Pilot Plan: Off-Property Soil Replacement

Cabot/Koppers Superfund Site
Operable Unit Five (Koppers)
Gainesville, Florida
EPA ID: FLD980709356

Version 1
November 6, 2013

Prepared on behalf of Beazer East, Inc.

TETRA TECH

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APPROVAL

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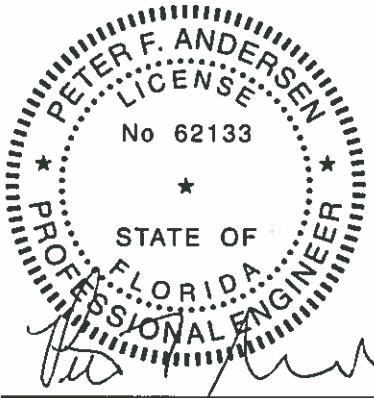
Date: 11/6/2013

CERTIFICATION

This report has been reviewed and approved by the undersigned Florida Registered Professional Engineer. Tetra Tech prepared this report in a manner consistent with sound engineering practices. Furthermore, either I or engineering staff working under my supervision completed all work described herein (except as otherwise noted) and I have expertise in the discipline used in the production of this document.



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Date: 11/6/2013

REVISION HISTORY

Version	Date	Description
1	November 6, 2013	Initial Release

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ACRONYMS

CCA	chromated copper arsenate
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DNAPL	dense non-aqueous phase liquid
EPA	(US) Environmental Protection Agency
HG	Hawthorn Group
OU	operable unit
PAH	polycyclic aromatic hydrocarbon
PM_{10}	particulate matter less than 10 microns in aerodynamic diameter (i.e. respirable dust)
RA	remedial action
RD	remedial design
ROD	record of decision
SCR	Seaboard Coast Line Railroad
SCTL	soil cleanup target level
SVOC	semivolatile organic compound
UFA	Upper Floridan Aquifer
US	United States
VOC	volatile organic compound

1 INTRODUCTION

On behalf of Beazer East, Inc. (Beazer), Tetra Tech has prepared this Pilot Plan for Off-Property Soil Replacement for the Cabot/Koppers Superfund Site (Site) in Gainesville, Alachua County, Florida. The Site includes areas that have been environmentally impacted by activities at the former Koppers wood-treatment facility and at the former Cabot Carbon pine-tar products facility (**Figure 1**).

The pilot project described in this plan will involve removal of existing soil from one residential property immediately west of the former Koppers facility (**Figure 1**), replacement with clean soil, and installation of new landscaping materials to complete restoration. The residential property is one of many properties where soil replacement is planned. The pilot project will allow Beazer to improve design and planning for the remaining properties.

The Site consists of five Operable Units (OUs):

OU1: The former Cabot Carbon facility and sediment impacts in Hogtown and Springstead Creeks attributable to the Cabot Carbon facility (Beazer has no responsibilities for OU1)

OU2: Soil and the surficial (shallow) aquifer at the former Koppers facility

OU3: The Hawthorn Group (HG) geologic sequence which lies below the surficial aquifer

OU4: The Upper Floridan Aquifer (UFA) which is below the HG

OU5: Soils and sediments outside of the former Koppers facility property

The pilot project pertains to OU5.

A Consent Decree between Beazer and the United States (US) government was entered final in the United States District Court for the Northern District of Florida on July 9, 2013. The Consent Decree requires Beazer to conduct Remedial Design (RD) and Remedial Action (RA) activities for OU2, OU3, OU4, and OU5. Beazer's responsibilities are limited to impacts attributable to the operations at the former Koppers facility. Another party, Cabot Corporation, is responsible for activities related to OU1 and impacts attributable to the former Cabot Carbon facility.

This Pilot Plan is a submittal to the US Environmental Protection Agency (EPA) per the requirements of the Consent Decree. This document is specific to the Beazer RD/RA Program for the Site.

1.1 Site and Property Description

This section defines and describes the Superfund "Site" as well as the Beazer "Property" that is the part of the Site that formerly contained the Koppers wood-treatment facility.

The Site means the Cabot/Koppers Superfund Site and includes the area where environmental impacts attributed to these former operations has come to be found, with the exception of the Northeast Lagoon generally located at the intersection of N. Main Street and NE 28th Place. The Site includes the former Koppers wood-treatment facility and the former

Cabot Carbon pine-tar products facility in Gainesville, Florida. These two facilities were located on the north side of Florