8-8.5'		SS	5	WOH, WOH, 1, 1		1.4/2.0	<0.25	1.4, 5.7	
-17	9										
-18	10	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very soft, medium plasticity, moist		SS	6	WOH, WOH, 6, 10		1.5/2.0	<0.25, >4.5	2.3, 0.7	
-19	11										
	12	Very soft to hard, medium to low plasticity, moist to dry at 11.4'									
		End of boring at 12 feet									

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Drilling Log

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-029/TG029
Coordinates: N 1884123.61 E 1166862.389		Sediment Elevation (CCD): -7.90	Page: 1 of 2
Total Depth (feet): 16	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-7-06	To: 7-7-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-8		greenish Black (5GY 2/1) organic SILT (OL), some organic debris, very loose, saturated		SS	1	WOH WOH WOH WOH		2.0/2.0		0.0 0.0 0.0	Sample intervals 1-4 were collected with a 3" SS, no N values were recorded.
-9	1										
-10	2			SS	2	7 7 7 3	14	1.0/2.0		0.0 0.0	
-11	3										
-12	4			SS	3	WOH WOH WOH WOH		0.2/2.0		0.0	
-13	5										
-14	6			SS	4	WOH WOH 6 10		2.0/2.0	>4.5	0.5 0.7 0.0	
-15	7	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, medium stiff to hard, low plasticity, dry									
-16	8	greenish Black (5GY 2/1) organic SILT (OL), loose, saturated		SS	5	2 2 2 2	4	1.0/2.0		0.0 0.5	
-17	9										
-18	10			SS	6	8 11 15 19	26	2.0/2.0	>4.5	0.6 0.0 0.0	
-19	11	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry									
-20	12	No recovery		SS	7	19 18	28	0.0/2.0			

▽ Depth to water while drilling

▼ Depth to water after drilling

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Drilling Log, continued

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Project Name Pitney Court
Project Number 27112

Boring/Monitoring Well Number RSB-029/TG029
Page 2 of 2
Date 7-7-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-21	14	No recovery		SS	7	10 7	28	0.0/2.0			
-22		light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very hard, low plasticity, dry				16			>4.5	0.0	
-23	15			SS	8	16 29	45	1.5/2.0			
	16					34			>4.5	0.0	
		End of boring at 16 feet									
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-030/TG030
Coordinates: N 1884123.595 E 1166845.084		Sediment Elevation (CCD): -12.40	Page: 1 of 2
Total Depth (feet): 18	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-10-06	To: 7-10-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-13	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, loose, saturated		SS	1	WOH, WOH, WOH, WOH		1.8/2.0		0.0, 0.0, 0.8	Sample intervals 1-4 were collected with a 3" SS, no N values were recorded.
-14											
-15	2			SS	2	WOH, WOH, WOH, WOH		2.0/2.0		0.0, 3.7, 7.4	
-16											
-17	3			SS	3	WOH, WOH, WOH, WOH		1.7/2.0		1.9, 2.0, 5.1	
-18		fine to coarse gravel seam at 5.5-5.7'									
-19	4			SS	4	WOH, WOH, 6, 10		1.8/2.0	>4.5	2.2, 4.4, 3.3	tar-like odor at 6.9-7.4'
-20		tar coated at 6.9-7.4'									
-21	5	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, stiff, low plasticity, dry tar observed in pockets and fractures at 7.4-7.7'		SS	5	WOH, 7, 9, 12	16	1.1/2.0	>4.5	0.0, 0.0	
-22											
-23	6	Black organic SILT (OL), very loose, wet tar saturated at 10-11.3'		SS	6	1, 1, 8, 14	9	2.0/2.0	>4.5	28.1, 41.5, 0.0	tar-like odor at 10-11.3' slight odor at 11.3-12.7'
-24											
-25	7	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, stiff, low plasticity, dry some tar staining at 11.3-12.7'		SS	7	6, 15		1.4/2.0	2.5	20.9, 3.9	strong odor at

Depth to water while drilling ▽
Depth to water after drilling ▼

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Drilling Log, continued

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Project Name: Pitney Court
Project Number: 27112

Boring/Monitoring Well Number: RSB-030/TG030
Page: 2 of 2
Date: 7-10-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-26	14	Black organic SILT (OL) with debris, medium dense, wet tar saturated at 12.7-13.3' light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, stiff, low plasticity, dry intermittent staining and tar pockets at 14-16'		SS	7	50/4"	.	1.4/2.0	3.5	20.9 8.7	12.7-13.3'
-27	15			SS	8	19 50/3"		0.8/2.0		1.5	
-28	16										
-29	17			SS	9	15 24 32 50/4"	56	1.5/2.0	>4.5 >4.5	2.3 0.8	
-30	18	End of boring at 18 feet									
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

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Drilling Log

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Project Name: Pitney Court	Project No.: 27112	Boring/Monitoring Well Number: RSB-031/TG031	
Coordinates: N 1884073.685 E 1166893.666	Sediment Elevation (CCD): -7.80	Page: 1 of 2	
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.5
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-11-06 To: 7-11-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal	Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation / Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-8	0	greenish Black (5GY 2/1) organic SILT (OL), very loose, saturated		SS	1	WOH, WOH, WOH, WOH		2.0/2.0		0.0, 0.0, 0.5	Sample intervals 1-4 were collected with a 3" SS, no N values were recorded.
-9	1										
-10	2			SS	2	WOH, WOH, WOH, WOH		2.0/2.0		0.0, 0.0, 1.8	
-11	3										
-12	4			SS	3	WOH, WOH, 3, 3		2.0/2.0		0.0, 0.0, 8.3	
-13	5										
-14	6			SS	4	1, 1, 1, 1	2	0.9/2.0		0.0, 9.1	
-15	7										
-16	8			SS	5	1, 1, 1, 1	2	1.4/2.0		3.1, 5.3	
-17	9										
-18	10			SS	6	3, 6, 10, 15	16	2.0/2.0	>4.5	0.0, 0.0, 0.0	
-19	11	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, stiff, low plasticity, dry									
-20	12	light olive Gray (5Y 6/1) silty CLAY (CL), some fine gravel, some sand, very soft, medium plasticity, moist to wet		SS	7	6, 6	15	2.0/2.0	<0.25	0.0, 0.0	

▽ Depth to water while drilling

▼ Depth to water after drilling

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Project Name: Pitney Court
Project Number: 27112

Boring/Monitoring Well Number: RSB-031/TG031
Page: 2 of 2
Date: 7-11-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-21						9	.				
		light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, stiff, low plasticity, dry		SS	7	15	15	2.0/2.0	>4.5	0.0 0.0	
	14	End of boring at 14 feet									
	15										
	16										
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

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Project Name: Pitney Court	Project No.: 27112	Boring/Monitoring Well Number: RSB-032/TG032	
Coordinates: N 1884070.747 E 1166867.48	Sediment Elevation (CCD): -11.30	Page: 1 of 2	
Total Depth (feet): 16	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.5
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-11-06	To: 7-11-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-12	1	greenish Black (5GY 2/1) organic SILT (OL) with organic debris, very loose, saturated		SS	1	WOH WOH WOH WOH		2.0/2.0		0.0 0.0 14.1	Sample intervals 1-6 were collected with a 3" SS, no N values were recorded.
-13	2										
-14	3			SS	2	WOH WOH WOH WOH		1.2/2.0		16.3 6.2	
-15	4										
-16	5			SS	3	WOH WOH WOH WOH		1.6/2.0		7.4 15.6 20.7	Sampled RSB-032-001 from 5-6'
-17	6										
-18	7			SS	4	WOH WOH WOH WOH		2.0/2.0		10.7 17.9 15.5	
-19	8										
-20	9			SS	5	WOH WOH WOH WOH		2.0/2.0		13.6 9.8 21.9	
-21	10	fine gravel seam at 9.6'									tar-like odor at 9.6-11.4'
-22	11			SS	6	WOH WOH 6 11		2.0/2.0		9.1 17.5 12.8	
-23	12	tar coated at 11.2-11.4' light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very stiff, low plasticity, dry									
-24		greenish Black (5GY 2/1) organic SILT (OL) with organic debris, very dense, saturated		SS	7	11 26	59	2.0/2.0		53.6 18.9	

Depth to water while drilling

Depth to water after drilling

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Project Name: Pitney Court
Project Number: 27112

Boring/Monitoring Well Number: RSB-032/TG032
Page: 2 of 2
Date: 7-11-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-25	14	greenish Black (5GY 2/1) organic SILT (OL) with organic debris, very dense, saturated tar saturated at 13-15'		SS	7	33 40	59	2.0/2.0		53.6 112	tar/gasoline-like odor at 13-15' Sampled RSB-032-002 from 13-14'
-26	15	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very hard, low plasticity, dry		SS	8	16 40 42 50/3"	82	1.4/2.0		86.2 0.7	
-27	16	End of boring at 16 feet									
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-033B/TG033B
Coordinates: N 1884070.703 E 1166845.905		Sediment Elevation (CCD): -12.70	Page: 1 of 1
Total Depth (feet): 12	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.4
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-11-06 To: 7-11-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal	Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-13	0	greenish Black (5GY 2/1) organic SILT (OL) with organic debris, very loose, saturated		SS	1	WOH WOH WOH WOH		1.8/2.0		0.0 11.3 10.8	Sample intervals 1-4 were collected with a 3" SS, no N values were recorded.
-14	1										
-15	2			SS	2	WOH WOH WOH 1		2.0/2.0		3.6 3.8 5.4	
-16	3										
-17	4			SS	3	WOH WOH WOH WOH		1.3/2.0		10.7 24.6	
-18	5										
-19	6			SS	4	WOH WOH WOH WOH		1.3/2.0		18.0 17.1	
-20	7										
-21	8			SS	5	9 9 17 18	26	2.0/2.0	>4.5	0.6 0.0 0.0	
-22	9	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry									
-23	10			SS	6	8 8 14 17	22	1.6/2.0	>4.5 >4.5	1.0 0.0	
-24	11										
	12	End of boring at 12 feet									

Depth to water while drilling

Depth to water after drilling

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-034/TG034
Coordinates: N 1884024.387 E 1166904.087		Sediment Elevation (CCD): -8.20	Page: 1 of 2
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.4
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-11-06 To: 7-11-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal	Approved by: Don Schilling

Depth to water while drilling ▽ / Depth to water after drilling ▼

Elevation (CCD)	Depth (feet)	River Sediment Investigation Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetro-meter (TSF)	PID Reading (PPM)	Remarks
-9, -10	1, 2	greenish Black (5GY 2/1) organic SILT (OL) with organic debris, very loose, saturated		SS	1	2, 2, 3, 3	5	2.0/2.0		0.0, 0.0, 11.1	Sample intervals 1-3 were collected with a 3" SS, no N values were recorded.
-11, -12	3, 4			SS	2	WOH, WOH, WOH, WOH		2.0/2.0		2.1, 0.8, 0.9	
-13, -14	5, 6			SS	3	7, 7, 9, 10	16	1.3/2.0		0.0, 3.1	
-15, -16	7, 8			SS	4	WOH, 6, 9, 10	15	1.6/2.0		5.1, 4.7	
-17, -18	9	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, stiff, low plasticity, dry		SS	5	1, 2, 2, 6	4	1.6/2.0	>4.5	5.6, 0.0	
-19, -20	10, 11			SS	6	3, 3, 7, 10	10	0.4/2.0	0.25	0.0	
-20	12	Gray CLAY (CL), soft, high plasticity, moist									
-21		light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, medium stiff to hard, low plasticity, dry		SS	7	5, 9	21	2.0/2.0	3.0, 1.0		

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Drilling Log, continued

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Boring/Monitoring Well Number: RSB-034/TG034

Project Name: Pitney Court
Page: 2 of 2

Project Number: 27112
Date: 7-11-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-22	14	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, medium stiff to hard, low plasticity, dry		SS	7	12 14	21	2.0/2.0	3.0 >4.5		
		End of boring at 14 feet									
	15										
	16										
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-035/TG035
Coordinates: N 1884028.721 E 1166875.758		Sediment Elevation (CCD): -12.70	Page: 1 of 1
Total Depth (feet): 12	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.4
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-11-06	To: 7-11-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

▽ Depth to water while drilling
▼ Depth to water after drilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-13	0	greenish Black (5GY 2/1) organic SILT (OL) with organic debris, very loose, saturated									Sample intervals 1-5 were collected with a 3" SS, no N values were recorded.
-14	1			SS	1	WOH WOH WOH WOH		1.5/2.0		0.0 0.0	
-15	2			SS	2	WOH WOH WOH WOH		1.3/2.0		0.0 6.7	
-16	3										
-17	4			SS	3	WOH WOH WOH WOH		0.5/2.0		0.0	
-18	5										
-19	6			SS	4	WOH WOH WOH WOH		0.4/2.0		2.0	
-20	7										
-21	8			SS	5	WOH WOH 9 12		1.8/2.0	>4.5	7.2 27.7 0.0	Sampled RSB-035-001 from 8-9' tar-like odor
-22	9	tar coated at 8.8-9' light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, stiff to hard, low plasticity, dry									
-23	10			SS	6	8 8 8 12	16	1.5/2.0	>4.5 >4.5	0.0 0.0	
-24	11										
	12	End of boring at 12 feet									

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Drilling Log

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Burns & McDonnell SINCE 1898

Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-036/TG036
Coordinates: N 1884021.122 E 1166859.193		Sediment Elevation (CCD): -13.60	Page: 1 of 1
Total Depth (feet): 12	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.3
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-12-06 To: 7-12-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal	Approved by: Don Schilling

▽ Depth to water while drilling
▼ Depth to water after drilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation / Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-14		greenish Black (5GY 2/1) organic SILT (OL) with organic debris, very loose, saturated									Sample intervals 1-4 were collected with a 3" SS, no N values were recorded.
	1			SS	1	WOH WOH WOH WOH		0.1/2.0		9.2	
-15											
	2										
-16						WOH WOH				24.7	
	3			SS	2			2.0/2.0		28.5	
-17						WOH WOH				29.4	
	4										
-18						WOH WOH				15.0	
	5			SS	3			1.5/2.0		14.2	
-19						WOH WOH				11.8	
	6										
-20						6				18.7	
	7	tar saturated at 6.7-6.9' light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very stiff, low plasticity, dry		SS	4	8 12 20	20	2.0/2.0	>4.5	53.3 5.7	tar-like odor
-21											
	8	greenish Black (5GY 2/1) organic SILT (OL) with organic debris, loose, wet				6					
-22		light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very stiff, medium plasticity, moist								15.7	tar-like odor
	9			SS	5	6 10	16	2.0/2.0		25.6	
-23		greenish Black (5GY 2/1) organic SILT (OL) with organic debris, some fine gravel, medium dense, wet				19				37.7	
	10										
-24		tar saturated at 9.3-9.6' light olive Gray (5Y 6/1) silty CLAY (CL), little sand, very hard, low plasticity, dry				22					
	11			SS	6	45 50/3"		1.3/2.0	>4.5 >4.5	0.5 0.0	
-25											
	12	End of boring at 12 feet									

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-037B/TG037B
Coordinates: N 1884164.469 E 1166813.335		Sediment Elevation (CCD): -13.80	Page: 1 of 1
Total Depth (feet): 12	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.0
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-7-06	To: 7-7-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-14	0	greenish Black (5GY 2/1) organic SILT (OL) with organic debris and coal, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		2.0/2.0		0.0, 0.0, 0.0	Sample intervals 1-3 were collected with a 3" SS, no N values were recorded.
-15	1										
-16	2			SS	2	WOH, WOH, WOH, WOH		1.2/2.0		0.0, 0.0	
-17	3										
-18	4			SS	3	WOH, 1, 9, 14	10	2.0/2.0		9.8, 2.7, 7.5	ammonia-like odor at 4' Sampled RSB-037B-001 from 5-6' tar-like odor at 5.8-6.7'
-19	5										
-20	6	fine gravel (coal) seam, slight sheen at 5.8-5.9'									
-21	7	tar saturated at 6.5-6.7' light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very stiff, low plasticity, dry		SS	4	WOH, 10, 10, 15	20	1.7/2.0		7.5, 0.0	
-22	8	greenish Black (5GY 2/1) organic SILT (OL) with clay pockets, medium dense, moist		SS	5	4, 6, 6, 15	12	2.0/2.0		4.2, 6.3, 11.4	tar-like odor at 8-10.2'
-23	9										
-24	10	tar saturated (slight) at 9.8-10.2' light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	6	6, 8, 8, 50/3"	16	1.5/2.0		0.0, 0.0	
-25	11										
	12	End of boring at 12 feet									

Depth to water while drilling ▽
Depth to water after drilling ▼

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-038/TG038
Coordinates: N 1884172.309 E 1166784.577		Sediment Elevation (CCD): -13.80	Page: 1 of 1
Total Depth (feet): 12	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.0
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-7-06	To: 7-7-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

▽ Depth to water while drilling
▼ Depth to water after drilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-14	0	greenish Black (5Gy 2/1) organic SILT (OL) with organic debris and coal, very loose, saturated		SS	1	WOH, WOH, WOH, 2		0.3/2.0		0.0	Sample intervals 1-5 were collected with a 3" SS, no N values were recorded.
-15	1										
-16	2			SS	2	2, 1, 1, 1	2	0.3/2.0		0.0	
-17	3										
-18	4			SS	3	2, 2, 1, 1	3	0.2/2.0		0.0	
-19	5										
-20	6			SS	4	WOH, WOH, WOH, WOH		0.2/2.0		0.0	
-21	7										
-22	8	sheen at 8-8.6'		SS	5	8, 10, 13, 18	23	2.0/2.0		13.2, 45.0, 0.0	tar-like odor at 8-8.8'
		tar saturated (slight) at 8.6-8.8'									
-23	9	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very stiff to hard, low plasticity, dry									
-24	10			SS	6	9, 9, 13, 17	22	2.0/2.0	>4.5, >4.5	0.0, 0.0, 0.0	
-25	11										
	12	End of boring at 12 feet									

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-039/TG039
Coordinates: N 1884121.493 E 1166816.578		Sediment Elevation (CCD): -13.50	Page: 1 of 1
Total Depth (feet): 12	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.2
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-10-06	To: 7-10-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-14	1	greenish Black (5GY 2/1) organic SILT (OL) with organic debris, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		0.8/2.0		2.6	Sample intervals 1-4 were collected with a 3" SS, no N values were recorded.
-15											
-16	2			SS	2	WOH, WOH, WOH, WOH		0.9/2.0		2.2	
-17	3										
-18	4			SS	3	WOH, WOH, WOH, WOH		0.3/2.0		3.1	
-19	5										
-20	6			SS	4	WOH, WOH, 7, 10		2.0/2.0	>4.5	4.4, 5.7, 0.8	
-21	7	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, medium stiff to hard, low plasticity, dry									
-22	8			SS	5	6, 10, 14, 19	24	2.0/2.0	>4.5, >4.5	0.0, 0.0	
-23	9										
-24	10			SS	6	4, 4, 6, 10	10	2.0/2.0	>4.5	0.8, 0.0	
-25	11	greenish Black (5GY 2/1) organic SILT (OL) with organic debris, loose, saturated									
		light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry									
	12	End of boring at 12 feet									

Depth to water while drilling ▽
Depth to water after drilling ▼

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-040/TG040
Coordinates: N 1884413.516 E 1166676.905		Sediment Elevation (CCD): -14.70	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.2
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-26-06	To: 6-26-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

River Sediment Investigation

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-15	0	greenish Black (5GY 2/1) organic SILT (OL) with organic debris and wood, very loose, saturated		SS	1	WOH WOH WOH WOH		0.1/2.0		0.0	All sample intervals were collected with a 3" SS, no N values were recorded.
-16	1										
-17	2			SS	2	WOH WOH WOH WOH		0.8/2.0		1.7	faint tar-like odor at 3'
-18	3										
-19	4			SS	3	WOH WOH WOH WOH		1.6/2.0		1.3 2.2 4.1	tar-like odor at 5.5-6.7'
-20	5										
-21	6	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very hard, low plasticity, dry		SS	4	9 15 15 18	30	2.0/2.0	>4.5	7.3 8.4 0.8	ammonia-like odor at 6.7-8'
-22	7										
	8	End of boring at 8 feet									
	9										
	10										
	11										
	12										

Depth to water while drilling ▽
Depth to water after drilling ▼

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-040B/TG040
Coordinates: N 1884414.28 E 1166672.048		Sediment Elevation (CCD): -13.50	Page: 1 of 2
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.2
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-13-06	To: 7-13-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-14	0	greenish Black (5GY 2/1) organic SILT (OL) with organic debris, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		1.4/2.0		3.5, 2.0	Sample intervals 1-4 were collected with a 3" SS, no N values were recorded.
-15	1										
-16	2			SS	2	WOH, WOH, WOH, WOH		2.0/2.0		0.0, 2.1, 6.0	
-17	3										
-18	4			SS	3	WOH, WOH, WOH, WOH		1.6/2.0		14.5, 20.4, 20.9	
-19	5										
-20	6			SS	4	WOH, WOH, WOH, 8		1.8/2.0		11.4, 15.3, 11.2	
-21	7										
-22	8	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, soft, low plasticity, dry greenish Black (5GY 2/1) organic SILT (OL) with organic debris and coal, loose, wet		SS	5	8, 12, 12, 17	24	2.0/2.0	>4.5	16.6, 16.7, 2.3	
-23	9	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very stiff, low plasticity, dry									
-24	10	greenish Black (5GY 2/1) organic SILT (OL) with organic debris, medium dense, wet		SS	6	9, 12, 12, 20	24	2.0/2.0	>4.5	3.4, 7.9, 0.0	Sampled RSB-040B-001 from 10-10.5' Indistinguishable odor at 10.2-10.6'
-25	11	slight sheen at 10.2-10.6' light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry									
-26	12			SS	7	10, 10	28	0.5/2.0	>4.5	0.0	

Depth to water while drilling ▽
Depth to water after drilling ▼

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Drilling Log, continued

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Project Name: Pitney Court
Project Number: 27112

Boring/Monitoring Well Number: RSB-040B/TG040
Page: 2 of 2
Date: 7-13-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-27	14	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	7	18 19	28	0.5/2.0	>4.5	0.0	
		End of boring at 14 feet									

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Drilling Log

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-041/TG041
Coordinates: N 1884411.974 E 1166650.619		Sediment Elevation (CCD): -11.40	Page: 1 of 1
Total Depth (feet): 12	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-26-06	To: 6-26-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

River Sediment Investigation

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-12	1	greenish Black (5GY 2/1) organic SILT (OL) with organic debris, very loose, saturated		SS	1	WOH WOH WOH WOH		2.0/2.0		0.0 0.0 0.0	Sample intervals 1-5 were collected with a 3" SS, no N values were recorded.
-13	2										
-14	3			SS	2	WOH WOH WOH WOH		0.7/2.0		1.2 2.8	
-15	4										
-16	5			SS	3	WOH WOH WOH WOH		1.1/2.0		4.5 7.7	faint tar-like odor at 5'
-17	6										
-18	7			SS	4	WOH WOH WOH WOH		0.9/2.0		7.5 6.3	
-19	8	sheen at 8-8.6'									strong tar-like odor at 8-8.6'
-20	9	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	5	8 11 11 18	22	2.0/2.0	>4.5	21.7 16.3 5.6	tar-like odor at 8.6-10'
-21	10										
-22	11			SS	6	5 11 20 23	31	0.8/2.0	>4.5	0.3 0.2	
-23	12	End of boring at 12 feet									

Depth to water while drilling

Depth to water after drilling

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-041B/TG041B
Coordinates: N 1884416.233 E 1166651.403		Sediment Elevation (CCD): -12.90	Page: 1 of 2
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.3
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-13-06	To: 7-13-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-13		greenish Black (5GY 2/1) organic SILT (OL) with organic debris, very loose, saturated									Sample intervals 1-4 were collected with a 3" SS, no N values were recorded.
-14	1			SS	1	WOH WOH WOH WOH		1.5/2.0		0.0 0.0 0.0	
-15	2										
-16	3			SS	2	WOH WOH WOH WOH		2.0/2.0		0.0 0.0 0.0	
-17	4										
-18	5			SS	3	WOH WOH WOH WOH		0.7/2.0		0.0	
-19	6										
-20	7	tar saturated at 7.2-7.4'		SS	4	WOH WOH WOH		2.0/2.0		3.2 1.1	slight tar-like odor at 6.8-7.2'
		light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very stiff, low plasticity, dry				8			3.5	23.2	strong tar-like odor at 7.2-7.4'
-21	8	greenish Black (5GY 2/1) organic SILT (OL) with organic debris, loose, wet				7					slight tar-like odor at 8-9.3'
-22	9	sheen at 8-9.3'		SS	5	WOH 7 7		2.0/2.0	>4.5	10.3 13.0 6.0	
-23	10	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very stiff to hard, low plasticity, dry									
-24	11	black organic silt seam at 11.2-11.5'		SS	6	WOH WOH 9 12		1.0/2.0	>4.5 4.5	0.0 4.3	
-25	12			SS	7	10 10	26	1.3/2.0	>4.5	0.0	

Depth to water while drilling

Depth to water after drilling

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Boring/Monitoring Well Number: RSB-041B/TG041B

Project Name: Pitney Court
Page: 2 of 2

Project Number: 27112
Date: 7-13-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-26		light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very stiff to hard, low plasticity, dry		SS	7	16 19	26	1.3/2.0	>4.5	0.0	
	14	End of boring at 14 feet									
	15										
	16										
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-042/TG042
Coordinates: N 1884407.219 E 1166632.533		Sediment Elevation (CCD): -7.40	Page: 1 of 2
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-26-06	To: 6-26-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Depth to water while drilling ▽ / Depth to water after drilling ▼

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-8 / -9	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, very loose, saturated		SS	1	4, 1, 1, 1	2	1.3/2.0		0.2 / 0.3	Sample intervals 1-4 were collected with a 3" SS, no N values were recorded.
-10 / -11	2 / 3			SS	2	2, 2, 2, 2	4	1.6/2.0		0.1 / 0.8	
-12 / -13	4 / 5			SS	3	WOH, WOH, WOH, WOH		1.0/2.0		2.5 / 1.9	
-14 / -15	6 / 7			SS	4	1, 2, 2, 2	4	1.7/2.0		0.6 / 2.6 / 4.9	petroleum/sulfur-like odor at 7'
-16 / -17	8 / 9			SS	5	1, 1, 1, 1	2	0.7/2.0		3.4 / 3.8	
-18 / -19	10 / 11			SS	6	1, 1, 1, 1	2	2.0/2.0		1.7 / 4.1 / 5.2	
-20	12			SS	7	9, 13	30	2.0/2.0	>4.5	2.2	

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Drilling Log, continued

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Boring/Monitoring Well Number: RSB-042/TG042

Project Name: Pitney Court
Page: 2 of 2

Project Number: 27112
Date: 6-26-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-21	14	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very hard, low plasticity, dry		SS	7	17 17	30	2.0/2.0	>4.5	0.3	
		End of boring at 14 feet									
	15										
	16										
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

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Drilling Log

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Project Name: Pitney Court	Project No.: 27112	Boring/Monitoring Well Number: RSB-042B/TG042	
Coordinates: N 1884409.721 E 1166634.203	Sediment Elevation (CCD): -8.10	Page: 1 of 2	
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -1.8
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-14-06	To: 7-14-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-9	1	greenish Black (5GY 2/1) organic SILT (OL) with organic debris, very loose, saturated		SS	1	5 1 1 1	2	1.7/2.0		0.0 0.0 2.9	Sample intervals 1-6 were collected with a 3" SS, no N values were recorded.
-10	2										
-11	3			SS	2	WOH WOH WOH 3		1.3/2.0		0.0 1.3	
-12	4										
-13	5			SS	3	2 2 2 1	4	1.7/2.0		0.0 0.1 8.0	
-14	6										
-15	7			SS	4	WOH WOH WOH WOH		1.2/2.0		5.7 12.6	Indistinguishable odor at 7.5-8' Sampled RSB-042B-001 from 7.5-8'
-16	8										
-17	9			SS	5	WOH WOH WOH WOH		1.0/2.0		0.0 1.5	
-18	10										
-19	11			SS	6	WOH WOH WOH 6		1.4/2.0		0.0 0.0	
-20	12	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very stiff, low plasticity, dry		SS	7	6 10	20	1.2/2.0	>4.5	0.0	
-21											

Depth to water while drilling ▽
Depth to water after drilling ▼

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Boring/Monitoring Well Number: RSB-042B/TG042

Project Name: Pitney Court
Page: 2 of 2

Project Number: 27112
Date: 7-14-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-22	14	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very stiff, low plasticity, dry		SS	7	10 16	20	1.2/2.0	>4.5	0.0	
		End of boring at 14 feet									
	15										
	16										
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-043/TG043
Coordinates: N 1884372.619 E 1166666.323		Sediment Elevation (CCD): -12.00	Page: 1 of 1
Total Depth (feet): 10	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.2
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-27-06	To: 6-27-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

▽ Depth to water while drilling
▼ Depth to water after drilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-13	1	greenish Black (5GY 2/1) organic SILT (OL) with organic debris, very loose, saturated		SS	1	WOH WOH WOH WOH		2.0/2.0		0.0 0.0 0.0	All sample intervals were collected with a 3" SS, no N values were recorded.
-14	2										
-15	3			SS	2	WOH WOH WOH WOH		2.0/2.0		0.1 0.2 1.9	indistinguishable odor 3-5'
-16	4										
-17	5			SS	3	WOH WOH WOH 1		2.0/2.0		3.7 11.7 16.0	ammonia-like odor 5-8'
-18	6										
-19	7			SS	4	WOH WOH WOH WOH		1.4/2.0		4.1 11.7	
-20	8	slight sheen at 8-8.7'				8					tar-like odor at 8-8.7'
-21	9	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	5	11 14 22	25	2.0/2.0	>4.5	9.6 9.3 0.0	
-22	10	End of boring at 10 feet									
	11										
	12										

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-043B/TG043
Coordinates: N 1884375.261 E 1166668.7		Sediment Elevation (CCD): -12.60	Page: 1 of 2
Total Depth (feet): 16	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -1.8
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-14-06	To: 7-14-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-13	1	greenish Black (5GY 2/1) organic SILT (OL) with organic debris, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		1.6/2.0		0.0, 0.0	Sample intervals 1-4 were collected with a 3" SS, no N values were recorded.
-14	2										
-15	3			SS	2	WOH, WOH, WOH, WOH		2.0/2.0		0.0, 0.0, 0.3	
-16	4										
-17	5			SS	3	WOH, WOH, WOH, WOH		1.5/2.0		11.2, 11.7	
-18	6										
-19	7			SS	4	WOH, WOH, 8, 8		1.3/2.0	>4.5	9.0, 3.2	
-20	8	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very stiff, low plasticity, dry									
-21	9	greenish Black (5GY 2/1) organic SILT (OL) with organic debris, medium dense, saturated		SS	5	6, 8, 13, 13	21	2.0/2.0	>4.5	20.4, 12.5, 0.7	tar-like odor at 8.1-9.3'
-22	10	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very stiff, low plasticity, dry									
-23	11	greenish Black (5GY 2/1) organic SILT (OL) with organic debris, medium dense, wet tar staining, tar coated at 10-11.6'		SS	6	5, 9, 18, 24	27	2.0/2.0	>4.5	24.4, 23.8, 18.8	tar-like odor at 10-11.6'
-24	12	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very hard, low plasticity, dry									
-25				SS	7	19, 19	30	1.0/2.0	>4.5	2.3	

Depth to water while drilling ▽
Depth to water after drilling ▼

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Boring/Monitoring Well Number: RSB-043B/TG043

Project Name: Pitney Court
Page: 2 of 2

Project Number: 27112
Date: 7-14-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-26	14	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very hard, low plasticity, dry		SS	7	11 16	30	1.0/2.0	>4.5	2.3	
-27						6					
-28	15			SS	8	14 50/4"		1.4/2.0	>4.5	2.1	
	16	End of boring at 16 feet									
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-044/TG044
Coordinates: N 1884342.698 E 1166708.161		Sediment Elevation (CCD): -13.30	Page: 1 of 1
Total Depth (feet): 10	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.0
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-28-06	To: 6-28-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Depth to water while drilling ▽
Depth to water after drilling ▼

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-14	1	greenish Black (5GY 2/1) organic SILT (OL) with organic debris and coal, very loose, saturated		SS	1	WOH WOH WOH WOH		2.0/2.0		0.0 0.0 0.4	All sample intervals were collected with a 3" SS, no N values were recorded.
-15	2										
-16	3			SS	2	WOH WOH WOH 2		0.4/2.0		0.3	
-17	4										
-18	5			SS	3	WOH WOH WOH WOH		1.4/2.0		1.4 3.4	petroleum/sulfur-like odor at 5-6'
-19	6	sheen at 6-8.8'									tar-like odor at 6-8'
-20	7			SS	4	WOH WOH WOH WOH		1.2/2.0		3.2 4.0	
-21	8										strong tar-like odor at 8-9.2'
-22	9	coarse gravel (coal) seam, tar saturated at 8.8-9.2'		SS	5	WOH 9 11 13	20	1.7/2.0	>4.5	2.6 5.3 0.0	
-23	10	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry									
		End of boring at 10 feet									
	11										
	12										

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-045/TG045
Coordinates: N 1884295.856 E 1166729.737		Sediment Elevation (CCD): -12.90	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-29-06	To: 6-29-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

River Sediment Investigation

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-13	0	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, some coal, very loose, saturated		SS	1	2, 2, 1, 2	3	0.2/2.0		0	Sample intervals 1-3 were collected with a 3" SS, no N values were recorded.
-14	1										
-15	2			SS	2	WOH, WOH, WOH, WOH		0.1/2.0		0	
-16	3										
-17	4			SS	3	WOH, WOH, 1, 3		0.2/2.0		0.9	
-18	5										
-19	6	sheen at 5.8-6' tar saturated at 6-6.5'									tar-like odor at 5.8-6.5'
-20	7	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	4	7, 11, 13, 18	24	2.0/2.0	> 4.5	32.4, 0	
	8	End of boring at 8 feet									
	9										
	10										
	11										
	12										

Depth to water while drilling

Depth to water after drilling

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-046/TG046
Coordinates: N 1884253.434 E 1166765.176		Sediment Elevation (CCD): -14.40	Page: 1 of 1
Total Depth (feet): 8	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -1.9
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-30-06	To: 6-30-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-15	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, some coal, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		0.5/2.0		4.0	Sample intervals 1-3 were collected with a 3" SS, no N values were recorded.
-16											
-17	2	slight sheen at 2-6.5'		SS	2	WOH, WOH, WOH, WOH		0.8/2.0		2.7	petroleum/sulfur like odor at 2-6.5'
-18	3										
-19	4			SS	3	WOH, WOH, 3, 3		2.0/2.0		0.6, 0.6, 0.6	
-20	5										
-21	6	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	4	6, 6, 8, 10	14	2.0/2.0	>4.5	3.7, 0.0, 0.0	Sampled RSB-046-001 from 6-6.5'
-22	7										
	8	End of boring at 8 feet									
	9										
	10										
	11										
	12										

Depth to water while drilling ▽
Depth to water after drilling ▼

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Project Name: Pitney Court	Project No.: 27112	Boring/Monitoring Well Number: RSB-047/TG047	
Coordinates: N 1884203.58 E 1166797.679	Sediment Elevation (CCD): -13.10	Page: 1 of 1	
Total Depth (feet): 12	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.2
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 6-29-06	To: 6-29-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-14	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, some coal, very loose, saturated		SS	1	WOH WOH 1 2		1.2/2.0		0.0 0.0	Sample intervals 1-4 were collected with a 3" SS, no N values were recorded.
-15	2										
-16	3			SS	2	WOH WOH WOH WOH		1.4/2.0		0.3 0.9	
-17	4										
-18	5	slight sheen at 5-7'		SS	3	WOH WOH WOH WOH		1.7/2.0		1.7 2.7 2.1	petroleum/sulfur-like odor at 5-7' Sampled RSB-047-001 from 5-6'
-19	6										
-20	7	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, moist		SS	4	8 11 14 17	25	2.0/2.0	4.5	0.8 0.2 0.1	slight odor at 7-8'
-21	8	staining along fractures at 7-8' Black (N1) poorly graded coarse SAND (SP) with fine gravel, medium dense, moist									tar-like odor at 8-8.5'
-22	9	tar saturated at 8-8.5' light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	5	8 10 10 15	20	1.8/2.0	> 4.5	3.9 2.1 0.6	
-23	10	staining at 8.5-8.8'									
-24	11			SS	6	8 8 16 23	24	1.8/2.0	>4.5 >4.5	0.0 0.0	
-25	12	End of boring at 12 feet									

Depth to water while drilling

Depth to water after drilling

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-048/TG048
Coordinates: N 1884204.53 E 1166763.47		Sediment Elevation (CCD): -13.20	Page: 1 of 2
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-6-06	To: 7-6-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-14	1	greenish Black (5GY 2/1) organic SILT (OL), some organic debris, very loose, saturated.		SS	1	WOH WOH WOH WOH		2.0/2.0		0.0 0.0 0.3	Sample intervals 1-4 were collected with a 3" SS, no N values were recorded.
-15	2										
-16	3			SS	2	WOH WOH WOH 1		1.1/2.0		1.2 3.5	
-17	4										
-18	5	slight sheen at 5-6.9'		SS	3	WOH WOH WOH WOH		1.6/2.0		1.6 12.1	ammonia-like odor at 5-6.9' Sampled RSB-048-001 from 5-6'
-19	6										
-20	7	Black (N1) coarse SAND (SP) and fine gravel (coal) seam, tar saturated, medium dense, wet.		SS	4	WOH 5 8	13	2.0/2.0		8.5 31.7	tar-like odor at 6.9-7.1'
-21	8	light olive Gray (5Y 6/1) silty CLAY (CL), tar staining, little fine gravel, little sand, hard, low plasticity, moist.				12			>4.5	7.7	slight tar-like odor at 7.1-8'
-22	9	Black (N1) coarse SAND (SP) and fine gravel (coal), tar saturated, medium dense, wet.		SS	5	5 5 12	17	2.0/2.0		86.8 76.7	strong tar-like odor at 8-9.2' Sampled RSB-048-002 from 8-9'
-23	10	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very hard, low plasticity, dry. tar staining at 9.2-9.5'				20			>4.5	5.7	slight tar-like odor at 9.2-9.5'
-24	11			SS	6	12 39 50/2"		1.0/2.0	>4.5		
-25	12										
-26				SS	7	8 39		1.2/2.0	>4.5		

Depth to water while drilling ▽
Depth to water after drilling ▼

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Boring/Monitoring Well Number: RSB-048/TG048

Project Name: Pitney Court
Page: 2 of 2
Project Number: 27112
Date: 7-6-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-27	14			SS	7	50/2"		1.2/2.0	>4.5		
		End of boring at 14 feet.									

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log

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Burns & McDonnell SINCE 1898

Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-049/TG049
Coordinates: N 1884171.119 E 1166762.867		Sediment Elevation (CCD): -11.30	Page: 1 of 2
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.5
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-11-06 To: 7-11-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal	Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-12	1	greenish Black (5GY 2/1) organic SILT (OL) with organic debris, very loose, saturated		SS	1	WOH WOH WOH WOH		1.4/2.0		0.5 0.8	Sample intervals 1-5 were collected with a 3" SS, no N values were recorded.
-13											
-14	2			SS	2	2 2 1 1	3	0.4/2.0		3.4	
-15	3										
-16	4			SS	3	7 3 3 1	6	0.1/2.0		0.0	
-17	5										
-18	6			SS	4	WOH WOH WOH 1		0.4/2.0		31.2	
-19	7										
-20	8	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, very stiff to hard, low plasticity, dry		SS	5	WOH 6 11 15	17	1.7/2.0	>4.5	5.9 0.5	
-21	9										
-22	10	No recovery		SS	6	4 6 9 10	15	0.0/2.0			
-23	11										
-24	12	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	7	7 9	26	0.5/2.0	>4.5	0.0	

▽ Depth to water while drilling

▼ Depth to water after drilling

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log, continued

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SINCE 1898

Project Name: Pitney Court
Project Number: 27112

Boring/Monitoring Well Number: RSB-049/TG049
Page: 2 of 2
Date: 7-11-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-25	14	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	7	17 21	26	0.5/2.0	>4.5	0.0	
		End of boring at 14 feet									
	15										
	16										
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-050/TG050
Coordinates: N 1884022.058 E 1166831.116		Sediment Elevation (CCD): -13.60	Page: 1 of 1
Total Depth (feet): 10	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.3
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 7-12-06	To: 7-12-06	Logged By: Eric Hanis	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-14	0	greenish Black (5GY 2/1) organic SILT (OL) with organic debris, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		0.3/2.0		0.0	Sample intervals 1-4 were collected with a 3" SS, no N values were recorded.
-15	1										
-16	2			SS	2	WOH, WOH, WOH, WOH		2.0/2.0		0.0 0.0 0.0	
-17	3										
-18	4			SS	3	WOH, WOH, WOH, WOH		1.3/2.0		6.9 5.8	
-19	5										
-20	6			SS	4	WOH, WOH, WOH, 10		2.0/2.0		2.6 5.1 0.2	Sampled RSB-050-001 from 7-8'
-21	7										
-22	8	light olive Gray (5Y 6/1) silty CLAY (CL), little fine gravel, little sand, hard, low plasticity, dry		SS	5	7, 13, 13, 20	26	2.0/2.0	>4.5 >4.5	1.7 0.0 0.0	
-23	9										
	10	End of boring at 10 feet									
	11										
	12										

Depth to water while drilling

Depth to water after drilling

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Project Name: Pitney Court	Project No.: 27112	Boring/Monitoring Well Number: RSB-051/TG092	
Coordinates:	Sediment Elevation (CCD): -12.20	Page: 1 of 2	
Total Depth (feet): 16	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.9
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 10-4-06	To: 10-4-06	Logged By: Paul Sponaugle	Reviewed by: Kathi Wotal	Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-13	1	greenish Black (5GY 2/1) organic SILT (OL), trace coarse to fine sand, trace wood, trace animal remains, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		1.0/2		0	Sample intervals SS1 through SS6 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-14	2										
-15	3			SS	2	WOH, WOH, WOH, WOH		1.1/2		0	
-16	4	trace glass									
-17	5			SS	3	WOH, WOH, WOH, 3		1.2/2		0	
-18	6	little coarse to fine sand, trace fine gravel, trace to no glass									
-19	7			SS	4	6, 6, 3, 3	9	1.2/2		0	
-20	8	little to some coarse to fine sand, sheen on water									Tar-like odor 8-8.3 feet below top of sediment. Sampled 8-8.3' (001) (1440)
-21	9			SS	5	1, 1, 2, 2	3	0.3/2		0	
-22	10	olive Gray (5Y 4/1) silty CLAY (CL), trace coarse to fine sand, very soft to very stiff, low plasticity, wet									
-23	11			SS	6	WOH, WOH, WOH, 3		0.4/2	<0.25	0	Tar globules & sheen on exterior of sample - no tar in matrix.
-24	12										
-25		trace to little coarse to fine sand, very soft to very stiff, wet to moist		SS	7	WOH, 4	10	1.5/2	2.75	0	

▽ Depth to water while drilling

▼ Depth to water after drilling

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Drilling Log, continued

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Project Name: Pitney Court
Project Number: 27112

Boring/Monitoring Well Number: RSB-051/TG092
Page: 2 of 2
Date: 10-4-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-26	14	olive Gray (5Y 4/1) silty CLAY (CL), little coarse to fine sand, hard, low plasticity, moist		SS	7	6 17	10	1.5/2	4.5+	0	
-27	15			SS	8	12 15 15 15	30	2.0/2	4.5+	0	
-28	16	End of boring 16 feet below top of sediment									
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-052/TG093
Coordinates:		Sediment Elevation (CCD): -14.80	Page: 1 of 1
Total Depth (feet): 12	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 10-5-06	To: 10-5-06	Logged By: Paul Sponaugle	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-15	0	greenish Black (5GY 2/1) organic SILT (OL), trace fine gravel, trace clay, trace wood, trace animal remains, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		0.9/2			Sample intervals SS1 through SS5 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-16	1										
-17	2			SS	2	WOH, WOH, WOH, WOH		2.0/2			
-18	3										
-19	4			SS	3	WOH, WOH, WOH, WOH		0.4/2			
-20	5	greenish Black (5GY 2/1) coarse to fine silty SAND (SM), slight sheen, trace tar stained gravel, trace coble, trace fine gravel, trace wood, loose, saturated									
-21	6			SS	4	2, 2, 2, 2	4	0.9/2			Tar-like odor 6-8.3 feet below top of sediment. Sampled 6-7' (001) (0905)
-22	7										
-23	8	olive Gray silty CLAY (CL), trace fine gravel, trace coarse to fine sand, hard, low plasticity, moist tar in fractures 8.3 - 8.6 feet below top of sediment		SS	5	8, 13, 19, 22	32	1.8/2	4.5+		
-24	9										
-25	10	hard to very stiff		SS	6	4, 4, 5, 16	9	1.3/2	3.25, 3.5		
-26	11	gravel seam 10.7 - 11 feet below top of sediment									
	12	End of boring 12 feet below top of sediment									

Depth to water while drilling ▽

Depth to water after drilling ▼

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Project Name: Pitney Court	Project No.: 27112	Boring/Monitoring Well Number: RSB-053	
Coordinates:	Sediment Elevation (CCD): -13.40	Page: 1 of 2	
Total Depth (feet): 16	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 10-5-06	To: 10-5-06	Logged By: Paul Sponaugle	Reviewed by: Kathi Wotal	Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-14	1	greenish Black (5GY 2/1) organic SILT (OL), trace coarse to fine sand, trace wood, trace animal remains, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		1.5/2		0	Sample intervals SS1 through SS5 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-15											
-16	2	clay seam 2.5 - 2.8 feet below top of sediment		SS	2	1, 1, 1, 1	2	0.8/2		0	Very slight hydrocarbon-like odor 2.5-2.8 feet below top of sediment. Sampled 2-3' (001) (1010)
-17	3	trace clay									
-18	4			SS	3	WOH, WOH, WOH, WOH		1.3/2		0	Slight hydrocarbon/organic-like odor 3-8.5 feet below top of sediment.
-19	5										
-20	6	trace glass		SS	4	WOH, WOH, WOH, 3		0.9/2		0	
-21	7										
-22	8	greenish Black (5GY 2/1) coarse to fine silty SAND (SM), loose, saturated		SS	5	WOH, WOH, 7, 15		2.0/2	4.5+	0	Tar-like odor 8.5-9 feet below top of sediment. Sampled 8-9' (002) (1035).
-23	9	olive Gray (5Y 4/1) silty CLAY (CL), trace fine gravel, trace coarse to fine sand, hard, low plasticity, moist									
-24	10			SS	6	6, 10, 27, 50/3"	37	1.6/2	4.5+	0	
-25	11	coarse gravel in end of spoon									Tar-like odor 12-12.4 feet below top of sediment. Sampled 12-12.5' (003) (1100).
-26	12	slight sheen on water, coarse to fine sand seam 12 - 12.4 feet below top of sediment hard to very stiff		SS	7	12, 50/3"		1.6/2	3.75	0	

Depth to water while drilling ▽
Depth to water after drilling ▼

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Drilling Log, continued

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Boring/Monitoring Well Number: RSB-053
Project Name: Pitney Court
Page: 2 of 2
Project Number: 27112
Date: 10-5-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-27	14	olive Gray (5Y 4/1) silty CLAY (CL), trace fine gravel, trace coarse to fine sand, very stiff, low plasticity, moist		SS	7		.	1.6/2	4.0	0	
-28		olive Gray (5Y 4/1) SILT (ML), trace coarse to fine sand, very dense, moist		SS	8	17 29 37 50/5"	66	1.5/2		0	
-29	15										
	16	End of boring 16 feet below top of sediment									
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-054
Coordinates:		Sediment Elevation (CCD): -9.30	Page: 1 of 2
Total Depth (feet): 20	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 10-5-06	To: 10-5-06	Logged By: Paul Sponaugle	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-10	1	greenish Black (5GY 2/1) organic SILT (OL), trace coarse to fine sand, trace wood, trace animal remains, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		2.0/2			Sample intervals SS1 through SS8 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-11	2										
-12	3	little coarse to fine sand, trace fine gravel 2.4 - 2.8 feet below top of sediment		SS	2	WOH, WOH, WOH, WOH		1.5/2		0	
-13	4										
-14	5	coarse sand seam 4.4 - 4.6 feet below top of sediment trace clay, trace coarse to fine to trace fine sand		SS	3	3, 4, 3, 1	7	1.1/2		0	
-15	6										
-16	7			SS	4	WOH, WOH, WOH, WOH		2.0/2		0	
-17	8										
-18	9	trace fine sand to little coarse to fine sand, trace fine gravel, trace glass, trace brick		SS	5	WOH, WOH, 1, 1		0.6/2		0	
-19	10										
-20	11	sheen on water		SS	6	WOH, WOH, WOH, WOH		1.1/2		0	Tar-like odor 10.5-12.7 feet below top of sediment.
-21	12										
-22		tar stained, tar globules, little wood 12 - 12.7 feet below top of sediment		SS	7	1, 5	24	0.7/2		10.3	Sampled 12-13' (001) (1430)

Depth to water while drilling ▽
Depth to water after drilling ▼

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Drilling Log, continued

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Project Name: Pitney Court
Project Number: 27112

Boring/Monitoring Well Number: RSB-054
Page: 2 of 2
Date: 10-5-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
				SAMPLING							
-23	14	olive Gray (5Y 4/1) silty CLAY (CL), trace fine gravel, trace coarse to fine sand, hard, low plasticity, moist		SS	7	19 21	24	0.7/2			
-24						20					
	15			SS	8	20 20	40	2.0/2	4.5+	0	
-25						29					
	16	olive Gray SILT (ML), trace fine sand, very dense, moist				31					
-26						50/3"					
	17	trace fine gravel		SS	9			1.2/2		0	
-27											
	18	trace fine sand to little coarse to fine sand				24					
-28						37					
	19			SS	10		74	2.0/2		0	
-29						37					
	20					50/5"					
		End of boring 20 feet below top of sediment									
	21										
	22										
	23										
	24										
	25										
	26										

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-055/TG097
Coordinates:		Sediment Elevation (CCD): -13.60	Page: 1 of 2
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 10-5-06	To: 10-5-06	Logged By: Paul Sponaugle	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-14	1	greenish Black (5GY 2/1) organic SILT (OL), trace coarse to fine sand, trace wood, trace animal remains, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		2.0/2		0, 6.7	Sample intervals SS1 through SS5 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-15											
-16	2			SS	2	WOH, WOH, WOH, WOH		1.1/2		6.8, 20.3	Hydrocarbon-like odor 1.5-3.1 feet below top of sediment. Sampled 1-2' (001) (1550)
-17	3										
-18	4	trace clay		SS	3	WOH, WOH, WOH, 2		1.2/2		4.6, 25.8	Hydrocarbon/tar-like odor 4.5-6.8 feet below top of sediment. Sampled 5-6' (002) (1600)
-19	5										
-20	6			SS	4	23, 48, 6, 3	54	1.4/2		22.5, 11.4	
-21	7	0.6' wood plank/pier in spoon									
-22	8	greenish Black (5GY 2/1) coarse to fine well graded GRAVEL (GW), tar coated, loose, saturated olive Gray (5Y 4/1) silty CLAY (CL), trace fine gravel, trace coarse to fine sand, hard, low plasticity, moist		SS	5	10, 10, 21, 34	31	1.8/2	3.5, 4.5+, 4.5+	21.5, 0	
-23	9										
-24	10	olive Gray SILT (ML), trace fine gravel, trace coarse to fine sand, medium dense, moist		SS	6	7, 9, 16, 22	25	0.8/2		0	
-25	11										
-26	12			SS	7	6, 8	25	0.9/2		0	

Depth to water while drilling

Depth to water after drilling

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log, continued

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Project Name: Pitney Court
Project Number: 27112

Boring/Monitoring Well Number: RSB-055/TG097
Page: 2 of 2
Date: 10-5-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-27	14	olive Gray SILT (ML), trace fine gravel, trace coarse to fine sand, medium dense, moist		SS	7	17 21	25	0.9/2		0	
		End of boring 14 feet below top of sediment									

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Burns & McDonnell SINCE 1898

Project Name: Pitney Court	Project No.: 27112	Boring/Monitoring Well Number: RSB-056	
Coordinates:	Sediment Elevation (CCD): -14.20	Page: 1 of 2	
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -1.9
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 10-6-06	To: 10-6-06	Logged By: Paul Sponaugle	Reviewed by: Kathi Wotal	Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-15	1	olive Black (5Y 2/1) organic SILT (OL), trace coarse to fine sand, trace wood, trace animal remains, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		1.4/2		0	Sample intervals SS1 through SS5 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-16	2	trace clay									
-17	3			SS	2	WOH, WOH, WOH, WOH		1.0/2		20.1	Hydrocarbon/organic-like odor 2-5.4 feet below top of sediment.
-18	4										
-19	5			SS	3	WOH, WOH, WOH, WOH		1.4/2		10.6 6.0	Sampled 4.5-5.5' (001) (0830)
-20	6	tar stained									
-21	7	0.3' wood plank/pier		SS	4	WOH, WOH, WOH, 3		0.9/2		88.9	Tar-like odor 6-8.5 feet below top of sediment. Sampled 6-7' (002) (0840)
-22	8										
-23	9	olive Gray (5Y 4/1) silty CLAY (CL), trace fine gravel, trace coarse to fine sand, hard, low plasticity, moist		SS	5	8, 15, 21, 27	36	2.0/2	4.5+	65.0 0	
-24	10										
-25	11			SS	6	6, 6, 12, 16	18	1.5/2	4.5+	0	
-26	12										
-27				SS	7	9, 13	37	1.6/2	4.5+	0	

Depth to water while drilling

Depth to water after drilling

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log, continued

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SINCE 1898

Project Name: Pitney Court
Project Number: 27112

Boring/Monitoring Well Number: RSB-056
Page: 2 of 2
Date: 10-6-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-28	14	olive Gray (5Y 4/1) silty CLAY (CL), trace fine gravel, trace coarse to fine sand, hard, low plasticity, moist		SS	7	24 24	37	1.6/2	4.5+	0	
		End of boring 14 feet below top of sediment									
	15										
	16										
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

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Drilling Log

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-057
Coordinates:		Sediment Elevation (CCD): -15.30	Page: 1 of 2
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.0
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 10-5-06	To: 10-5-06	Logged By: Paul Sponaugle	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-16 / -17	1 / 2	greenish Black (5GY 2/1) organic SILT (OL), trace coarse to fine sand, trace wood, trace animal remains, very loose, saturated		SS	1	WOH, WOH, WOH, 1		2.0/2		0	Sample intervals SS1 through SS5 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-18 / -19	3 / 4			SS	2	WOH, WOH, WOH, WOH		1.6/2		1.4, 3.2	
-20 / -21	5 / 6	trace coarse to fine to fine sand		SS	3	WOH, WOH, WOH, 1		1.5/2		6.7, 7.3	Burnt organic odor 4-6.6 feet below top of sediment. Sampled 4.5-5.5' (001) (1020)
-22 / -23	7 / 8	olive Gray (5Y 4/1) silty CLAY (CL), trace fine gravel, trace coarse to fine sand, hard, low plasticity, moist		SS	4	5, 9, 16, 17	25	2.0/2	4.5+	6.0, 0	
-24 / -25	9 / 10			SS	5	9, 14, 22, 18	36	1.4/2	4.5+	0	
-26 / -27	11 / 12	olive Gray (5Y 4/1) coarse to fine silty SAND (SM), trace clay, medium dense, saturated olive Gray (5Y 4/1) silty CLAY (CL), trace fine gravel, trace coarse to fine sand, hard, low plasticity, moist		SS	6	5, 6, 10, 18	16	2.0/2	1.5 4.5+	4.0, 0	
-28		coarse to fine clayey sand seam 12.4 - 12.6 feet below top of sediment		SS	7	10, 32		1.8/2	4.5+	0	

Depth to water while drilling ▽
Depth to water after drilling ▼

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Drilling Log, continued

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Project Name Pitney Court
Project Number 27112

Boring/Monitoring Well Number RSB-057
Page 2 of 2
Date 10-5-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-29	14	olive Gray (5Y 4/1) SILT (ML), trace coarse to fine sand, dense, moist		SS	7	50/5"	.	1.8/2		0	
		End of boring 14 feet below top of sediment									

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Drilling Log

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-057B
Coordinates:		Sediment Elevation (CCD): -14.80	Page: 1 of 2
Total Depth (feet): 16	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 10-6-06	To: 10-6-06	Logged By: Paul Sponaugle	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-15	0	greenish Black (5GY 2/1) organic SILT (OL), trace coarse to fine sand, trace wood, trace animal remains, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		0.5/2		0	Sample intervals SS1 through SS4 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-16	1										
-17	2			SS	2	WOH, WOH, WOH, WOH		0.7/2		0	
-18	3										
-19	4			SS	3	WOH, WOH, WOH, WOH		0.4/2		0	
-20	5										
-21	6			SS	4	WOH, WOH, WOH, WOH		1.0/2		0	
-22	7										
-23	8	olive Gray (5Y 4/1) silty CLAY (CL), trace fine gravel, trace coarse to fine sand, very soft, low plasticity, wet		SS	5	WOH, WOH, WOH, WOH		0.4/2	0.25	0	
-24	9										
-25	10	gravely clay seam, saturated 10 - 10.4 feet below top of sediment		SS	6	WOH, 6, 13, 30	19	1.3/2		0	
-26	11	olive Gray (5Y 4/1) SILT (ML), trace fine gravel, trace coarse to fine sand, medium dense, moist									
-27	12	medium dense to dense		SS	7	17, 20	46	1.6/2		0	

Depth to water while drilling

Depth to water after drilling

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Drilling Log, continued

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Boring/Monitoring Well Number: RSB-057B

Project Name: Pitney Court
Page: 2 of 2

Project Number: 27112
Date: 10-6-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-28		olive Gray (5Y 4/1) SILT (ML), trace fine gravel, trace coarse to fine sand, dense, moist		SS	7	26 39	46	1.6/2		0	
-29	14	dense to very dense				13					
-30	15			SS	8	35 40 25	75	1.5/2		0	
	16	End of boring 16 feet below top of sediment									
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log

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Project Name: Pitney Court	Project No.: 27112	Boring/Monitoring Well Number: RSB-057C	
Coordinates:	Sediment Elevation (CCD): -14.50	Page: 1 of 2	
Total Depth (feet): 16	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 10-9-06	To: 10-9-06	Logged By: Paul Sponaugle	Reviewed by: Kathi Wotal	Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-15	1	greenish Black (5GY 2/1) organic SILT (OL), trace coarse to fine sand, trace wood, trace animal remains, very loose, saturated		SS	1	WOH WOH WOH WOH		2.0/2		1.0 5.7	Sample intervals SS1 through SS6 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-16	2										
-17	3			SS	2	WOH WOH WOH WOH		0.5/2		9.5	
-18	4	trace to no sand									
-19	5			SS	3	WOH WOH WOH WOH		1.5/2		18.8 19.1	Burnt organic odor 4-8.8 feet below top of sediment. Sampled 4.5-5.5' (001) (1120)
-20	6										
-21	7			SS	4	WOH WOH WOH WOH		0.9/2		10.6	
-22	8	trace coarse to fine sand									
-23	9			SS	5	WOH WOH WOH WOH		0.8/2		9.7	
-24	10										
-25	11	olive Gray (5Y 4/1) silty CLAY (CL), trace fine gravel, trace coarse to fine sand, hard, low plasticity, moist		SS	6	17 25 28 40	53	2.0/2	4.5+	5.3 0	Trace tar-like odor 10-10.3 feet below top of sediment. Sampled 10-10.5' (002) (1140)
-26	12										
-27				SS	7	11 28		1.4/2	4.5+	0	Trace sheen on sluff water.

Depth to water while drilling

Depth to water after drilling

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Drilling Log, continued

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Boring/Monitoring Well Number: RSB-057C

Project Name: Pitney Court
Page: 2 of 2

Project Number: 27112
Date: 10-9-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-28	14	olive Gray (5Y 4/1) SILT (ML), trace coarse to fine sand, very dense, moist		SS	7	50/4"	.	1.4/2		0	
		trace fine gravel									
-29						22					
	15			SS	8	25	58	1.5/2		0	
-30						33					
						32					
	16	End of boring 16 feet below top of sediment									
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-058/TG100
Coordinates:		Sediment Elevation (CCD): -12.60	Page: 1 of 2
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 10-9-06	To: 10-9-06	Logged By: Paul Sponaugle	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Depth to water while drilling ▽
Depth to water after drilling ▼

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-13	1	greenish Black (5GY 2/1) organic SILT (OL), trace coarse to fine sand, trace wood, trace organics, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		2.0/2		0, 6.2	Sample intervals SS1 through SS5 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-14	2										
-15	3			SS	2	WOH, WOH, WOH, WOH		1.7/2		0, 1.4	
-16	4										
-17	5			SS	3	WOH, WOH, WOH, WOH		1.0/2		16.8, 12.5	Organic/hydrocarbon-like odor. Sampled 4-5' (001) (1500)
-18	6										
-19	7			SS	4	WOH, WOH, WOH, WOH		2.0/2		9.5, 8.6	
-20	8										
-21	9			SS	5	WOH, WOH, WOH, 11		1.1/2	4.5+	4.7, 0	Depth to clay based on driller's observation.
-22	10	olive Gray (5Y 4/1) silty CLAY (CL), trace fine gravel, trace coarse to fine sand, hard, low plasticity, moist									
-23	11			SS	6	7, 9, 12, 12	21	1.5/2	4.5+	0	
-24	12										
-25				SS	7	16, 17	42	1.5/2	4.5+	0	

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Drilling Log, continued

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Project Name: Pitney Court
Project Number: 27112

Boring/Monitoring Well Number: RSB-058/TG100
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Date: 10-9-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-26	14	olive Gray (5Y 4/1) silty CLAY (CL), trace fine gravel, trace coarse to fine sand, hard, low plasticity, moist		SS	7	25 28	. 42	1.5/2	4.5+	0	
		End of boring 14 feet below top of sediment									
	15										
	16										
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

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Drilling Log

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Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-059/TG094
Coordinates:		Sediment Elevation (CCD): -14.60	Page: 1 of 2
Total Depth (feet): 16	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 10-10-06	To: 10-10-06	Logged By: Paul Sponaugle	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-15	1	No recovery. Trace wood and gravel in spoons.		SS	1	WOH, WOH, WOH, WOH		0/2			Sample intervals SS1 through SS5 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-16	2										
-17	3			SS	2	WOH, WOH, WOH, WOH		0/2			
-18	4										
-19	5	greenish Black (5GY 2/1) organic SILT (OL), trace wood, trace animal remains, very loose, saturated		SS	3	WOH, WOH, WOH, WOH		1.8/2		13.3, 6.3	
-20	6	sheen on water									Tar-like odor 6-8.6 feet below top of sediment.
-21	7			SS	4	WOH, WOH, WOH, 6		1.3/2		3.3	
-22	8	greenish Black (5GY 2/1) coarse to fine silty SAND (SM), tar coated, medium dense, saturated									
-23	9	olive Gray (5Y 4/1) silty CLAY (CL), trace fine gravel, trace coarse to fine sand, hard, low plasticity, moist		SS	5	9, 9, 11, 31	20	2.0/2	4.5+	23.6, 0	
-24	10										
-25	11	greenish Black (5GY 2/1) coarse to fine silty SAND (SM), tar coated, loose, saturated		SS	6	3, 3, 5, 13	8	2.0/2		27.6, 34.2, 33.7	Sampled 10-11' (001) (1105)
-26	12	olive Gray (5Y 4/1) silty CLAY (CL), trace fine gravel, trace coarse to fine sand, hard, low plasticity, moist sand seam at 12 - 12.1 and 12.3 - 12.5 feet below top of sediment									
-27				SS	7	35, 50/3"		0.7/2		4.5	

Depth to water while drilling

Depth to water after drilling

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Drilling Log, continued

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Boring/Monitoring Well Number: RSB-059/TG094

Project Name: Pitney Court
Page: 2 of 2
Project Number: 27112
Date: 10-10-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-28	14	olive Gray (5Y 4/1) SILT (ML), trace coarse to fine sand, very dense, moist		SS	7		.	0.7/2		1.1	
-29						30					
	15			SS	8	45		1.7/2		0	
-30						50/5"					
	16	End of boring 16 feet below top of sediment									
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Project Name: Pitney Court	Project No.: 27112	Boring/Monitoring Well Number: RSB-060/TG095	
Coordinates:	Sediment Elevation (CCD): -13.60	Page: 1 of 2	
Total Depth (feet): 16	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.2
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 10-10-06	To: 10-10-06	Logged By: Cheryl Mathenia	Reviewed by: Kathi Wotal	Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-14	1	greenish Black (5GY 2/1) organic SILT (OL), trace coarse to fine sand, trace wood, trace animal remains, very loose, saturated		SS	1	WOH WOH WOH WOH		1.9/2		0	Sample intervals SS1 through SS5 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-15											
-16	2			SS	2	WOH WOH WOH WOH		2.0/2		10.6 9.3 20.4	Burnt organic odor 2-7.2 feet below top of sediment. Sampled 3-4' (001) (1400)
-17	3										
-18	4	trace coal slag		SS	3	WOH WOH WOH WOH		2.0/2		8.9 13.5 7.4	
-19	5										
-20	6			SS	4	WOH WOH WOH WOH		1.2/2		5.7 2.4	
-21	7	trace to no wood									
-22	8	sheen on water, tar stained, trace wood		SS	5	WOH WOH 8 17		1.3/2	4.5+	12.0 0	Strong hydrocarbon-like odor. Sampled 8-8.5' (002) (1410)
-23	9	olive Gray (5Y 4/1) silty CLAY (CL), trace fine gravel, trace coarse to fine sand, hard, low plasticity, moist									
-24	10			SS	6	6 8 12 12	20	1.3/2	4.5+	0	
-25	11										
-26	12	greenish Black (5GY 2/1) coarse to fine silty SAND (SM), tar stained, sheen, trace fine gravel, dense, saturated		SS	7	15 42		1.4/2		0	Tar-like odor 12-12.4 feet below top of sediment.

Depth to water while drilling

Depth to water after drilling

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Project Name: Pitney Court
Project Number: 27112

Boring/Monitoring Well Number: RSB-060/TG095
Page: 2 of 2
Date: 10-10-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-27	14	olive Gray (5Y 4/1) SILT (ML), trace fine gravel, trace coarse to fine sand, very dense, moist		SS	7	50/5"		1.4/2		0	
-28				SS	8	17 35 50/5"		1.4/2		0	
-29	15										
	16	End of boring 16 feet below top of sediment									
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

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Project Name: Pitney Court	Project No.: 27112	Boring/Monitoring Well Number: RSB-061/TG096	
Coordinates:	Sediment Elevation (CCD): -9.50	Page: 1 of 2	
Total Depth (feet): 18	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.2
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 10-10-06	To: 10-10-06	Logged By: Cheryl Mathenia	Reviewed by: Kathi Wotal	Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-10	1	greenish Black (5GY 2/1) organic SILT (OL), trace wood, trace animal remains, very loose, saturated		SS	1	WOH WOH WOH WOH		2.0/2		0 1.5	Sample intervals SS1 through SS6 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-11											
-12	2	trace coarse to fine sand, trace coal		SS	2	10 14 14 19	28	1.4/2		7.1 4.8	Burnt organic odor 2-7.4 feet below top of casing.
-13	3										
-14	4			SS	3	WOH WOH WOH WOH		0.2/2		2.9	
-15	5										
-16	6	trace to no coal		SS	4	WOH WOH WOH WOH		1.4/2		17.8 13.3	
-17	7										
-18	8	trace to little coarse to fine sand		SS	5	WOH WOH 1 2		0.8/2		7.8	Slight hydrocarbon-like odor 8-8.8 feet below top of casing.
-19	9										
-20	10	greenish Black (5GY 2/1) coarse to fine silty SAND (SM), tar coated, sheen, medium dense, saturated olive Gray (5Y 4/1) silty CLAY (CL), trace fine gravel, trace coarse to fine sand, hard, low plasticity, moist		SS	6	3 10 14 20	24	2.0/2	4.5+	64.8 11.5 0	Tar-like odor 10-10.4 feet below top of casing. Sampled 10-10.5' (001) (1545)
-21	11										
-22	12			SS	7	3 6	12	1.1/2	4.5+	0	

Depth to water while drilling

Depth to water after drilling

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log, continued

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Burns & McDonnell
SINCE 1898

Project Name: Pitney Court
Project Number: 27112

Boring/Monitoring Well Number: RSB-061/TG096
Page: 2 of 2
Date: 10-10-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-23	14	olive Gray (5Y 4/1) silty CLAY (CL), trace fine gravel, trace coarse to fine sand, hard, low plasticity, moist		SS	7	6 12	12	1.1/2	4.5+	0	
-24						5					
	15			SS	8	18 13	31	1.6/2	4.5+	0	
-25						50/5"					
	16	olive Gray (5Y 4/1) SILT (ML), trace fine gravel, trace coarse to fine sand, extremely dense, moist									
-26						17			4.5+		
	17			SS	9	41 41	82	2.0/2		0	
-27									4.5+		
	18	End of boring 18 feet below top of sediment				47					
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log

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Burns & McDonnell SINCE 1898

Project Name: Pitney Court	Project No.: 27112	Boring/Monitoring Well Number: RSB-062/TG098	
Coordinates	Sediment Elevation (CCD): -14.80	Page: 1 of 1	
Total Depth (feet): 12	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 10-10-06	To: 10-10-06	Logged By: Paul Sponaugle	Reviewed by: Kathi Wotal	Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-15	0	greenish Black (5GY 2/1) organic SILT (OL), trace coarse to fine sand, trace wood, trace organics, very loose, saturated		SS	1	WOH WOH WOH 5		1.0/2		2.0 9.7	Sample intervals SS1 through SS4 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-16	1										
-17	2			SS	2	WOH WOH WOH WOH		1.4/2		19.9 17.0	Burnt organic odor 0-6.6 feet below top of sediment. Sampled 2-3' (001) (0825)
-18	3										
-19	4	trace to no sand		SS	3	WOH WOH WOH WOH		1.6/2		9.2 21.8 29.5	
-20	5										
-21	6			SS	4	WOH WOH WOH 11		1.6/2		3.4 5.8 21.4	Tar/hydrocarbon-like odor 6.7-7.6 feet below top of sediment. Sampled 6.5-7.5' (002) (0845)
-22	7										
-23	8	olive Gray (5Y 4/1) silty CLAY (CL), trace fine gravel, trace coarse to fine sand, hard, low plasticity, moist		SS	5	9 9 12 19	21	1.3/2	4.5+	0	
-24	9										
-25	10			SS	6	10 15 15 22	30	1.8/2	4.5+	0	
-26	11										
	12	End of boring 12 feet below top of sediment									

Depth to water while drilling

Depth to water after drilling

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Burns & McDonnell SINCE 1898

Project Name: Pitney Court		Project No.: 27112	Boring/Monitoring Well Number: RSB-063/TG099
Coordinates:		Sediment Elevation (CCD): -14.60	Page: 1 of 1
Total Depth (feet): 10	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME 55LC		Drilling Company: Mateco	
Date: 10-10-06	To: 10-10-06	Logged By: Paul Sponaugle	Reviewed by: Kathi Wotal / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-15	1	greenish Black (5GY 2/1) organic SILT (OL), trace coarse to fine sand, trace wood, trace organics, very loose, saturated		SS	1	WOH WOH WOH WOH		1.0/2		0.8 3.4	Sample intervals SS1 through SS3 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-16	2										
-17	3			SS	2	WOH WOH WOH WOH		1.2/2		6.1 10.1	Burnt organic odor 2-4.9 feet below top of sediment. Sampled 2-3' (001) (0943)
-18	4	trace to no sand or wood									
-19	5			SS	3	WOH WOH WOH WOH		0.9/2		9.4	
-20	6										
-21	7			SS	4	WOH WOH WOH 6		1.2/2	4.5+	7.1 9.0	Trace tar/hydrocarbon-like odor on top of clay contact. Sampled 6-7' (002) (0950)
-22	8	olive Gray (5Y 4/1) silty CLAY (CL), trace fine gravel, trace coarse to fine sand, hard, low plasticity, moist									
-23	9			SS	5	5 12 15 18	27	1.6/2	4.5+	0	
-24	10	End of boring 10 feet below top of sediment									
	11										
	12										

Depth to water while drilling

Depth to water after drilling

ENVIRONMENTAL LOG JULY-OCT 2006 RIVER.GPJ BURNS_MO.GDT 12/6/06

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Drilling Log

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Burns & McDonnell SINCE 1898

Project Name: South Station C&D	Project No.: 36577	Boring/Monitoring Well Number: RSB-001/TG003	
Coordinates: N 1886049.763 E 116607.744	Sediment Elevation (CCD): -9.70	Page: 1 of 2	
Total Depth (feet): 22	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME-55LC		Drilling Company: Mateco	
Date: 10-20-06 To: 10-20-06	Logged By: Paul Sponaugle	Reviewed by: Scott Letzel	Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-10	0	greenish Black (5GY 2/1) organic SILT (OL), trace coarse to fine sand, trace wood, trace animal remains, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		2.0/2		0	Sample intervals SS1 through SS-9 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-11	1										
-12	2			SS	2	WOH, WOH, WOH, WOH		2.0/2		0, 3.0, 6.8	
-13	3										
-14	4			SS	3	WOH, WOH, WOH, WOH		2.0/2		6.5, 7.8	
-15	5										
-16	6			SS	4	WOH, WOH, WOH, WOH		2.0/2		19.8, 14.9	
-17	7										
-18	8	trace to no sand and wood		SS	5	WOH, WOH, WOH, WOH		2.0/2		16.1, 1.6	
-19	9										
-20	10			SS	6	WOH, WOH, WOH, 1		1.2/2		3.4, 10.1	
-21	11										
-22	12			SS	7	WOH, WOH		2.0/2		27.9	

▽ Depth to water while drilling

▼ Depth to water after drilling

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Drilling Log, continued

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Burns & McDonnell SINCE 1898

Project Name: South Station C&D
Project Number: 36577

Boring/Monitoring Well Number: RSB-001/TG003
Page: 2 of 2
Date: 10-20-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-23	14	greenish Black (5GY 2/1) organic SILT (OL), trace animal remains, very loose, saturated		SS	7	WOH WOH		2.0/2		20.1	Hydrocarbon/tar -like odor 13-17.3 feet below top of sediment. Sampled 13-13.5' (001) (0950)
-24										13.8	
-25	15			SS	8	WOH WOH WOH		2.0/2		26.7	
-26	16									24.4	
-27	17			SS	9	WOH WOH WOH		1.8/2			
-28	18	olive Gray (5Y 4/1) silty CLAY (CL), trace fine gravel, trace coarse to fine sand, hard, low plasticity, moist olive Gray (5Y 4/1) SILT (ML), trace fine gravel, trace coarse to fine sand, dense, moist				13			4.5+	0	
-29	19			SS	10	18 26 50/4"		1.0/2		0	
-30	20					15					
-31	21			SS	11	28 50/1"		0.7/2		0	
	22	End of boring 22 feet below top of sediment									
	23										
	24										
	25										
	26										

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Drilling Log

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Project Name: South Station C&D	Project No.: 36577	Boring/Monitoring Well Number: RSB-002/TG006	
Coordinates: N 1886101.279 E 1166624.782	Sediment Elevation (CCD): -9.10	Page: 1 of 2	
Total Depth (feet): 22	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.1
Drilling Rig: CME-55LC		Drilling Company: Mateco	
Date: 10-20-06 To: 10-20-06	Logged By: Paul Sponaugle	Reviewed by: Scott Letzel	Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-10	1	dark greenish Gray (5G 4/1) organic SILT (OL), trace coarse to fine sand, trace wood, trace animal remains, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		2.0/2		0	Sample intervals SS1 through SS-9 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-11	2	dark greenish Gray to grayish black (N2)									
-12	3	trace clay		SS	2	WOH, WOH, WOH, WOH		2.0/2		0, 1.0	
-13	4										
-14	5			SS	3	WOH, WOH, WOH, WOH		1.8/2		3.8, 4.7	
-15	6										
-16	7			SS	4	WOH, WOH, WOH, WOH		2.0/2		2.3, 9.3	
-17	8										
-18	9			SS	5	WOH, WOH, WOH, WOH		2.0/2		3.1, 12.0	
-19	10										
-20	11			SS	6	WOH, WOH, WOH, WOH		2.0/2		29.3, 20.0	Hydrocarbon-like odor 10-14 feet below top of sediment.
-21	12										
-22				SS	7	WOH, WOH		2.0/2		22.0	

▽ Depth to water while drilling

▼ Depth to water after drilling

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Drilling Log, continued

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Project Name: South Station C&D
Project Number: 36577

Boring/Monitoring Well Number: RSB-002/TG006
Page: 2 of 2
Date: 10-20-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-23	14	dark greenish Gray (5G 4/1) organic SILT (OL), trace coarse to fine sand, trace wood, trace animal remains, very loose, saturated		SS	7	WOH WOH	.	2.0/2		18.1	
		trace tar coated granular material		SS	8	WOH WOH WOH WOH		0.7/2		17.1	Tar-like odor 14-14.7 feet below top of sediment.
-25	16	wood plank/pier									
-26	17	olive Gray (5Y 4/1) silty CLAY (CL), trace fine gravel, trace coarse to fine sand, hard, low plasticity, moist		SS	9	50/5"		0.4/2	4.5+	14.4	
-27	18	olive Gray (5Y 4/1) SILT (ML), trace clay, dense, dry									
-28	19	little coarse to fine sand, trace fine gravel		SS	10	10 12 18 29	30	1.3/2		0	
-29	20										
-30	21	coarse gravel in end of spoon		SS	11	38 50/9"		0.7/2		0	
-31	22	End of boring 22 feet below top of sediment									
	23										
	24										
	25										
	26										

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Drilling Log

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Burns & McDonnell SINCE 1898

Project Name: South Station C&D	Project No.: 36577	Boring/Monitoring Well Number: RSB-003/TG009	
Coordinates: N 1886155.401 E 1166648.885	Sediment Elevation (CCD): -8.20	Page: 1 of 2	
Total Depth (feet): 22	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -1.9
Drilling Rig: CME-55LC		Drilling Company: Mateco	
Date: 10-23-06	To: 10-23-06	Logged By: Paul Sponaugle	Reviewed by: Scott Letzel	Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation – Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-9	1	greenish Black (5GY 2/1) organic SILT (OL), trace coarse to fine sand, trace wood, trace animal remains, very loose, saturated		SS	1	WOH WOH WOH WOH		1.7/2		0	Sample intervals SS1 through SS-8 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-10	2	trace clay									
-11	3			SS	2	WOH WOH WOH WOH		1.3/2		1.1 1.7	
-12	4										
-13	5			SS	3	WOH WOH WOH WOH		2.0/2		1.4 3.8 2.9	
-14	6	intermittent 1/8" thick coarse to fine sand lenses 6-7.7 feet below top of sediment									
-15	7			SS	4	WOH WOH WOH WOH		1.7/2		7.8 26.8	
-16	8										
-17	9			SS	5	WOH WOH WOH WOH		1.5/2		3.5 10.8	
-18	10	trace roots									
-19	11			SS	6	WOH WOH WOH WOH		1.6/2		4.7 4.4	
-20	12										
-21				SS	7	WOH WOH		1.4/2		14.7 16.1	Hydrocarbon/tar-like odor 12-14.6 feet below top of sediment.

Depth to water while drilling

Depth to water after drilling

ENVIRONMENTAL LOG SOUTH STATION CD RIVER 06.GPJ BURNS_MO.GDT 3/30/07

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Drilling Log, continued

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Burns & McDonnell
SINCE 1898

Project Name: South Station C&D
Project Number: 36577

Boring/Monitoring Well Number: RSB-003/TG009
Page: 2 of 2
Date: 10-23-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-22	14	greenish Black (5GY 2/1) organic SILT (OL), trace coarse to fine sand, trace wood, trace animal remains, very loose, saturated		SS	7	WOH WOH	.	1.4/2		14.7	
-23	15	olive Gray (5Y 4/1) SILT (ML), trace coarse to fine sand, dense, dry		SS	8	WOH WOH 12 26		1.3/2		7.3 0	
-24	16	trace to no sand									
-25	17			SS	9	12 16 18 29	34	1.4/2		0	
-26	18	dense to medium dense									
-27	19	gravel seam 18.4 - 18.6 feet below top of sediment		SS	10	5 7 15 24	22	0.7/2		0	
-28	20	medium dense to dense									
-29	21			SS	11	11 15 26 50/4"	41	0.6/2		0	
-30	22	End of boring 22 feet below top of sediment									
	23										
	24										
	25										
	26										

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Drilling Log

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Project Name: South Station C&D	Project No.: 36577	Boring/Monitoring Well Number: RSB-004/TG012	
Coordinates: N 1886221.493 E 1166665.81	Sediment Elevation (CCD): -7.70	Page: 1 of 2	
Total Depth (feet): 22	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.0
Drilling Rig: CME-55LC		Drilling Company: Mateco	
Date: 10-23-06 To: 10-23-06	Logged By: Paul Sponaugle	Reviewed by: Scott Letzel	Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation Description	Graphic Log	Sampling: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-8	1	greenish Black (5GY 2/1) organic SILT (ML), trace coarse to fine sand, trace wood, trace animal remains, very loose, saturated		SS	1	WOH WOH WOH WOH		1.8/2		0	Sample intervals SS1 through SS-8 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-9											
-10	2			SS	2	WOH WOH WOH WOH		2.0/2		0	
-11	3										
-12	4	trace clay		SS	3	WOH WOH WOH WOH		2.0/2		0	
-13	5										
-14	6			SS	4	WOH WOH WOH WOH		1.9/2		0 2.1 4.8	Burnt organic odor 7-13 feet below top of sediment.
-15	7										
-16	8			SS	5	WOH WOH WOH WOH		1.7/2		2.4 1.2 5.0	
-17	9										
-18	10			SS	6	WOH WOH WOH WOH		2.0/2		6.8 2.8 4.9	
-19	11	little cinders 11.3-11.6 feet below top of sediment									
-20	12	sheen		SS	7	2 1	2	2.0/2		60.4	

▽ Depth to water while drilling

▼ Depth to water after drilling

ENVIRONMENTAL LOG SOUTH STATION CD RIVER 06.GPJ BURNS_MO.GDT 3/30/07

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Drilling Log, continued

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Burns & McDonnell
SINCE 1898

Project Name: South Station C&D
Project Number: 36577

Boring/Monitoring Well Number: RSB-004/TG012
Page: 2 of 2
Date: 10-23-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-21	14	greenish Black (5GY 2/1) organic SILT (ML), trace coarse to fine sand, trace wood, trace animal remains, very loose, saturated trace tar stained granular material 13 - 14 feet below top of sediment		SS	7	1 1	2	2.0/2		12.8	Tar/hydrocarbon-like odor 13-15.5 feet below top of sediment.
-22	15			SS	8	WOH WOH 5 12		1.7/2		14.6 71.0 0	
-23	16	olive Gray (5Y 4/1) SILT (ML), trace coarse to fine sand, loose, dry trace to no sand									
-24	17			SS	9	5 9 11 11	20	1.5/2		0	
-25	18										
-26	19	trace coarse to fine sand, trace clay		SS	10	8 12 13 13	25	1.9/2		0	
-27	20										
-28	21	coarse to fine gravel seam 20.4-20.6 feet		SS	11	12 12 27 50/4"	39	1.8/2		0	
-29	22	End of boring 22 feet below top of sediment									
	23										
	24										
	25										
	26										

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Burns & McDonnell SINCE 1898

Project Name: South Station C&D	Project No.: 36577	Boring/Monitoring Well Number: RSB-005/TG014	
Coordinates: N 1886255.487 E 1166632.3	Sediment Elevation (CCD): -14.70	Page: 1 of 2	
Total Depth (feet): 16	Hole Size (inches): 8.25	Driller (s): Bob Dreyer	River Elevation (CCD): -2.4
Drilling Rig: CME-55LC		Drilling Company: Mateco	
Date: 10-30-06	To: 10-30-06	Logged By: Paul Sponaugle	Reviewed by: Scott Letzel / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-15	0	Black (N1) organic SILT (OL), trace coarse to fine sand, trace animal remains, very loose, saturated		SS	1	WOH / WOH / WOH / WOH		2.0/2		1.5 / 2.8	Sample intervals SS1 through SS-5 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-16	1										
-17	2	trace coal slag		SS	2	WOH / WOH / WOH / WOH		0.7/2		9.3	
-18	3										
-19	4	trace wood		SS	3	WOH / WOH / WOH / WOH		0.9/2		27.8	Burnt organic odor 4-7.4 feet below top of sediment.
-20	5										
-21	6	trace clay		SS	4	WOH / WOH / WOH / WOH		2.0/2		4.9 / 27.1	Hydrocarbon/tar-like odor 7-9.2 feet
-22	7										
-23	8	sheen on water		SS	5	WOH / WOH / WOH / 17		1.3/2		4.4 / 131 / 0	Sampled 8.5-9' (001) (1130)
-24	9	olive Gray (5Y 4/1) SILT (ML), trace coarse to fine sand, dense, dry									
-25	10	trace to no sand		SS	6	15 / 18 / 20 / 20	38	1.7/2		0	
-26	11										
-27	12	dense to medium dense		SS	7	7 / 7	21	1.5/2		0	

Depth to water while drilling

Depth to water after drilling

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Drilling Log, continued

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Project Name: South Station C&D
Project Number: 36577

Boring/Monitoring Well Number: RSB-005/TG014
Page: 2 of 2
Date: 10-30-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-28	14	olive Gray (5Y 4/1) SILT (ML), medium dense, dry		SS	7	14 15	21	1.5/2		0	
-29						5					
-30	15	trace fine gravel, trace coarse to fine sand, trace clay		SS	8	8 9 15	17	1.7/2		0	
	16	End of boring 16 feet below top of sediment									
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

ENVIRONMENTAL LOG SOUTH STATION CD RIVER 06.GPJ BURNS_MO.GDT 3/30/07

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Drilling Log

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Project Name: South Station C&D		Project No.: 36577	Boring/Monitoring Well Number: RSB-006/TG016
Coordinates: N 1886305.576 E 1166606.568		Sediment Elevation (CCD): -16.20	Page: 1 of 2
Total Depth (feet): 16	Hole Size (inches): 8.25	Driller (s): Bob Dreyer	River Elevation (CCD): -2.0
Drilling Rig: CME-55LC		Drilling Company: Mateco	
Date: 10-31-06	To: 10-31-06	Logged By: Paul Sponaugle	Reviewed by: Scott Letzel / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-17	1	greenish Black (5GY 2/1) organic SILT (OL), trace coarse to fine sand, trace animal remains, very loose, saturated		SS	1	WOH / WOH / WOH / WOH		1.7/2		0 / 2.5	Sample intervals SS1 through SS-6 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-18	2										
-19	3			SS	2	WOH / WOH / WOH / WOH		0.9/2		0.8	Burnt organic odor 1-10 feet below top of sediment.
-20	4	greenish Black to Black (N1), trace clay, trace to no sand									
-21	5			SS	3	WOH / WOH / WOH / WOH		1.9/2		1.4 / 7.3 / 2.7	
-22	6										
-23	7			SS	4	WOH / WOH / WOH / WOH		1.9/2		6.3 / 16.1 / 5.6	
-24	8										
-25	9			SS	5	WOH / WOH / WOH / WOH		2.0/2		13.4 / 3.0 / 4.9	
-26	10										
-27	11	olive Gray (5Y 4/1) SILT (ML), dense, moist		SS	6	10 / 18 / 20 / 20	38	2.0/2		3.4 / 0	Trace hydrocarbon-like odor 10-10.8 feet below top of sediment.
-28	12	dense to medium dense									
-29				SS	7	6 / 10	21	1.2/2		0	

Depth to water while drilling ▽
Depth to water after drilling ▼

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Drilling Log, continued

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Project Name: South Station C&D
Project Number: 36577

Boring/Monitoring Well Number: RSB-006/TG016
Page: 2 of 2
Date: 10-31-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-30	14	olive Gray (5Y 4/1) SILT (ML), medium dense, moist		SS	7	11 11	21	1.2/2		0	
-31	15	trace fine gravel, trace coarse to fine sand		SS	8	6 9 12 15	21	1.6/2		0	
-32	16	End of boring 16 feet below top of sediment									
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

ENVIRONMENTAL LOG SOUTH STATION CD RIVER 06.GPJ BURNS_MO.GDT 3/30/07

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Project Name: South Station C&D	Project No.: 36577	Boring/Monitoring Well Number: RSB006B	
Coordinates: N 1886304.875 E 1166610.116	Sediment Elevation (CCD): -17.30	Page: 1 of 1	
Total Depth (feet): 10	Hole Size (inches): 8.25	Driller (s): Bob Dreyer	River Elevation (CCD): -2.0
Drilling Rig: CME-55LC		Drilling Company: Mateco	
Date: 10-31-06 To: 10-31-06	Logged By: Paul Sponaugle	Reviewed by: Scott Letzel	Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-18	1	Drilled without sampling to 6 feet below top of sediment									Sample intervals SS1 and SS-2 were collected with a 3" split spoon; N values are not applicable for density determination.
-19											
-20	2										
-21	3										
-22	4										
-23	5										
-24	6	Black (N1) organic SILT (OL), trace clay, trace animal remains, very loose, saturated		SS	1	WOH WOH WOH WOH		0.9/2		2.2	Burnt organic odor 6-6.9 feet below top of sediment.
-25	7										
-26	8	olive Gray (5Y 2/1) SILT (ML), trace coarse to fine sand, dense, moist		SS	2	8 12 22 25	34	1.5/2		8.4 0	Hydrocarbon-like odor 8-8.6 feet below top of sediment. Sampled 8-8.5' (001) (1005)
-27	9										
	10	End of boring 10 feet below top of sediment									
	11										
	12										

Depth to water while drilling

Depth to water after drilling

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Project Name: South Station C&D	Project No.: 36577	Boring/Monitoring Well Number: RSB-007/TG021	
Coordinates: N 1886316.575 E 1166661.799	Sediment Elevation (CCD): -15.30	Page: 1 of 2	
Total Depth (feet): 14	Hole Size (inches): 8.25	Driller (s): Bob Dreyer	River Elevation (CCD): -2.0
Drilling Rig: CME-55LC		Drilling Company: Mateco	
Date: 10-31-06	To: 10-31-06	Logged By: Paul Sponaugle	Reviewed by: Scott Letzel / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-16	1	greenish Black (5G 2/1) organic SILT (OL), trace coarse to fine sand, trace animal remains, very loose, saturated		SS	1	WOH / WOH / WOH / WOH		1.6/2		0 / 1.4	Sample intervals SS1 through SS-5 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-17	2	trace to no sand									
-18	3			SS	2	WOH / WOH / WOH / WOH		1.8/2		3.4 / 2.8 / 4.6	Burnt organic odor 2-8.8 feet below top of sediment.
-19	4	trace clay									
-20	5			SS	3	WOH / WOH / WOH / WOH		2.0/2		6.9 / 5.5 / 7.5	
-21	6										
-22	7			SS	4	WOH / WOH / WOH / WOH		1.8/2		2.5 / 2.4	
-23	8	trace sheen									
-24	9	white slag seam 8.8-9.1 feet below top of sediment		SS	5	5 / 7 / 7 / 10	14	1.6/2		4.9 / 15.2 / 8.1	Hydrocarbon-like odor 8.8-9.1 feet below top of sediment.
-25	10	olive Gray (5Y 4/1) silty CLAY (CL), trace coarse to fine sand, hard, low plasticity, moist									
-26	11			SS	6	3 / 3 / 2 / 9	5	0.5/2	4.5+	0	
-27	12										
-28		trace to little coarse to fine sand		SS	7	9 / 12	33	1.9/2	4.5+	0	

Depth to water while drilling

Depth to water after drilling

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Project Name: South Station C&D
Project Number: 36577

Boring/Monitoring Well Number: RSB-007/TG021
Page: 2 of 2
Date: 10-31-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-29	14	olive Gray (5Y 4/1) SILT (ML), dense, moist		SS	7	21 28	33	1.9/2		0	
		End of boring 14 feet below top of sediment									

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Drilling Log

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Project Name: South Station C&D	Project No.: 36577	Boring/Monitoring Well Number: RSB-008/TG025	
Coordinates: N 1886357.928 E 1166684.094	Sediment Elevation (CCD): -14.30	Page: 1 of 2	
Total Depth (feet): 16	Hole Size (inches): 8.25	Driller (s): Bob Dreyer	River Elevation (CCD): -2.0
Drilling Rig: CME-55LC		Drilling Company: Mateco	
Date: 10-31-06	To: 10-31-06	Logged By: Paul Sponaugle	Reviewed by: Scott Letzel	Approved by: Don Schilling

▽ Depth to water while drilling
▼ Depth to water after drilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-15	1	greenish Black (5GY 2/1) organic SILT (OL), trace coarse to fine sand, trace animal remains, very loose, saturated		SS	1	WOH WOH WOH WOH		2.0/2		0 1.8 5.9	Sample intervals SS1 through SS-6 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-16	2										
-17	3	trace to no sand		SS	2	WOH WOH WOH WOH		2.0/2		0 1.5	
-18	4										
-19	5	trace clay		SS	3	WOH WOH WOH WOH		1.5/2		2.6 10.6 6.5	Burnt organic odor 5-7.1 feet below top of sediment.
-20	6										
-21	7			SS	4	WOH WOH WOH WOH		1.1/2		9.5 8.9	
-22	8										
-23	9	greenish Black to Black (N1), trace wood, trace tar coated wood and granular material, trace tar globules, trace sheen		SS	5	WOH WOH WOH 1		1.1/2		35.1 137	Sampled 8-9' (001) (1440)
-24	10	olive Gray (5Y 6/1) SILT (ML), medium dense, moist									
-25	11			SS	6	28 30 50/5"		1.0/2		0	
-26	12										
-27				SS	7	10 12	24	0.9/2		0	

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Drilling Log, continued

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Project Name: South Station C&D
Project Number: 36577

Boring/Monitoring Well Number: RSB-008/TG025
Page: 2 of 2
Date: 10-31-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-28	14	olive Gray (5Y 6/1) SILT (ML), medium dense, moist		SS	7	12 13	24	0.9/2			
-29	15			SS	8	6 7 12 13	19	0.8/2		0	
-30	16	End of boring 16 feet below top of sediment									
	17										
	18										
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

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Drilling Log

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Project Name: South Station C&D	Project No.: 36577	Boring/Monitoring Well Number: RSB-009/TG026	
Coordinates: N 1886379.3 E 1166667.577	Sediment Elevation (CCD): -15.30	Page: 1 of 2	
Total Depth (feet): 18	Hole Size (inches): 8.25	Driller (s): Bob Dreyer	River Elevation (CCD): -2.0
Drilling Rig: CME-55LC		Drilling Company: Mateco	
Date: 11-1-06	To: 11-1-06	Logged By: Paul Sponaugle	Reviewed by: Scott Letzel / Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-16	1	greenish Black (5GY 2/1) organic SILT (OL), trace coarse to fine sand, trace animal remains, very loose, saturated		SS	1	WOH / WOH / WOH / WOH		2.0/2		0	Sample intervals SS1 through SS-7 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-17											
-18	2	trace to no sand		SS	2	WOH / WOH / WOH / WOH		1.6/2		0 / 3.0	Burnt organic odor 3-12.6 feet below top of sediment.
-19											
-20	3			SS	3	WOH / WOH / WOH / WOH		2.0/2		3.9 / 4.0 / 5.2	
-21		trace clay									
-22	4			SS	4	WOH / WOH / WOH / WOH		2.0/2		4.8 / 7.5 / 13.5	
-23											
-24	5			SS	5	WOH / WOH / WOH / WOH		1.9/2		6.9 / 6.5 / 6.8	
-25											
-26	6			SS	6	WOH / WOH / WOH / WOH		1.4/2		6.6 / 9.0	
-27											
-28	7			SS	7	7 / 17	48	2.0/2		2.0	

Depth to water while drilling

Depth to water after drilling

ENVIRONMENTAL LOG SOUTH STATION CD RIVER 06.GPJ BURNS_MO.GDT 3/30/07

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Drilling Log, continued

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Project Name: South Station C&D
Project Number: 36577

Boring/Monitoring Well Number: RSB-009/TG026
Page: 2 of 2
Date: 11-1-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-29	14	olive Gray (5Y 4/1) SILT (ML), trace coarse to fine sand, trace clay, dense, moist		SS	7	31 40	48	2.0/2		0	
-30	15	trace to no sand		SS	8	10 17 32 24	49	1.8/2		0	
-31	16	dense to medium dense									
-32	17			SS	9	6 9 10 18	19	1.8/2		0	
-33	18	gravel seam 17.4 - 17.6 feet below top of sediment End of boring 18 feet below top of sediment									
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

ENVIRONMENTAL LOG SOUTH STATION CD RIVER 06.GPJ BURNS_MO.GDT 3/30/07

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Drilling Log

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Project Name: South Station C&D	Project No.: 36577	Boring/Monitoring Well Number: RSB-010/TG028	
Coordinates: N 1886390.614 E 1166716.538	Sediment Elevation (CCD): -10.90	Page: 1 of 2	
Total Depth (feet): 18	Hole Size (inches): 8.25	Driller (s): Bob Dreyer	River Elevation (CCD): -2.0
Drilling Rig: CME-55LC		Drilling Company: Mateco	
Date: 11-1-06	To: 11-1-06	Logged By: Paul Sponaugle	Reviewed by: Scott Letzel	Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-11		greenish Black (5G 2/1) organic SILT (OL), trace coarse to fine sand, trace animal remains, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		2.0/2		0, 0.8, 1.5	Sample intervals SS1 through SS-6 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-12	1										
-13	2	trace to no sand		SS	2	WOH, WOH, WOH, WOH		2.0/2		0, 1.4, 1.2	
-14	3										
-15	4	trace clay		SS	3	WOH, WOH, WOH, WOH		1.7/2		5.4, 4.5, 10.3	Burnt organic odor 4-11.3 feet below top of sediment.
-16	5										
-17	6			SS	4	WOH, WOH, WOH, WOH		2.0/2		4.0, 5.4, 5.0	
-18	7										
-19	8			SS	5	WOH, WOH, WOH, WOH		1.8/2		3.4, 2.6, 3.6	
-20	9										
-21	10			SS	6	WOH, WOH, WOH, WOH		1.5/2		6.4, 11.8, 20.5	Tar/hydrocarbon-like odor 11.3-12.6 feet below top of sediment.
-22	11	trace tar coated granular material, trace tar globules, sheen, trace wood 11.3 - 12.6 feet below top of sediment									
-23	12			SS	7	WOH, WOH		0.7/2		22.8	

Depth to water while drilling

Depth to water after drilling

ENVIRONMENTAL LOG SOUTH STATION CD RIVER 06.GPJ BURNS_MO.GDT 3/30/07

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Drilling Log, continued

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Project Name: South Station C&D
Project Number: 36577

Boring/Monitoring Well Number: RSB-010/TG028
Page: 2 of 2
Date: 11-1-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
				SAMPLING							
-24		olive Gray (5Y 4/1) SILT (ML), trace coarse to fine sand, dense, moist		SS	7	WOH WOH	.	0.7/2			
-25	14										
-26	15	trace to no sand, moist to dry		SS	8	8 10 19 19	29	1.3/2		0	
-27	16										Sampled 16-16.5' (001) (1040)
-28	17			SS	9	7 5 9 13	14	0.7/2		0	
	18	End of boring 18 feet below top of sediment									
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

ENVIRONMENTAL LOG SOUTH STATION CD RIVER 06.GPJ BURNS_MO.GDT 3/30/07

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Project Name: South Station C&D	Project No.: 36577	Boring/Monitoring Well Number: RSB-011/TG031	
Coordinates: N 1886451.587 E 1166731.322	Sediment Elevation (CCD): -12.30	Page: 1 of 2	
Total Depth (feet): 18	Hole Size (inches): 8.25	Driller (s): Gary Swift	River Elevation (CCD): -2.0
Drilling Rig: CME-55LC		Drilling Company: Mateco	
Date: 11-1-06	To: 11-1-06	Logged By: Paul Sponaugle	Reviewed by: Scott Letzel	Approved by: Don Schilling

Elevation (CCD)	Depth (feet)	River Sediment Investigation — Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-13	1	greenish Black (5G 2/1) organic SILT (OL), trace coarse to fine sand, trace animal remains, very loose, saturated		SS	1	WOH, WOH, WOH, WOH		2.0/2		0, 4.4	Sample intervals SS1 through SS-7 were collected with a 3" split spoon; N values are not applicable for density determination. 2" split spoon used to collect all other sample intervals.
-14	2										
-15	3	trace clay		SS	2	WOH, WOH, WOH, WOH		2.0/2			Burnt organic odor 3-11.4 feet below top of sediment.
-16	4										
-17	5			SS	3	WOH, WOH, WOH, WOH		1.5/2			
-18	6										
-19	7			SS	4	WOH, WOH, WOH, WOH		1.7/2			
-20	8										
-21	9	coarse to fine sand seam 8.6 - 8.9 feet below top of sediment		SS	5	WOH, WOH, WOH, WOH		1.9/2			
-22	10										
-23	11			SS	6	WOH, WOH, WOH, WOH		1.4/2			
-24	12	trace coal slag									Hydrocarbon-like odor 12-12.9 feet below top of sediment. Sampled 12-12.5' (001) (1400)
-25				SS	7	0, 0	2	1.3/2			

▽ Depth to water while drilling

▼ Depth to water after drilling

ENVIRONMENTAL LOG SOUTH STATION CD RIVER 06.GPJ BURNS_MO.GDT 3/30/07

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Project Name: South Station C&D
Project Number: 36577

Boring/Monitoring Well Number: RSB-011/TG031
Page: 2 of 2
Date: 11-1-06

Elevation (CCD)	Depth (feet)	Description	Graphic Log	SAMPLING: Sample Type	Sample Interval	Blow Counts per 0.5'	N Value	Sample Recovery/Length (feet)	Penetrometer (TSF)	PID Reading (PPM)	Remarks
-26	14	olive Gray (5Y 4/1) silty CLAY (CL), trace coarse to fine sand, very soft, low plasticity, wet		SS	7	2 3	2	1.3/2	<0.25		
-27	15	olive Gray (5Y 4/1) SILT (ML), very dense, dry		SS	8	20 20 37 39	57	1.5/2			
-28	16	very dense to dense									
-29	17			SS	9	9 15 18 37	33	1.8/2			
-30	18	End of boring 18 feet below top of sediment									
	19										
	20										
	21										
	22										
	23										
	24										
	25										
	26										

ENVIRONMENTAL LOG SOUTH STATION CD RIVER 06.GPJ BURNS_MO.GDT 3/30/07

NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-072

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bill McCarthy Strata Earth	11/20/2015	11/20/2015	hollow stem auger

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	561.64 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 1,886,549.46 N, 1,166,569.74 E E /W
1/4 of 1/4 of Section , T N, R
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 GS	6 6	WOR	0	0 - 7.5' **SILT:** ML, black (10YR 2/1), few sand, trace angular gravel, hair, organics, and trash, heterogenous, slow dilatency, low toughness, non-plastic, very soft, organic odor, saturated to wet.						0.1				
1 SS	24 19	WOR WOR WOR	1							0.1				WOR= weight of rods
			2							0.1				
2 SS	24 23	WOR WOR WOR WOR	3					0.3		0.1				
			4		ML			5.3		0.4				
3 SS	24 15	WOR WOR WOR WOH	5	4.5' trace mussels.				5.9		0.1				WOH= weigh of hammer
			6	6.3' coarse sand stringer.				3		0.3				
4 SS	24 16	WOR WOH 1 1	7					1.4		0.4				
			8	7.5 - 8' **POORLY-GRADED SAND:** SP, black (10YR 2/1), few silt and angular gravel, trace hair and organics, heterogenous, petroleum-like odor, wet.	SP			8.2		0.4				
5 SS	24 22	WOH WOH WOH WOH	9	8 - 11.3' **SANDY SILT:** s(ML), black (10YR 2/1), some organic material, some to few sand, few angular gravel, trace hair, heterogenous, slow dilatency, low toughness, non-plastic, soft, slight MGP-like odor, wet.	s(ML)			4.7		0.6				
			10					4.8		0.9				
6 SS	24 22	2 7 12 15	11	8.5' slight petroleum-like odor.				4.2		0.6				
			12	11.3 - 14.5' **LEAN CLAY:** CL, dark gray (10YR 4/1), some silt, trace sub rounded gravel, heterogenous, no dilatency, high toughness, medium plasticity, firm to very hard, moist to dry, [Till].				0	4.5					
7 SS	24 15	9 12 16 24	13		CL			0	2					no indication of 2" splitspoon provided
			14					0	2					
				14.5' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Natural Resource Technology
234 W. Florida St., Fifth Floor, Milwaukee, WI 53204
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Template: ILLINOIS SEDIMENT LOG PP AND TORVANE - Project: 2238 SOUTH BRANCH GINT.GPJ

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-073

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bill McCarthy Strata Earth	11/20/2015	11/20/2015	hollow stem auger

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	567.94 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 1,886,419.75 N, 1,166,708.34 E E /W
1/4 of 1/4 of Section , T N, R
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ S Feet ☐ E ☐ W Feet

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 GS	6			0 - 16.1' **SILT:** ML, black (10YR 2/1), little to few sand, trace hair, organics, and wood, heterogenous, slow dilatency, low toughness, non-plastic to low plasticity, soft, organic odor, saturated to wet.				0		0				
1 SS	24 14	WOR WOR WOR WOR	1					0		0.1				WOR= weight of rods
			2					0		0.2				
2 SS	24 12	WOR WOR WOR WOR	3					0		0.1				
			4					0.8		0.3				
3 SS	24 18	WOR WOH WOH WOH	5					1.4		0.4				WOH= weigh of hammer
			6		ML			0.5		0.5				
4 SS	24 19	WOR WOH WOH WOH	7					0.7		0.2				
			8					3.3		0.6				
5 SS	24 24	WOH WOH WOH WOH	9					2		0.3				
			10					11.4		0.6				
6 SS	24 18	WOH WOH 1 1	11					0.8		0.3				
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Ron Horn

Firm Natural Resource Technology
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NATURAL RESOURCE TECHNOLOGY

Boring Number SBR-SD-073

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
				0 - 16.1' **SILT:** ML, black (10YR 2/1), little to few sand, trace hair, organics, and wood, heterogenous, slow dilatency, low toughness, non-plastic to low plasticity, soft, organic odor, saturated to wet. *(continued)* 12.9' petroleum-like odor. 13.6' gravel seam. 14.5' -16.1' MGP-like odor, oil coated.	ML			6.5		0.6				
7 SS	24 22	WOH 1 1 1	13					2.8		0.2				
			14					29.5		0.3				
8 SS	24 24	1 1 1 11	15					55.2		0.8				
			16	16.1 - 20.5' **LEAN CLAY:** CL, dark gray (10YR 4/1), some silt, little to trace subrounded gravel decreasing with depth, trace sand, heterogenous, no dilatency, high toughness, low plasticity, firm to very hard, dry, [Till].	CL			0	4.5					
9 SS	24 21	11 20 31 38	17					0	3.5					
			18					0	3					
10 SS	24 18	7 13 23 23	19					0	2.5					2" splitspoon
			20					0	2.5					
				20.5' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-073.4 MOB

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bill McCarthy Strata Earth	12/17/2015	12/17/2015	hollow stem auger

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	567.74 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐

State Plane 1,886,467.31 N, 1,166,721.05 E E /W

1/4 of 1/4 of Section , T N, R

Lat ° ' "

Long ° ' "

Local Grid Location ☐ N ☐ S Feet ☐ E ☐ W Feet

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 GS	6			0 - 16.3' **SILT:** ML, black (10YR 2/1), few to little sand increasing with depth, trace angular gravel, trash, hair, and organics, heterogenous, slow dilatency, low toughness, non-plastic, very soft to soft, organic odor, saturated to wet.				0		0.2				
1 SS	24 14	WOR WOR WOR WOR	1					0		0.1				WOR=weight of rods
			2					0		0.2				
2 SS	24 15	WOR WOR WOR WOR	3					0		0.2				
			4					0		0.3				
3 SS	24 16	WOR WOR WOH WOH	5					0		0.2				WOH=weight of hammer
			6		ML			0		0.5				
4 SS	24 19	WOR WOR WOH WOH	7					0		0.4				
			8					0.9		0.5				
5 SS	24 20	WOR WOR WOR WOR	9					4.1		0.6				
			10					2.6		0.6				
6 SS	24 24	WOH WOH WOH WOH	11					0.5		0.3				
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Ron Horn

Firm Natural Resource Technology
234 W. Florida St., Fifth Floor, Milwaukee, WI 53204
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Fax: (414) 837-3608

NATURAL RESOURCE TECHNOLOGY

Boring Number SBR-SD-073.4 MOB

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
7 SS	24 22	WOH WOH 5 2	13	0 - 16.3' **SILT:** ML, black (10YR 2/1), few to little sand increasing with depth, trace angular gravel, trash, hair, and organics, heterogenous, slow dilatency, low toughness, non-plastic, very soft to soft, organic odor, saturated to wet. *(continued)*				1.8		0.8				
								0.1		0.3				
			14					1.8		0.3				
1 ST	24 16	1 1 1 1	15	14.5' sheen observed in shelby tube.	ML			0		0				mobility sample
			16					0		0				
8 SS	12 9	23 50 for 6"	17	16.3 - 20.5' **LEAN CLAY:** CL, dark gray (10YR 4/1), few sand, trace subrounded gravel, heterogenous, no dilatency, high toughness, low plasticity, very hard, dry, [Till].				0	3.5					
			18					0	3.5					
9 SS	24 15	23 24 25 26	19		CL			0	4.5					2" splitspoon
			20					0	4.5					
				20.5' End of Boring.										

NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-074

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/14/2015	10/14/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	570.99 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,886,338.33 N, 1,166,706.66 E E/W
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	118 112		0	0 - 9.3' **SILT:** ML, black (10YR 2/1), trace glass, trash, and sand, heterogenous, slow dilatency, low toughness, non-plastic, very soft to soft, organic odor, saturated to wet.	ML			0		0				
			1					0		0.1				
			2					0		0.1				
			3					0		0.2				
			4					1		0.2				
			5					0		0.3				
			6					4.9		0.4				
			7	7' coal seam.				6.1		0.5				
			8					10.4		0.4				
			9					14.6		0.7				
				9.3' End of boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Natural Resource Technology
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SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-075

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bill McCarthy Strata Earth	11/19/2015	11/19/2015	hollow stem auger

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	565.62 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 1,886,162.70 N, 1,166,595.03 E E /W
1/4 of 1/4 of Section , T N, R
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ S Feet ☐ E ☐ W Feet

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 GS	6			0 - 2.8' **SANDY SILT:** s(ML), black (10YR 2/1), trace hair and wood chips, heterogenous, rapid dilatency, low toughness, non-plastic, very soft, organic odor, saturated.				0		0.2				
1 SS	24 / 6	WOR WOR WOR WOR	1		s(ML)									WOR= weight of rods
			2					0		0.1				
2 SS	24 / 15	WOR WOR WOH WOH	3	2.8 - 13.8' **SILT:** ML, black (10YR 2/1), few sand, trace angular gravel, trash, hair, wood, roots, heterogenous, slow dilatency, low toughness, non-plastic, soft organic odor, wet.				0.8		0.2				WOH= weight of hammer
			4					3.5		0.3				
3 SS	24 / 18	WOR WOR WOH WOH	5					0.6		0.1				
			6					2.5		0.5				
4 SS	24 / 18	WOR WOH WOH WOH	7		ML			3.5		0.3				
			8					2.4		0.5				
5 SS	24 / 24	WOR WOH WOH WOH	9					6.2		0.2				
			10					10.2		0.6				
6 SS	24 / 22	WOR WOH WOR 1	11					5.6		0.4				
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Natural Resource Technology
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Template: ILLINOIS SEDIMENT LOG PP AND TORVANE - Project: 2238 SOUTH BRANCH GINT.GPJ

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-078

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bill McCarthy Strata Earth	11/23/2015	11/23/2015	hollow stem auger

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	562.74 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 1,886,551.42 N, 1,166,544.45 E E /W
1/4 of 1/4 of Section , T N, R
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ S Feet ☐ E ☐ W Feet

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 GS	6	WOR		0 - 12.1' **SILT:** to **POORLY-GRADED SAND:** ML, black (10YR 2/1), trace organics, slag, hair, trash, wood, and angular gravel, heterogenous, slow dilatency, low toughness, non-plastic, very soft, organic odor, saturated to wet.				0.2		0				
1 SS	24 9	WOR WOR	1					0		0				WOR= weight of rods
			2					0		0				
2 SS	24 15	WOR WOR WOH WOH	3					0		0.2				WOH= weigh of hammer
			4					0.2		0				
3 SS	24 19	WOR WOH WOH WOH	5					0.1		0.2				
			6		ML			1.8		0.2				
4 SS	24 19	WOH WOH 1	7					0.6		0.3				
			8					5.3		0.3				
5 SS	24 24	WOH WOH 1 1	9					10.7		0.3				
			10	9.5' medium sand stringer for 4". 9.8' - 12.1' petroleum-like odor, sheen.				28.5		0.5				
6 SS	24 24	WOH WOH WOH 14	11					24.8		0.7				
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	Tel: (414) 837-3607
Ron Hoss	Natural Resource Technology 234 W. Florida St., Fifth Floor, Milwaukee, WI 53204	Fax: (414) 837-3608

Template: ILLINOIS SEDIMENT LOG PP AND TORVANE - Project: 2238 SOUTH BRANCH GINT.GPJ

NATURAL RESOURCE TECHNOLOGY

Boring Number SBR-SD-078

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
				12.1 - 16.5' **LEAN CLAY:** CL, dark gray (10YR 4/1), little to few silt increasing with depth, trace subrounded gravel, heterogenous, no dilatency, high toughness, low plasticity, firm, moist to dry, [Till].				56.8	1.5				
7 SS	24 22	12 17 18 23	13					0.7	4.5					
			14		CL			1.9	2					
8 SS	24 15	12 14 23 25	15					1.3	1					2" splitspoon
			16					1.3	1					
				16.5' End of Boring.										

NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-079

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/13/2015	10/13/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	571.99 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,886,354.62 N, 1,166,418.74 E E/W
1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	143 143		0	0 - 11.9' **SILT:** ML, black (10YR 2/1), few hair, trace wood chips, trash, and sand, heterogenous, slow dilatency, low toughness, non-plastic, soft, organic odor, saturated to wet.	ML			0		0.1				
			1					0		0.1				
			2					0		0.1				
			3					0		0.2				
			4					0		0.2				
			5					0		0.3				
			6					0		0.4				
			7					2		0.3				
			8					9.5		0.6				
			9					5.5		0.6				
			10					17		0.6				
			11					17.5		0.8				
				11.6' increase in sand. 11.9' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Natural Resource Technology
234 W. Florida St., Fifth Floor, Milwaukee, WI 53204
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Fax: (414) 837-3608

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-080

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bill McCarthy Strata Earth	11/19/2015	11/19/2015	hollow stem auger

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	570.32 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 1,886,244.04 N, 1,166,489.66 E E /W
1/4 of 1/4 of Section , T N, R
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ S Feet ☐ E ☐ W Feet

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 GS	6			0 - 19.3' **SILT:** ML, black (10YR 2/1), few sand, trace hair, wood chips, trash, and angular gravel, heterogenous, slow dilatency, low toughness, non-plastic, very soft to soft with depth, organic odor, saturated to wet.				0		0				
1 SS	24 13	WOR WOR WOR WOR	1					0		0				WOR=weight of rods
			2					0		0.1				
2 SS	24 14	WOR WOR WOR WOR	3					0		0				
			4					0		0.1				
3 SS	24 22	WOR WOR WOH WOH	5					0		0.1				WOH=weight of hammer
			6		ML			0.4		0.3				
4 SS	24 17	WOR WOR WOH WOH	7					0		0.1				
			8					8.1		0.2				
5 SS	24 24	WOR WOH WOH WOH	9					1.4		0.4				
			10					3.3		0.4				
6 SS	24 22	WOR WOH WOH WOH	11					1.2		0.1				
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Ron Horn

Firm Natural Resource Technology
234 W. Florida St., Fifth Floor, Milwaukee, WI 53204
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Fax: (414) 837-3608

NATURAL RESOURCE TECHNOLOGY

Boring Number SBR-SD-080

Sample			Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)	Blow Counts							Compressive Strength (tsf)	Shear Strength (tsf)	Liquid Limit	Plasticity Index	P 200	
				0 - 19.3' **SILT:** ML, black (10YR 2/1), few sand, trace hair, wood chips, trash, and angular gravel, heterogenous, slow dilatency, low toughness, non-plastic, very soft to soft with depth, organic odor, saturated to wet. *(continued)*				10.7		0.4				
7 SS	24 24	WOH WOH WOH WOH	13					0.6		0.5				
			14					0.8		0.6				
8 SS	24 24	WOH WOH WOH WOH	15					0.6		0.5				
				15.2' silty clay inclusion.	ML									
			16					1.4		0.5				
9 SS	24 18	WOH WOH WOH WOH	17	16.5' low plasticity.				0.7		0.6				
			18					1.6		0.8				
10 SS	24 20	1 16 30 50	19					0.9		0.8				
				19.3 - 22.5' **LEAN CLAY:** CL, dark gray (10YR 4/1), few silt and subrounded gravel, heterogenous, no dilatency, high toughness, low plasticity, very hard, dry, [Till].										
			20					0	4.5					
11 SS	24 21	20 29 26 27		20' laminations.										2" splitspoon
			21		CL			0	4					
			22					0	3.5					
				22.5' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-081

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bill McCarthy Strata Earth	11/18/2015	11/18/2015	hollow stem auger

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	565.59 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 1,886,111.41 N, 1,166,520.34 E E/W
1/4 of 1/4 of Section , T N, R
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ S Feet ☐ E ☐ W Feet

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 GS	6			0 - 13.7' **SILT:** ML, black (10YR 2/1), trace hair, organics, sand, and angular gravel, heterogenous, slow dilatency, low toughness, non-plastic, soft, organic odor, saturated to wet.				0		0.1				
1 SS	24 19	WOR WOR WOR WOR	1					0		0.2				WOR=weight of rods
			2					0.2		0.2				
2 SS	24 18	WOR WOR WOR WOR	3					0		0.1				
			4					1.9		0.3				
3 SS	24 21	WOR WOR WOH WOH	5					0.7		0.2				WOH=weight of hammer
			6		ML			3.4		0.3				
4 SS	24 24	WOR WOR WOH WOH	7					6.5		0.1				
			8					2.7		0.4				
5 SS	24 24	WOR WOH 1 1	9					2.5		0.2				
			10	9.5' -12' wood chips, slight petroleum-like odor, sheen.				3.1		0.5				
6 SS	24 22	WOH WOH 1 1	11					0.7		0.3				
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

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SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-084

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bill McCarthy Strata Earth	11/23/2015	11/23/2015	hollow stem auger

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	567.24 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐

State Plane 1,886,631.08 N, 1,166,300.21 E E /W

1/4 of 1/4 of Section , T N, R

Lat ° ' "

Long ° ' "

Local Grid Location ☐ N ☐ S Feet ☐ E ☐ W Feet

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 GS	6			0 - 14.2' **SANDY SILT:** s(ML), black (10YR 2/1), some to trace organics, some to few sand, trace hair and angular gravel, heterogenous, rapid dilatency, low toughness, non-plastic, soft, organic odor, saturated to wet.				1.1						
1 SS	24 / 12	WOR WOR WOR WOR	1					0.1						WOR= weight of rods
			2					0.1						
2 SS	24 / 22	WOR WOR WOR WOR	3	3' -14.2' trace sheen.				4.7		0.2				
			4					3.2		0.4				
3 SS	24 / 17	WOR WOR WOR WOH	5					9.1		0.1				WOH= weight of hammer
			6		s(ML)			20.5		0.3				
4 SS	24 / 24	WOR WOR WOR WOR	7					8.6		0.1				
			8					19.5		0.5				
5 SS	24 / 24	WOH WOH 1 1	9					11.3		0.3				
			10	9.5' fine sand stringer for 3".				23.4		0.6				
6 SS	24 / 24	WOH WOH WOH WOH	11					12.9		0.3				
			12	11.5' -14.2' petroleum-like odor.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Natural Resource Technology
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NATURAL RESOURCE TECHNOLOGY

Boring Number SBR-SD-084

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
				0 - 14.2' **SANDY SILT:** s(ML), black (10YR 2/1), some to trace organics, some to few sand, trace hair and angular gravel, heterogenous, rapid dilatency, low toughness, non-plastic, soft, organic odor, saturated to wet. *(continued)*				17.8		0.3				
7 SS	24 19	WOH WOH 1 6	13		s(ML)			9.8		0.1				
			14					14.8		0.1				
8 SS	24 20	4 6 10 14	15	14.2 - 18.5' **LEAN CLAY:** CL, dark gray (10YR 4/1), little silt, few sand, trace subrounded gravel, heterogenous, no dilatency, high toughness, low plasticity, very hard, moist to dry, [Till].				3.3	3					
			16					0.5	4					
9 SS	24 16	4 7 20 24	17		CL			0	3.5					2" splitspoon
			18					0	4.5					
				18.5' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-085

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/13/2015	10/13/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	574.59 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,886,428.88 N, 1,166,227.83 E E/W
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	143 140		0	0 - 5.5' **SILT:** ML, black (10YR 2/1), trace hair, angular to subangular gravel (coal), and wood, heterogenous, slow to no dilatency, low toughness, non-plastic, very soft, saturated to wet.				0		0.1				
			1					1.7		0.2				
			2					1.8		0.2				
			3		ML			16.3		0.1				
			4					12.2		0.3				
			5					16.4		0.8				
			6	5.5 - 7.2' **POORLY-GRADED SAND:** SP, black (10YR 2/1), little silt and angular to subangular gravel (coal), heterogenous, slight petroleum-like odor, wet.	SP			17.3		0.4				
			7					13.7		0.5				
			8	7.2 - 7.4' **WELL-GRADED GRAVEL:** GW, black (10YR 2/1), angular to subangular with pitted texture, little sand and silt, heterogenous, slight petroleum-like odor, wet.	GW			9.1		0.9				
			9	7.4 - 11.7' **SANDY SILT:** s(ML), black (10YR 2/1), some to few sand, few wood and subangular gravel, heterogenous, no dilatency, low toughness, non-plastic, soft, wet.				25.5		1.1				
			10	7.6' mottling dark gray (10YR 4/1). 8.8' mottling very dark gray (10YR 3/1). 9.7' -10.5' slight MGP-like odor. 10.5' -11.7' MGP-like odor.	s(ML)			9.4		1				
			11					23.7		0.9				
				11.7' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Natural Resource Technology
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Template: ILLINOIS SEDIMENT LOG PP AND TORVANE - Project: 2238 SOUTH BRANCH GINT.GPJ

NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-086

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/13/2015	10/13/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	573.49 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,886,270.63 N, 1,166,322.21 E E/W
1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	144 142		0	0 - 11.8' **SILT:** ML, black (10YR 2/1), few sand, trace wood, debris, and gravel, heterogenous, slow to no dilatency, low toughness, non-plastic, very soft to soft.				0		0.1				
			1					0		0.1				
			2					0		0.3				
			3					0		0.3				
			4					0		0.4				
			5					5.3		0.5				
			6	6' -10' faint MGP-like odor.	ML			5.1		0.5				
			7					4.6		0.4				
			8					11.4		0.5				
			9					13.3		0.6				
			10	10' -11.8' slight MGP-like odor.				22.8		0.6				
			11					19.9		0.7				
			12	11.8' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Natural Resource Technology
234 W. Florida St., Fifth Floor, Milwaukee, WI 53204
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Fax: (414) 837-3608

NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-087

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/13/2015	10/13/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	574.02 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,886,107.15 N, 1,166,329.37 E E/W
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location ☐N ☐S Feet ☐E ☐W Feet

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	71 47		0 1 2 3 4 5	0 - 3.9' **SILT:** ML, black (10YR 2/1), trace wood and sand, heterogenous, slow dilatency, low toughness, non-plastic, very soft, organic odor, saturated to wet.	ML			0 0 3.1 4.1	0 0.1 0.2 0.2					
				3.9' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

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SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-097

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/12/2015	10/12/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	564.72 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,885,858.53 N, 1,166,435.14 E E/W
1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	34 17		1	0 - 1.4' **SILT:** ML, black (10YR 2/1), trace wood, sand, and gravel, heterogenous, rapid dilatency, low toughness, non-plastic, very soft, organic odor, saturated.	ML			2.4 7		0 1				
			2	1.4' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Natural Resource Technology
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NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-098

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/13/2015	10/13/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	574.92 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,885,805.83 N, 1,166,531.70 E E/W
1/4 of 1/4 of Section , T N, R
Lat ° ' "
Long ° ' "
Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	122 94		1	0 - 7.8' **SILT:** ML, black (10YR 2/1),trace wood chips, hair, trash, angular gravel, and sand, heterogenous, slow dilatency, low toughness, non-plastic, soft, organic odor, saturated to wet.	ML			0		0				
			1					0		0				
			2					0		0.1				
			3					3.3		0.3				
			4					1.1		0.3				
			5					13		0.5				
			6					20.7		0.5				
			7					20.6		0.7				
			8	7.8' End of Boring.										
			9											
			10											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

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SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-099

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bill McCarthy Strata Earth	11/18/2015	11/18/2015	hollow stem auger

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	568.79 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐

State Plane 1,885,710.54 N, 1,166,436.05 E E /W

1/4 of 1/4 of Section , T N, R

Lat ° ' "

Long ° ' "

Local Grid Location ☐ N ☐ S Feet ☐ E ☐ W Feet

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 GS	6			0 - 14.5' **SILT:** ML, black (10YR 2/1), some to trace gravel, trace wood, hair, trash, and coal, heterogenous, rapid dilatency, low toughness, non-plastic, very soft to soft, saturated, trace sheen.						0.1				WOR=weight of rods
1 SS	24 0	WOR WOR WOR WOR	1											
			2											
2 SS	24 13	WOR WOR WOR WOR	3											
			4					0.2		0.2				
3 SS	24 19	WOR WOR WOR WOR	5							0.1				
			6		ML			2.5		0.2				
4 SS	24 24	WOR WOR WOR WOR	7					1		0.1				
			8					3.6		0.3				
5 SS	24 19	WOR WOR WOR WOR	9					11.6		0.3				
			10					3.5		0.5				
6 SS	24 19	WOR WOR WOH WOH	11					5		0.2				
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Steve Wiskes

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NATURAL RESOURCE TECHNOLOGY

Boring Number SBR-SD-099

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
7 SS	8 6	WOR 50	13	0 - 14.5' **SILT:** ML, black (10YR 2/1), some to trace gravel, trace wood, hair, trash, and coal, heterogenous, rapid dilatency, low toughness, non-plastic, very soft to soft, saturated, trace sheen. *(continued)*	ML			1.8		0.6				
								0.5		0.3				
			14					0.5		0.3				
8 SS	18 18	1 13 50	15	14.5 - 20' **LEAN CLAY:** CL, dark gray (10YR 4/1), little sand, few silt, trace gravel, angular, heterogenous, slow dilatency, low toughness, high plasticity, hard, moist, [Till].				0.4						
9 SS	6 6	36	16					0.4						
10 SS	6 0	74 54	17		CL									2" splitspoon
11 SS	24 18	22 14 17												
			18					0	4					
12 SS	12 12	36 50	19					0	3.25					
			20					0	1.5					
				20' End of Boring.										

NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-100

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/12/2015	10/12/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	566.12 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,885,493.96 N, 1,166,421.65 E E/W
1/4 of 1/4 of Section , T N, R
Lat ° ' "
Long ° ' "
Local Grid Location ☐N ☐S Feet ☐E ☐W Feet

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	119 98		1	0 - 7.1' **SILT:** ML, black (10YR 2/1), few to trace wood, trace subangular gravel, hair, and metal, heterogenous, rapid to no dilatency, low toughness, non-plastic, very soft to soft, saturated to wet.						0.2				
			2					6.9		0.2				
			3	3' -7.1' slight petroleum-like odor.				6.4		0.3				
			4		ML			17.9		0.3				
			5					11.3		0.3				
			6					11.8		0.3				
			7	7.1 - 7.5' **WELL-GRADED GRAVEL:** to **SILT:** GW, black (10YR 2/1), angular to subangular, heterogenous, petroleum-like odor, wet.	GW			18.2		0.5				
			8	7.5 - 8.2' **SILT:** ML, black (10YR 2/1), few angular to subangular gravel, heterogenous, no dilatency, low toughness, non--plastic, slight petroleum-like odor, wet.	ML			12.6		0.5				
			9	8.2' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Natural Resource Technology
234 W. Florida St., Fifth Floor, Milwaukee, WI 53204
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Fax: (414) 837-3608

NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-101

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/12/2015	10/12/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	564.82 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,885,346.93 N, 1,166,467.72 E E/W
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	138 125		0	0 - 9.7' **SILT:** ML, black (10YR 2/1), trace angular to subangular gravel, hair, wood, and debris, heterogenous, rapid to no dilatency, low toughness, non-plastic, very soft to soft, organic odor, saturated to wet.				1.8		0.1				
			1					7.8		0.2				
			2					23.4		0.3				
			3					23.1		0.4				
			4	3.8' piece of coal, 3" diameter.				26.1		0.7				
				4.4' increase to little sand for 6".										
			5		ML			29		0.8				
			6					46.2		0.8				
			7	7' - 9.7' slight MGP-like odor.				43.4		0.7				
			8					31.2		0.6				
			9					28.5		0.9				
			10	9.7 - 10.9' **WELL-GRADED SAND:** to **WELL-GRADED GRAVEL:** SW, black (10YR 2/1), angular, little silt, heterogenous, MGP-like odor, wet.	SW			25.3		0.9				
			11	10.9' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

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Template: ILLINOIS SEDIMENT LOG PP AND TORVANE - Project: 2238 SOUTH BRANCH GINT.GPJ

NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-102

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/12/2015	10/12/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	567.52 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel,885,331.00 N, 1,166,402.10 E E/W
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	128 114		0	0 - 9.5' **SILT:** ML, black (10YR 2/1), few angular gravel, trace sand, wood chips, and trash, heterogenous, slow dilatency, low toughness, non-plastic, very soft to soft, organic odor, saturated to wet.	ML			0	0					
			1					0	0					
			2					0	0.1					
			3					9.9	0.2					
			4					20.2	0.1					
			5					30	0.3					
			6	5.6' less gravel and sand.				33.5	0.4					
			7					36.3	0.5					
			8					24.5	0.5					
			9					25.8	0.5					
			10	9.5' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

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NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-103

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/9/2015	10/9/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	564.67 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,885,245.41 N, 1,166,463.19 E E/W
1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	114 98		1	0 - 8.2' **SILT:** ML, black (10YR 2/1), few to trace wood and angular to subangular gravel, heterogenous, slow to no dilatency, low toughness, non-plastic, soft, organic odor, wet. 0.5' trace thinly bedded sand seams for 1'.	ML			0		0.1				
			2					0		0.2				
			3					0		0.2				
			4					9.4		0.2				
			5					14		0.5				
			6					33.8		0.6				
			7					21.2		0.3				
			8					20.3		0.6				
			9	8.2' End of Boring.				9.3		0.7				

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

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NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-104

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/12/2015	10/12/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	571.12 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,885,098.98 N, 1,166,526.21 E E/W
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	140 143		0	0 - 11.9' **SILT:** ML, black (10YR 2/1), trace wood, hair, metal, and foil, heterogenous, rapid to no dilatency, low toughness, non-plastic, very soft to soft, saturated to wet.				0		0				
			1					0		0.1				
			2					0		0.1				
			3					5.9		0				
			4					26.8		0.1				
			5					34		0.1				
			6	6' -11.9' petroleum-like odor.	ML			39.4		0.1				
			7					54.5		0.1				
			8					31.2		0.2				
			9					57.7		0.5				
			10					41		0.4				
			11					69		0.6				
				11.9' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

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NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-105

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bill McCarthy Strata Earth	11/17/2015	11/17/2015	hollow stem auger

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	566.14 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 1,885,055.33 N, 1,166,434.67 E E /W
1/4 of 1/4 of Section , T N, R
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ S Feet ☐ E ☐ W Feet

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 GS	6			0 - 3.5' **SILT:** to **LEAN CLAY:** ML, black (10YR 2/1) to dark gray (10YR 4/1), few angular to subangular gravel and sand, heterogenous, rapid to slow dilatency, low toughness, low plasticity to non-plastic, very soft to soft, slight petroleum-like odor, wet, sheen.	ML			1.2						
1 SS	6 / 24 / 8	17 / 1 / WOH / WOH	1					3.1						WOH=weight of hammer
			2					3						
2 SS	24 / 18	5 / 8 / 8 / 15	3					0.6	2.5					
			4	3.5 - 8' **LEAN CLAY:** CL, dark gray (10YR 4/1), trace subangular to subrounded gravel and sand, blocky, slow dilatency, medium toughness, medium plasticity, firm, moist, [Till].	CL			0	4					
3 SS	24 / 21	10 / 11 / 16 / 36	5	5' cobble.				0	4.5					
			6					0	4.5					
4 SS	18 / 18	26 / 30 / 33	7					0	4.5					2" Splitspoon
			8	8' End of Boring.				0	4.5					

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	Tel: (414) 837-3607
Steve Wiskes	Natural Resource Technology 234 W. Florida St., Fifth Floor, Milwaukee, WI 53204	Fax: (414) 837-3608

NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-106

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/8/2015	10/8/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	567.67 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,884,872.93 N, 1,166,531.77 E E/W
1/4 of 1/4 of Section , T N, R
Lat ° ' "
Long ° ' "
Local Grid Location ☐N ☐S Feet ☐E ☐W Feet

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	132 114		0	0 - 9.5' **SILT:** ML, black (10YR 2/1), few to trace wood decreasing with depth, trace angular to subangular gravel and sand, heterogenous, slow to no dilatency, low toughnes, non-plastic, very soft to soft, organic to strong organic odor with depth, saturated to wet.				0		0				
			1					0		0				
			2					0		0.1				
			3					0		0.1				
			4					0.4		0.3				
			5	5' -9.4' silt.	ML			11.4		0.4				
			6					24.6		0.5				
			7					6.4		0.6				
			8					9		0.7				
			9					9.4		0.9				
				9.4' angular to subangular gravel at bottom, coal.										
			10	9.5' End of Boring.										
			11											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

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SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-107

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bill McCarthy Strata Earth	11/17/2015	11/17/2015	hollow stem auger

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	565.94 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 1,884,758.30 N, 1,166,500.15 E E /W
1/4 of 1/4 of Section , T N, R
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ S Feet ☐ E ☐ W Feet

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 GS	6									0.1				
1 SS	24 / 17	WOH WOH WOH WOH	1	0 - 9.9' **SILT:** ML, black (10YR 2/1), few to trace sand and angular to subangular gravel, trace metal, hair, and wood, heterogenous, rapid to slow dilatency, low toughness, non-plastic, very soft to soft, saturated, slight sheen.				0.5						WOH= weight of hammer
			2					1.7		0.2				
2 SS	24 / 14	WOH WOH 1 1	3					4.2		0.2				
			4					4.4		0.4				
3 SS	24 / 18	WOH 1 1 1	5		ML			3		0.3				
			6	6' seam of crushed rock for 2".				3		0.4				
4 SS	24 / 20	1 1 1 1	7					1		0.3				
			8					7		0.7				
5 SS	24 / 18	1 1 1 1	9					8.3		0.2				
			10	9.9 - 10.9' **WELL-GRADED SAND:** SW, black (10YR 2/1), some silt, few subrounded to subangular gravel, trace hair and metal, heterogenous, slight petroleum-like odor, wet.	SW			3						
6 SS	24 / 24	2 2 8 8	11	10.9 - 11.5' **SILT:** ML, black (10YR 2/1), trace hair, roots, wood, and sand, heterogenous, slow dilatency, low toughness, non-plastic, slight organic odor, wet.	ML			3		0.1				
			12		CL			0.2	4.5					

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	Tel: (414) 837-3607
Steve Wiskes	Natural Resource Technology 234 W. Florida St., Fifth Floor, Milwaukee, WI 53204	Fax: (414) 837-3608

NATURAL RESOURCE TECHNOLOGY

Boring Number SBR-SD-107

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
7 SS	24 21	10 21 29 36	13	11.5 - 16.5' **LEAN CLAY:** CL, dark gray (10YR 4/1), trace sand and gravel, blocky, slow dilatency, medium toughness, medium plasticity, hard, moist, [Till]. *(continued)*				0	4.5					
			14					0	4.5					
8 SS	24 8	10 23 36 45	15		CL			0	4.5					2' splitspoon
			16					0	4.5					
				16.5' End of Boring.										

NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-108

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/8/2015	10/8/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	572.77 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 1,884,804.38 N, 1,166,445.77 E E/W
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	126 120		0	0 - 2.8' **SILT:** ML, black (10YR 2/1), trace wood, hair, and sand, heterogenous, saturated.	ML			0		0				
			1					0		0				
			2					0		0.2				
			3	2.8 - 4.4' **LEAN CLAY:** CL, dark gray (10YR 4/1), some silt, few subrounded to subangular gravel, black mottling (10YR 2/1), heterogenous, no dilatency, medium toughness, medium plasticity, soft to firm.	CL			0		0.2				
			4					1	0.75					
			5	4.4 - 10' **SILT:** ML, black (10YR 2/1), few to trace sand, heterogenous, no dilatency, low toughness, non-plastic, soft, slight organic odor, wet.	ML			19.1		0.5				
			6					34.5		0.6				
			7					27.4		0.6				
			8					47.2		0.8				
			9					24.5		1				
			10					50.3		0.8				
				10' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

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NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-109

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bill McCarthy Strata Earth	11/16/2015	11/16/2015	hollow stem auger

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	566.29 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 1,884,607.79 N, 1,166,634.34 E E /W
1/4 of 1/4 of Section , T N, R
Lat ° ' "
Long ° ' "
Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 GS	6	1						0.4		0.2				
1 SS	24 / 19	WOH WOH WOH	1	0 - 8.3' **SILT:** ML, black (10YR 2/1), trace metal, hair, angular gravel, and sand, heterogenous, rapid dilatency, low toughness, non-plastic, soft, petroleum-like odor, saturated.				0.5						WOH= weight of hammer
			2					3.4		0.1				
2 SS	24 / 17	WOH WOH 1 1	3					0.8		0.1				
			4		ML			7.1		0.3				
3 SS	24 / 15	WOH WOH 1 1	5					0.8		0.2				
			6					6.2		0.4				
4 SS	24 / 14	2 1 1 1	7					8.3		0.2				
			8	7.5' wood, coating.				20.2		0.5				
5 SS	24 / 15	3 3 5 9	9	8.3 - 12.5' **LEAN CLAY:** CL, dark gray (10YR 4/1), trace wood, subangular gravel, and sand, blocky, slow dilatency, medium toughness, medium plasticity, firm, moist, MGP-like product at silt clay interface, oil wetted in vertical and horizontal seams for top 6" [Till].				1.4	1.5					
			10		CL			0.2	4.5					
6 SS	24 / 18		11					3.3	3.5					2" splitspoon, blow counts not recorded
			12					1.4	2.5					
				12.5' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	
Steve Wickes	Natural Resource Technology 234 W. Florida St., Fifth Floor, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608

NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-110

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/8/2015	10/8/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	565.67 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,884,583.07 N, 1,166,602.92 E E/W
1/4 of 1/4 of Section , T N, R
Lat ° ' "
Long ° ' "
Local Grid Location ☐N ☐S Feet ☐E ☐W Feet

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	138 124		0	0 - 10.3' **SILT:** ML, black (10YR 2/1), little to trace sand decreasing with depth, few to trace angular gravel, few trash, trace hair and wood, heterogenous, slow dilatency, low toughness, non-plastic, soft, organic odor, saturated to wet.	ML			0		0				
			1					0		0				
			2					4.5		0.3				
			3					15.6		0.3				
			4	3.8' very dark gray (10YR 3/1), seam of silt and fine sand for 1".				30.1		0.3				
			5					35.4		0.5				
			6					39		0.4				
			7					32.2		0.6				
			8					57.1		0.6				
			9					63.9		0.7				
			10					39.2		0.7				
				10.3' End of Boring.										
			11											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Natural Resource Technology
234 W. Florida St., Fifth Floor, Milwaukee, WI 53204
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Fax: (414) 837-3608

NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-111

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/8/2015	10/8/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	568.79 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,884,543.60 N, 1,166,575.11 E E/W
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	97 84		0	0 - 4.2' **SILT:** ML, black (10YR 2/1), few sand, trace hair and wood, heterogenous, slow dilatency, low toughness, non-plastic, very soft, organic odor, saturated to wet.				0.6		0.1				
			1					3.5		0				
			2		ML			8		0.1				
			3					25.5		0.1				
			4					37.8		0.1				
			5	4.2 - 4.9' **SANDY SILT:** s(ML), gray (10YR 5/1), heterogenous, slow dilatency, low toughness, non-plastic, soft, organic odor, wet.	s(ML)			43		0.3				
			6	4.9 - 7' **SILT:** ML, black (10YR 2/1), few sand, trace trash, heterogenous, slow dilatency, low toughness, non-plastic, soft, organic odor, wet.	ML			48.2		0.2				
			7	7' End of Boring.				50.8		0.2				
			8											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Natural Resource Technology
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SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-112

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/8/2015	10/8/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	566.29 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel 1,884,352.21 N, 1,166,765.31 E E/W
1/4 of 1/4 of Section , T N, R

Lat ___° ___' ___"
Long ___° ___' ___"

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Shear Strength (tsf)	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	100 91			0 - 3.3' **SILT:** ML, black (10YR 2/1), little to trace wood decreasing with depth, trace to few gravel increasing with depth, angular, heterogenous, no dilatency, low toughness, non-plastic, very soft, slight organic odor, saturated to wet.	ML			0.3						
			1					3.9		0.1				
			2					13.4		0.1				
			3					11.7		0.1				
			4	3.3 - 4.6' **WELL-GRADED GRAVEL:** to **SILT:** GW, black (10YR 2/1), angular, heterogenous, slight organic odor, wet.	GW			15.8		0.2				
			5	4.6 - 7.6' **SILT:** ML, black (10YR 2/1), trace angular gravel, heterogenous, no dilatency, low toughness, non-plastic, soft, slight organic odor, wet.	ML			25.1		0.5				
			6					10.5		0.5				
			7					13.2		0.4				
			8	7.6' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature [signature]

Firm Natural Resource Technology
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NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-113

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/8/2015	10/8/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	567.19 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,884,413.54 N, 1,166,692.31 E E/W
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	144 120		0	0 - 10' **SILT:** ML, black (10YR 2/1), little to trace angular gravel and sand decreasing with depth, few coal, trace trash and hair, heterogenous, slow dilatency, low toughness, non-plastic, soft, organic odor, saturated to wet. 0.8' fine sand seam for 3".				2		0.1				
			1					3		0.3				
			2					1.7		0.2				
			3					7.6		0.2				
			4					27		0.3				
			5		ML			13.2		0.4				
			6					29.6		0.3				
			7					45.8		0.4				
			8					55.5		0.4				
			9					42.3		0.5				
			10	10' End of Boring.				41.6		1				
			11											
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Natural Resource Technology
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NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-114

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/8/2015	10/8/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	571.99 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,884,327.78 N, 1,166,673.47 E E/W
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location ☐N ☐E Feet ☐S Feet ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	144 125		0	0 - 10.4' **SILT:** ML, black (10YR 2/1), few angular to subangular gravel, trace red brick and hair, heterogenous, rapid to no dilatency, low toughness, non-plastic, saturated to wet.	ML			1.7						
			1					3.3						
			2					4		0.2				
			3					3.1		0.2				
			4					8.9		0.2				
			5					17.1		0.2				
			6	5.7' -10.4' solvent-like odor.				36.7		0.2				
			7	6.5' Gravel seam for 3".				35		0.4				
			8	7.5' Gravel seam for 3".				10.9		0.4				
			9					71.3		0.4				
			10	10.1' dark gray (10YR 4/1), some gravel.				25.3		0.5				
				10.4' End of Boring.										
			11											
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Natural Resource Technology
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SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-115

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bill McCarthy Strata Earth	11/16/2015	11/16/2015	hollow stem auger

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	571.29 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 1,884,130.03 N, 1,166,857.11 E E /W
1/4 of 1/4 of Section , T N, R
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ S Feet ☐ E ☐ W Feet

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 GS	6			0 - 8' **SILT:** ML, black (10YR 2/1), few sand, trace wood and angular gravel, heterogenous, rapid dilatency, low toughness, non-plastic, soft, wet.				0						
1 SS	24 6	WOH WOH WOH WOH	1					0						WOH= weight of hammer
			2					0						
2 SS	24 20	WOH WOH WOH WOH	3					0						
			4		ML			0		0.2				
3 SS	24 18	WOH WOH WOH WOH	5					0		0.2				
			6					0		0.2				
4 SS	24 24	1 1 1 1	7					0		0.1				
			8	8 - 11.5' **SILT:** ML, black (10YR 2/1), mostly silt sized coal, little gravel, trace wood, heterogenous, rapid dilatency, low toughness, non-plastic, soft, wet.				0		0.2				
5 SS	24 18	WOH 1 1 2	9					0.2		0.2				
			10		ML			0.3						
6 SS	24 23	1 1 1 1	11					0.6		0.2				
			12		ML									

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	Tel / Fax
Steve Wistar	Natural Resource Technology 234 W. Florida St., Fifth Floor, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608

NATURAL RESOURCE TECHNOLOGY

Boring Number SBR-SD-115

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
				11.5 - 15.5' **SILT:** ML, black (10YR 2/1), few sand, trace hair and wood, heterogenous, rapid dilatency, low toughness, non-plastic, soft, moist. *(continued)*				8.7		0.3				
7 SS	24 21	1 1 1 1	13					8.8		0.2				
			14		ML			7.1		0.2				
8 SS	24 18	1 WOH 1 1	15					8.5		0.1				
			16	15.5 - 16.5' **SILTY SAND:** SM, black (10YR 2/1), trace gravel, heterogenous, moist.	SM			2.5						
				16.4' petroleum-like odor at clay interface.										
9 SS	24 18	10 25 29 38	17	16.5 - 20.5' **LEAN CLAY:** CL, dark gray (10YR 4/1), blocky, hard, [Till].				0	4.5					
			18					0	4.5					
10 SS	24 18	9 13 27 50 for 5"	19		CL			3.7	4.5					2" splitspoon
			20					3.8	4.5					
				20.5' End of Boring.										

NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-115.X

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/7/2015	10/7/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	571.12 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,884,120.62 N, 1,166,855.53 E E/W
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	111 103		1	0 - 8.6' **SILT:** ML, black (10YR 2/1), little hair, few sand and angular gravel, trace trash, heterogenous, rapid to no dilatency, low toughness, non-plastic, soft, strong organic odor, saturated to wet.	ML			0.7		0				
			1					0.3		0				
			2					1.7		0				
			3					6.9		0.1				
			4					5		0.1				
			5					11		0.2				
			6					7.8		0.3				
			7					14.4		0.4				
			8	8.1' gravel.				36.8		0.4				
			9	8.6' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Natural Resource Technology
234 W. Florida St., Fifth Floor, Milwaukee, WI 53204
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Fax: (414) 837-3608

NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-116

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/8/2015	10/8/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	568.49 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,884,234.75 N, 1,166,797.39 E E/W
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	144 125		0	0 - 7' **SILT:** ML, black (10YR 2/1), trace sand, hair, and wood, heterogenous, rapid to no dilatency, low toughness, non-plastic, very soft to soft, organic odor, slight petroleum-like odor, saturated to wet. 1' sand seam for 2".	ML			1.6						
			1					1.9		0.2				
			2					3.3		0.1				
			3					13.6		0.1				
			4					16		0.1				
			5					29.2		0.2				
			6					30.8		0.1				
			7	7 - 8' **WELL-GRADED GRAVEL:** GW, black (10YR 2/1), little silt, angular, heterogenous, slight petroleum-like odor, wet.	GW			56.7		0.2				
			8	8 - 10.4' **SILT:** ML, black (10YR 2/1), trace hair, wood, and angular gravel, heterogenous, no dilatency, low toughness, non-plastic soft, organic odor, wet.	ML			65.1		0.1				
			9					62.4		0.1				
			10					58.8		0.3				
			11	10.4' End of Boring.										
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature [signature]

Firm Natural Resource Technology
234 W. Florida St., Fifth Floor, Milwaukee, WI 53204
Tel: (414) 837-3607
Fax: (414) 837-3608

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-117

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bill McCarthy Strata Earth	11/13/2015	11/13/2015	hollow stem auger

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	567.54 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 1,884,137.44 N, 1,166,763.71 E E /W
1/4 of 1/4 of Section , T N, R
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ S Feet ☐ E ☐ W Feet

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 SS	24 13	3 3 2 3	1	0 - 3.6' **WELL-GRADED SAND:** to **WELL-GRADED GRAVEL:** SW, black (10YR 2/1), angular to subangular, trace silt, hair, asphalt, and glass, heterogenous, slight sweet odor, wet.	SW			0.2						
								1.9						
2 SS	24 14	2 34 17 4	2					2.3						
			3					0.3		0.6				
3 SS	24 18	2 5 8 14	4	3.6 - 9.5' **LEAN CLAY:** CL, dark gray (10YR 4/1), little to trace sand and angular to subrounded gravel decreasing with depth, heterogenous to blocky, slow dilatency, medium to high toughness, non-plastic to low plasticity, soft to firm, wet to moist. 3.7' trace reddish brown mottling (5YR 5/4). 4.9' brick, no mottling.	CL			0	0.5					
			5					0	4.5					
4 SS	18 14	17 28 51	6					0	4.5					
			7					0	4.5					
5 SS	24 21	17 22 25 26	8					0	4.5					no indication of 2" spoon provided
			9					0	4.5					
				9.5' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	
	Natural Resource Technology 234 W. Florida St., Fifth Floor, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608

NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-118

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/7/2015	10/7/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	570.12 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,883,980.26 N, 1,166,893.33 E E/W
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	114 82		0	0 - 6.4' **SILT:** ML, black (10YR 2/1), little sand and angular gravel, trace hair organics and sand seams, heterogenous, no to slow dilatency, low toughness, non-plastic, soft, organic odor, saturated to wet.				2.5		0				
			1					8.1		0.1				
			2					1.8		0.1				
			3		ML			6.2		0.3				
			4	3.6' -6.4' petroleum-like odor.				23.3		0.4				
			5					58.6		0.3				
			6					70.3		0.6				
			7	6.4 - 6.8' **WELL-GRADED GRAVEL:** to **POORLY-GRADED SAND:** GW, black (10YR 2/1), angular, coal and cinders, heterogenous, petroleum-like odor, wet.	GW									
			8	6.8' End of Boring.										
			9											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Natural Resource Technology
234 W. Florida St., Fifth Floor, Milwaukee, WI 53204

Tel: (414) 837-3607
Fax: (414) 837-3608

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-118.4

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bill McCarthy Strata Earth	12/18/2015	12/18/2015	hollow stem auger

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	571.34 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 1,884,015.52 N, 1,166,889.33 E E/W
1/4 of 1/4 of Section , T N, R
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ S Feet ☐ E ☐ W Feet

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 GS	6	WOR	0	0 - 10' **SANDY SILT:** s(ML), black (10YR 2/1), little to some sand increasing with depth, trace to little angular gravel increasing with depth, trace organics, hair and wood chips, heterogenous, slow dilatency, low toughness, non-plastic, very soft to soft, organic odor, saturated to wet.				0.3		0.1				no recovery, WOR=weight of rods
1 SS	24 / 0	WOR WOR WOR	1											
			2											
2 SS	24 / 12	WOR WOR WOR WOR	3					0.1		0.3				
			4					2.4		0.3				
3 SS	24 / 19	WOR WOR WOR WOR	5		s(ML)			0.7		0.2				
			6					5.3		0.6				
4 SS	24 / 14	WOH WOH 1 2	7					7.7		0.1				WOH=weight of hammer
			8					9.3		0.1				
5 SS	24 / 15	WOH WOH 1 1	9					7.6		0.2				
			10	10 - 10.5' **WELL-GRADED SAND WITH GRAVEL:** (SW)g, black (10YR 2/1), angular, little silt, trace hair, heterogenous, organic odor wet.	(SW)g			5.5		0.4				
6 SS	24 / 14	WOH 1 1 1	11	10.5 - 11.4' **SILT:** ML, black (10YR 2/1), little sand, few angular gravel, heterogenous, rapid dilatency, medium toughness, low plasticity, soft, petroleum-like odor, wet.	ML			22.2		0.1				
			12	11.4 - 12.6' **WELL-GRADED GRAVEL WITH SAND:** (GW)s, black (10YR 2/1), angular, little silt, trace hair and organics, heterogenous, petroleum-like odor, wet.	(GW)s			29		0.3				
7 SS	24 / 9	WOH WOH 1 1	13		CL			13.4						
			14					1.3						

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

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NATURAL RESOURCE TECHNOLOGY

Boring Number SBR-SD-118.4

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
8 SS	24 / 21	WOH WOH WOH 14	15	12.6 - 19.4' **LEAN CLAY:** CL, dark gray (10YR 4/1), some silt, heterogenous, no dilatency, low toughness, non-plastic, very soft, moist, [Till]. *(continued)*				11.3	0.5					
			16	15.8' few sand, trace gravel, subrounded, high toughness, low plasticity, very hard, dry, [Till].				2.1	4.5					
9 SS	18 / 18	21 23 27	17		CL			0	4.5					
10 SS	10	27 50 for 4"	18					0	4.5					Bedrock refusal, no indication of 2" spoon provided
			19					0	4.5					
				19.4' End of Boring.										

NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-119

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/7/2015	10/7/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	567.82 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,883,980.35 N, 1,166,872.14 E E/W
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	53 35		1	0 - 2.9' **SILT:** ML, black (10YR 2/1), few sand, trace wood, organics, and angular gravel,heterogenous, slow dilatency, low toughness, non-plastic, soft, organic odor, saturated to wet.	ML			1.9		0.1				
			2					4.1		0.1				
				1.8' fine sand seam for 4".				3.7		0.2				
			3	2.9' End of Boring.										
			4											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

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NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-120

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/7/2015	10/7/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	568.22 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,883,996.71 N, 1,166,794.47 E E/W
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	34 17		1	0 - 1.4' **LEAN CLAY:** CL, dark gray (10YR 4/1), little angular gravel, few silt, trace sand seams less than 0.5", no dilatency, medium toughness, high plasticity, very soft to firm, saturated to wet.	CL			0.2 0.2	0.25 0.25					
			2	1.4' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

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SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-121

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bill McCarthy Strata Earth	11/13/2015	11/13/2015	hollow stem auger

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	565.44 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐

State Plane 1,883,841.02 N, 1,166,941.47 E E /W

1/4 of 1/4 of Section , T N, R

Lat ° ' "

Long ° ' "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 SS	24 7	1 for 24"	1	0 - 2.7' **SILT:** ML, black (10YR 2/1), trace sand, wood, and hair, heterogenous, rapid dilatency, low toughness, non-plastic, very soft to soft, slight petroleum-like odor, saturated to wet.	ML			0.1 0.1		0.3 0.3				WOH= weight of hammer
2 SS	24 14	1 for 12" 1 for 12"	2					0.3		0.3				
3 SS	24 15	2 2 1 2	3 4 5	2.7 - 8.8' **WELL-GRADED SAND:** SW, black (10YR 2/1), few silt, trace gravel and clay nodules, heterogenous, petroleum-like odor, wet.	SW			2.8 0.4 0.3		0.8 0.2 0.5				
4 SS	24 10	WOH 1 1 1	6 7					0.1 0.1		0.6 0.8				
5 SS	24 9	WOH 1 1 1	8 9					0		0.5				
6 SS	24 22	5 23 30 44	10 11	8.8 - 10.6' **WELL-GRADED GRAVEL:** to **WELL-GRADED SAND:** GW, black (10YR 2/1), angular to subangular, trace silt, heterogenous, wet.	GW			0.6 0						
7 SS	23 10	17 35 36 50 for 5"	12 13	10.6 - 13.9' **LEAN CLAY:** CL, dark gray (10YR 4/1), few subangular to subrounded gravel and sand, blocky, no to slow dilatency, high toughness, low plasticity, firm to hard, moist, [Till]. 12' limestone cobble in shoe.	CL			0 0	4.5					
				13.9' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	
	Natural Resource Technology 234 W. Florida St., Fifth Floor, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-122

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/7/2015	10/7/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	565.52 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,883,882.44 N, 1,166,884.24 E E/W
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location ☐N ☐E Feet ☐S Feet ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	66 46		0	0 - 0.65' **POORLY-GRADED SAND:** SP, black (10YR 2/1), little silt, heterogenous, organic odor, saturated to wet.	SP			0.8		0				
			1	0.65 - 1.1' **SILT:** to **WOOD:** ML, black (10YR 2/1), heterogenous, slow dilatency, low toughness, non-plastic, soft, organic odor, wet.	ML			3.2		0.3				
			2	1.1 - 2.6' **WELL-GRADED SAND:** to **WELL-GRADED GRAVEL:** SW, black (10YR 2/1), heterogenous, organic odor, wet.	SW			16.5		0.1				
			3	2.6 - 3.8' **SILT:** ML, black (10YR 2/1),few wood, heterogenous, no dilatency, low toughness, non-plastic, slight petroleum-like odor, organic odor, wet.	ML			53.7		0.4				
			4	3.8' End of Boring.										
			5											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Natural Resource Technology
234 W. Florida St., Fifth Floor, Milwaukee, WI 53204

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NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-123

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/6/2015	10/6/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	564.14 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,883,783.26 N, 1,166,901.97 E E/W
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	89 79		1	0 - 1.3' **WELL-GRADED SAND:** to **WELL-GRADED GRAVEL:** SW, black (10YR 2/1), angular, trace hair, heterogenous, organic odor, saturated.	SW			5.1		0				
								33.3		0.3				
			2	1.3 - 6.6' **SILT:** ML, black (10YR 2/1), few sand and angular gravel, heterogenous, slow dilatency, low toughness, non-plastic, soft, strong petroleum-like odor to 5.5', wet.				97		0.2				
			3					88.7		0.1				
			4		ML			81.8		0.2				
			5					11.2		0.3				
			6					8.7		0.2				
			7	6.6' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

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SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-124

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bill McCarthy Strata Earth	11/13/2015	11/13/2015	hollow stem auger

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	564.04 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐

State Plane 1,883,735.70 N, 1,167,005.08 E E /W

1/4 of 1/4 of Section , T N, R

Lat ° ' "

Long ° ' "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 SS	24 2	WOH 1 1 1	1	0 - 4.5' **POORLY-GRADED SAND:** SP, black (10YR 2/1),few subangular to angular gravel, few to trace silt, trace roots, wood, and hair, heterogenous, petroleum-like odor, wet.				0		0.4				WOH=weight of hammer
								0		0.4				
2 SS	24 9	WOR WOH 5 6	2		SP			0.2		0.4				WOR=weight of rods
			3					0.6		0.4				
3 SS	24 17	5 12 11 9	4	4.25' gravel seam for 3".				0.4	0.75					
			5	4.5 - 8.7' **WELL-GRADED SAND:** SW, black (10YR 2/1), few subangular to angular gravel and shells, trace concrete and metal, heterogenous, petroleum-like odor, wet.				0.2	0.75					
4 SS	24 11	5 5 3 2	6	4.8' seam of very dark gray (10YR 3/1) silt.	SW			0	0.25					
			7					0.1						
5 SS	24 13	2 2 10 26	8					0.1						
			9	8.7 - 13' **LEAN CLAY:** CL, dark gray (10YR 4/1), trace sand and subangular to subrounded gravel, blocky, no dilatency, medium to high toughness, low plasticity, firm to hard, moist, trace sand in clay fractures, [Till].				0	4.5					
6 SS	12 12	25 55	10					0	4.5					
7 SS	24 21	17 22 26 28	11		CL			0	4.5					no indication of 2" splitspoon provided
			12					0	4.5					
			13	13' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	
	Natural Resource Technology 234 W. Florida St., Fifth Floor, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608

Template: ILLINOIS SEDIMENT LOG PP AND TORVANE - Project: 2238 SOUTH BRANCH GINT.GPJ

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-125

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bill McCarthy Strata Earth	11/11/2015	11/11/2015	hollow stem auger

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	562.14 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐

State Plane 1,883,567.32 N, 1,167,073.10 E E /W

1/4 of 1/4 of Section , T N, R

Lat ° ' "

Long ° ' "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 SS	24 4.5	WOH 1 1 1	1	0 - 7.5' **WELL-GRADED SAND:** SW, black (10YR 2/1), trace to little silt increasing with depth, trace roots, hair, and subangular to subrounded gravel, heterogenous, non-plastic, wet.				0						
								0						
2 SS	24 6	2 2 2 1	2					0						
			3					0						
3 SS	24 3	2 1 1 1	4		SW			0.2						
			5					0.1						
4 SS	24 3	WOR for 24"	6					0.8						
			7					0.8						
5 SS	24 8	WOH for 12" 2 2	8	7.5 - 10' **WELL-GRADED SAND:** to **SILT:** SW, black (10YR 2/1), trace roots and hair, subrounded to subangular, heterogenous, very soft to soft, wet.				0.9		0.3				
			9		SW			0.4		0.2				
6 SS	21 26	WOR 20 24 50 for 3"	10	9.8' trace fabric strips, slight petroleum-like odor.				2		0.1				
				10 - 10.9' **SILT:** ML, black (10YR 2/1), trace sand, subangular gravel, and hair, heterogenous, slow dilatency, low toughness, non-plastic, very soft to soft, slight petroleum-like odor, wet to saturated.	ML									
			11					0.2	4.25					
7 SS	24 19	15 18 26 34	12	10.8' trace fabric strips and sand at clay/silt interface.				0.1	4.5					switched to 2" splitspoon
			13	10.9 - 14.9' **LEAN CLAY:** CL, dark gray (10YR 4/1), trace to little subangular to subrounded gravel increasing with depth, trace sand, heterogenous to blocky, slow dilatency, medium toughness, low plasticity, firm, moist to dry, [Till].	CL			0	4.5					
8 SS	11 5.5	42 50 for 5"	14					0	4.5					
				14.9' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	Tel / Fax
	Natural Resource Technology 234 W. Florida St., Fifth Floor, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608

NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-126

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bill McCarthy Strata Earth	11/11/2015	11/11/2015	hollow stem auger

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	565.54 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 1,883,527.61 N, 1,167,081.56 E E /W
1/4 of 1/4 of Section , T N, R
Lat ° ' "
Long ° ' "
Local Grid Location
Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 SS	24 12	3 3 5 2	1	0 - 0.5' **SILT:** ML, black (10YR 2/1), trace to few angular to subangular gravel increasing with depth, heterogenous, slow to rapid dilatency, low toughness, non-plastic, very soft, saturated.	ML			0.1		0				
				0.5 - 1.7' **WELL-GRADED GRAVEL:** GW, black (10YR 2/1), few sand and silt, trace hair, angular to subangular, heterogenous, wet.	GW			0.4						
2 SS	24 3	1 1 1 for 12"	2 3	1.7 - 6' **POORLY-GRADED GRAVEL WITH SAND:** (GP)s, black (10YR 2/1), angular to subangular, sand increasing with depth, few silt, trace hair and roots, heterogenous, non-plastic, wet.	(GP)s			0 0						
3 SS	24 8	2 1 for 12" 1	4 5					0.3 0.2						
4 SS	24 17	5 5 5 6	6 7	6 - 8.7' **WELL-GRADED SAND:** SW, black (10YR 2/1), little to few subangular to angular gravel decreases with depth, few silt, trace hair, heterogenous, non-plastic, wet.	SW			0 0.8						
5 SS	24 25	1 5 30 56	8 9	8.7 - 11.5' **LEAN CLAY:** CL, dark gray (10YR 4/1), few sand, trace subrounded gravel, blocky, no to slow dilatency, low to high toughness with depth, medium plasticity, soft to hard, moist to dry, [Till].	CL			0.1 0	0.25 4.5					
6 SS	18 17	26 46 50	10 11					0 0	4.5 4.5					switched to 2" splitspoon
				11.5' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	
	Natural Resource Technology 234 W. Florida St., Fifth Floor, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608

NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-126.X

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/6/2015	10/6/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	566.74 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,883,536.72 N, 1,167,092.16 E E/W
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	38 23		1	0 - 1.9' **WELL-GRADED SAND:** SW, black (10YR 2/1), little angular gravel, heterogenous, organic odor, saturated to wet.	SW			3		0				
			2					2		0.2				
				1.9' End of Boring.										
			3											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

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SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-127

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bill McCarthy Strata Earth	11/10/2015	11/10/2015	hollow stem auger

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	574.64 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 1,883,340.46 N, 1,167,281.96 E E /W
1/4 of 1/4 of Section , T N, R
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ S Feet ☐ E ☐ W Feet

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Shear Strength (tsf)	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 9.5	2 1 1 3	1	0 - 4.2' **POORLY-GRADED GRAVEL WITH SAND:** to **POORLY-GRADED SAND:** (GP)s, angular to subangular, black (10YR 2/1), few silt, trace hair, heterogenous, slight organic odor, wet.				0						
								0.4						
2 SS	24 9.5	1 1 3 3	2 3		(GP)s			0						
								0.2						
3 SS	24 21	WOH for 12" 1 2	4 5	4.2 - 11.2' **SILT:** ML, black (10YR 2/1), trace hair, foil, subangular to angular gravel, and sand, heterogenous, no to slow dilatency, low toughness, non-plastic to low plasticity, very soft to soft, slight MGP-like odor to 6', wet.				1.2		0.4				WOH= weight of hammer
								7		0.6				
4 SS	24 19	WOH 1 2 1	6 7	6' -11.2' petroleum-like odor.				5.7		0.3				
								2.9		0.7				
				7.3' coarse sand stringer.	ML									
5 SS	24 24	1 2 5 4	8 9					2.8		0.2				
								6		0.1				
6 SS	18 24	1 27 52	10 11					10.1		0.2				
								1.6	4					
7 SS	3 0	55 for 3"	12	11.2 - 12' **LEAN CLAY:** CL, dark gray (10YR 4/1), some to little sand, trace subrounded to angular gravel, heterogenous to blocky, no dilatency, high toughness, low to medium plasticity, firm to hard, moist, [Till].	CL									switched to 2" splitspoon; refusal on bedrock
				12' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	
	Natural Resource Technology 234 W. Florida St., Fifth Floor, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-128

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	11/3/2015	11/3/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	565.34 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 1,883,282.69 N, 1,167,296.88 E E /W
1/4 of 1/4 of Section , T N, R
Lat ° ' "
Long ° ' "
Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	64 49		0	0 - 1.7' **POORLY-GRADED SAND:** SP, black (10YR 2/1), trace to little angular gravel increasing with depth, heterogenous, organic odor, wet.	SP			0		0.5				
			1					0		0.2				
			2	1.7 - 2.4' **SILT:** ML, black (10YR 2/1), trace hair, heterogenous, slow dilatency, low toughness, non-plastic, soft, organic odor, wet.	ML			0		0.3				
			3	2.4 - 3.1' **POORLY-GRADED SAND:** SP, black (10YR 2/1) to dark gray (10YR 4/1), few gravel, heterogenous, organic odor, wet.	SP			1.5		0.4				
			4	3.1 - 4.1' **SILT:** ML, black (10YR 2/1), trace hair and gravel, heterogenous, slow dilatency, low toughness, non-plastic, soft, organic odor, wet.	ML			7.8		0.4				
			5	4.1' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

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NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-128.X

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/6/2015	10/6/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	565.44 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,883,282.69 N, 1,167,296.88 E E/W
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	72 34		0	0 - 0.3' **WELL-GRADED GRAVEL:** GW, black (10YR 2/1) with greenish inside, subrounded piece of cobble, soft, easily broken.	GW			6.6		0.3				
			1	0.3 - 2.8' **SILT:** ML, black (10YR 2/1), little gravel, few wood and sand, heterogenous, rapid to slow dilatency, low toughness, non-plastic, soft, organic and strong petroleum-like odor, wet. 0.7' sand seam for 2", wet.	ML			20.6		0.5				
			2					18.8		0.6				
			3	2.8' End of Boring.										
			4											
			5											
			6											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Natural Resource Technology
234 W. Florida St., Fifth Floor, Milwaukee, WI 53204

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NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-129

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/6/2015	10/6/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	566.44 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,883,148.00 N, 1,167,371.89 E E/W
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location ☐N ☐S Feet ☐E ☐W Feet

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	46 24		0	0 - 0.5' **POORLY-GRADED SAND:** SP, black (10YR 2/1), few silt, trace hair, heterogenous, organic odor, wet.	SP			2		0.3				
			1	0.5 - 2' **SILT:** ML, black (10YR 2/1), few sand, trace hair and organics, heterogenous, slow dilatency, low toughness, non-plastic, soft, organic odor, wet.	ML			2.9		0.5				
			2	2' End of Boring.				5.5		0.3				
			3											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

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NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-130

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/6/2015	10/6/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	571.94 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,883,003.19 N, 1,167,536.82 E E/W
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	130 118		1	0 - 4.6' **POORLY-GRADED SAND:** SP, black (10YR 2/1), little silt seams, trace wood and silt seams, heterogenous, organic odor, wet.	SP			0.4		0.1				
			2					0.6		0.4				
			3					1		0.3				
			4					1		0.1				
			5					1.2		0.2				
			6	4.6 - 9.8' **SILT:** to **WOOD:** ML, black (10YR 2/1), trace sand, slow to no dilatency, low toughness, non-plastic, soft, organic odor, petroleum-like odor increasing with depth, wet.	ML			1.9		0.2				
			7					0.9		0.2				
			8					2.3		0.3				
			9					13.3		0.2				
								16.4		0.6				
				9.8' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Natural Resource Technology
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Template: ILLINOIS SEDIMENT LOG PP AND TORVANE - Project: 2238 SOUTH BRANCH GINT.GPJ

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-131

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/5/2015	10/5/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	572.24 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 1,882,951.68 N, 1,167,685.42 E E/W
1/4 of 1/4 of Section , T N, R

Lat ___° ___' ___"
Long ___° ___' ___"

Local Grid Location
Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Shear Strength (tsf)	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	107 97			0 - 1.3' **POORLY-GRADED SAND:** SP, black (10YR 2/1), few silt increasing with depth, heterogenous, organic odor, wet.	SP			1		0.1				
			1					1.2		0.1				
				1.3 - 8.1' **SILT:** to **WOOD:** ML, black (10YR 2/1), trace sand, cinders, hair, and trash, heterogenous, slow dilatency, low toughness, non-plastic, soft, organic odor, wet.	ML									
			2					1.7		0.1				
			3					2.4		0.1				
			4					3.4		0.2				
			5					3.2		0.2				
			6					3.4		0.1				
			7					10.2		0.4				
			8					5.2		0.5				
				8.1' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	
Ron Horn	Natural Resource Technology 234 W. Florida St., Fifth Floor, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-131.4

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bill McCarthy Strata Earth	12/17/2015	12/17/2015	hollow stem auger

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	571.94 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 1,882,967.77 N, 1,167,680.38 E E/W
1/4 of 1/4 of Section , T N, R

Lat ___° ___' ___"
Long ___° ___' ___"

Local Grid Location
Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Compressive Strength (tsf)	Shear Strength (tsf)	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GS	6 6			0 - 7.2' **POORLY-GRADED SAND:** SP, black (10YR 2/1), few organics, bone, trash, and hair, trace angular gravel, heterogenous, organic odor, wet.				0						
1 SS	24 0	WOH WOH WOH WOH	1											WOH=weight of hammer, no recovery
			2											
2 SS	24 17	1 WOH 1 WOH	3	3.2' little silt.	SP									
			4					0.2						
3 SS	24 4	WOH WOH WOH WOH	5					0						
			6											
4 SS	24 17	WOH WOH WOH WOH	7					0.4						
				7.2 - 10.5' **SANDY SILT:** s(ML), black (10YR 2/1), trace hair, organics, trash, wood chips, and angular gravel, heterogenous, slow dilatency, low toughness, non-plastic, soft, organic odor, wet.										
			8					4.2		0.7				
5 SS	24 15	WOH WOH WOH WOH	9		s(ML)			0.1		0.3				
			10					3.6		0.5				
6 SS	24 23	WOH WOH WOH WOH	11	10.5 - 12.1' **POORLY-GRADED SAND WITH GRAVEL:** (SP)g, black (10YR 2/1), angular, few silt, trace hair and organics, heterogenous, organic odor, wet to saturated.	(SP)g			0.4						
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature [signature]

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Tel: (414) 837-3607
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NATURAL RESOURCE TECHNOLOGY

Boring Number SBR-SD-131.4

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
				12.1 - 18.5' **SILT:** ML, black (10YR 2/1), some to few sand, trace brick, hair, bone, trash, and angular gravel, heterogenous, slow dilatency, low toughness, non-plastic to low plasticity, soft, organic odor, wet.				0.8		0.4				
7 SS	24 20	WOH WOH 1 1	13					5.2		0.6				
			14					7.8		0.5				
8 SS	24 20	WOH WOH 1 1	15		ML			1.1		0.5				
			16					2.6		1.1				
9 SS	24 18	1 2 1 4	17					1.9		0.4				
			18					1		0.8				
10 SS	9 11.5	26 50 for 3"	19	18.5 - 19.3' **LEAN CLAY:** CL, dark gray (10YR 4/1), few sand, trace subangular to subrounded gravel, heterogenous, no dilatency, medium toughness, low plasticity, very hard, dry [Till].	CL			0	4.5					no indication of 2" splitspoon provided, refusal on bedrock
				19.3' End of Boring.										

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-132

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/5/2015	10/5/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	572.74 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,882,865.66 N, 1,167,707.14 E E/W
1/4 of 1/4 of Section , T N, R
Lat ° ' "
Long ° ' "
Local Grid Location ☐N ☐S Feet ☐E ☐W Feet

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	115 112		0	0 - 3.35' **POORLY-GRADED SAND:** to **SILT:** SP, black (10YR 2/1), trace trash, heterogenous, organic odor, wet.				1.9		0.2				
			1					2.3		0.2				
			2		SP			2.8		0.3				
			3					4.8		0.4				
			4	3.35 - 9.3' **SILT:** ML, black (10YR 2/1), trace trash, bones, and wood chips, heterogenous, no dilatency, low to medium toughness, non-plastic, soft to very soft, organic and petroleum-like odor, wet.				6.3		0.5				
			5					7.4		0.2				
			6		ML			10.5		0.5				
			7					13.5		0.2				
			8					35.5		0.4				
			9					31		0.8				
				9.3' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Natural Resource Technology
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Fax: (414) 837-3608

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-1014

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/13/2015	10/13/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	570.09 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,886,218.69 N, 1,166,661.77 E E/W
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location ☐N ☐S Feet ☐E ☐W Feet

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	143 126		1	0 - 10.5' **SILT:** ML, black (10YR 2/1), few to trace sand, trace hair, foil, and debris, heterogenous, rapid to no dilatency, low toughness, non-plastic, very soft to soft, organic odor, saturated to wet.	ML			0		0				
			1					0		0.1				
			2					0		0.3				
			3					0		0.4				
			4					0		0.5				
			5					0		0.7				
			6					11.8		0.7				
			7					16.7		0.8				
			8					9.3		0.8				
			9					22.5		0.9				
			10					13.7		1				
			11	10.5' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Natural Resource Technology
234 W. Florida St., Fifth Floor, Milwaukee, WI 53204
Tel: (414) 837-3607
Fax: (414) 837-3608

NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-1015

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/13/2015	10/13/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	569.69 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,886,089.89 N, 1,166,626.55 E E/W
1/4 of 1/4 of Section , T N, R

Lat ° ' "
Long ° ' "

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	143 136		0	0 - 0.8' **SANDY SILT:** s(ML), black (10YR 2/1), trace angular gravel, heterogenous, slow dilatency, low toughness, non-plastic, soft, organic odor, satruated to wet.	s(ML)			0		0				
			1	0.8 - 11.3' **SILT:** ML, black (10YR 2/1), trace angular gravel, trash, and hair, heterogenous, slow dilatency, low toughness, non-plastic, soft, organic odor, wet.				6		0.2				
			2					0		0.2				
			3					2.5		0.3				
			4					9.5		0.3				
			5					20.7		0.5				
			6		ML			29.4		0.6				
			7					19.3		0.3				
			8	7.5' gravel and sand seam for 0.1'.				27.7		0.8				
			9					26.2		0.6				
			10					31.7		0.8				
			11					34.6		0.6				
				11.3' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

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SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-1016

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/8/2015	10/8/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	567.99 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,884,338.66 N, 1,166,787.33 E E/W
1/4 of 1/4 of Section , T N, R
Lat ° ' "
Long ° ' "
Local Grid Location ☐N ☐E Feet ☐S Feet ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	96 83		1	0 - 2.4' **SANDY SILT:** s(ML), black (10YR 2/1), trace angular gravel and sand, heterogenous, rapid dilatency, low toughness, non-plastic, very soft, organic odor, saturated.	s(ML)			27.3		0.1				
			2					28.1		0.2				
								29.2		0.3				
			3	2.4 - 3.3' **WELL-GRADED GRAVEL WITH SAND:** (GW)s, black (10YR 2/1), angular, few silt, heterogenous, petroleum-like odor, wet.	(GW)s			37.1		0.4				
			4	3.3 - 5.3' **SANDY SILT:** s(ML), black (10YR 2/1), trace gravel, sand, hair, and trash, heterogenous, slow dilatency, low toughness, non-plastic, soft, petroleum-like odor, wet.	s(ML)			55.6		0.5				
			5					49.3		0.5				
			6	5.3 - 5.8' **WELL-GRADED GRAVEL WITH SAND:** (GW)s, black (10YR 2/1), angular, some silt, heterogenous, petroleum-like odor, wet.	(GW)s									
				5.8 - 6.5' **SANDY SILT:** s(ML), black (10YR 2/1), trace gravel and sand, heterogenous, slow dilatency, low toughness, non-plastic, soft, petroleum-like odor, wet.	s(ML)			30.3		0.5				
			7	6.5 - 6.9' **WELL-GRADED GRAVEL:** GW, black (10YR 2/1), angular, little silt, trace coal, heterogenous, petroleum-like odor, wet.	GW									
			8	6.9' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

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NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-1017

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bill McCarthy Strata Earth	11/16/2015	11/16/2015	hollow stem auger

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	566.19 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane 1,884,442.77 N, 1,166,739.90 E E /W
1/4 of 1/4 of Section , T N, R
Lat ° ' "
Long ° ' "
Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 GS	6	WOH	0	0 - 3.5' **SILT:** ML, black (10YR 2/1), trace to little coal increasing with depth, trace hair, wood, and sand, heterogenous, rapid dilatency, low toughness, non-plastic, soft, slight petroleum-like odor, wet. 0.5' -3.5' sheen.	ML			12		0.2				
1 SS	24 / 11	WOH / 1 / 1	1					0.2						WOH=weigh of hammer
			2					0.3						
2 SS	24 / 14	1 / 1 / 2	3					0.1						
			4	3.5 - 5.5' **WELL-GRADED GRAVEL:** GW, black (10YR 2/1), angular to subangular, few sand, trace wood and hair, heterogenous, MGP-like odor, wet, sheen.	GW			0.1						
3 SS	24 / 14	1 / 2 / 5 / 9	5					13.6						
			6	5.5 - 10.5' **LEAN CLAY:** CL, dark gray (10YR 4/1), trace subangular gravel, blocky, slow to no dilatency, medium toughness, medium plasticity, hard, moist, [Till].	CL			2.6	4.5					
4 SS	24 / 24	3 / 5 / 13 / 23	7	7' black (10YR 2/1), silty clay seam, petroleum-like odor, staining to 10.5'.				19.6	2.5					
			8					0.2	4.5					
5 SS	24 / 17	11 / 16 / 21 / 26	9					0	4.5					no indication of 2" splitspoon provided
			10					0	4.5					
				10.5' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	Tel / Fax
Steve Wiskes	Natural Resource Technology 234 W. Florida St., Fifth Floor, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608

SOIL BORING LOG INFORMATION

NATURAL RESOURCE TECHNOLOGY

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-1018

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/8/2015	10/8/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	571.49 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,884,200.77 N, 1,166,875.28 E E/W
1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "

Local Grid Location
☐N ☐S Feet ☐E ☐W Feet

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	96 92		0	0 - 7.7' **SILT:** ML, black (10YR 2/1), trace to few gravel increasing with depth, few to trace coal, trace sand, wood, and hair, heterogenous, rapid to no dilatency, low toughness, non-plastic, very soft to soft, organic odor, saturated to wet.	ML			1.2		0				
			1					1.1		0.1				
			2					9.1		0.2				
			3					13.1		0.4				
			4					14.2		0.4				
			5	4.7' gray mottling (10YR 5/1).				14.2		0.4				
			6					28.1		0.4				
			7					20.7		0.6				
				7.5' slight petroleum-like odor.										
			8	7.7' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

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NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
South Branch Site River OU		SBR-SD-1019

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jeff Kampman Natural Resource Technology	10/7/2015	10/7/2015	Vibracore

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet (NAVD88)	569.92 Feet (NAVD88)	4.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Planel ,884,023.10 N, 1,166,874.93 E E/W
1/4 of 1/4 of Section , T N, R

Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "

Local Grid Location
Feet ☐N ☐S Feet ☐E ☐W

Facility ID	County	State	Civil Town/City/ or Village
2238	Cook	Illinois	Chicago

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Shear Strength (tsf)	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
1 CS	144 138		1	0 - 11.5' **SILT:** ML, black (10YR 2/1), few angular coal, trace hair, metal, and trash, heterogenous, rapid to no dilatency decreasing with depth, low toughness, non-plastic, very soft to soft, petroleum-like odor increasing with depth, saturated to wet.	ML			3.4		0				
			1					4.6		0				
			2					5.6		0.1				
			3					4.1		0.1				
			4					8.8		0.2				
			5					34.8		0.2				
			6					63.2		0.3				
			7					78.6		0.4				
			8					90		0.6				
			9					77		0.4				
			10					48.1		0.5				
			11					64		0.6				
			12	11.5' End of Boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

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Template: ILLINOIS SEDIMENT LOG PP AND TORVANE - Project: 2238 SOUTH BRANCH GINT.GPJ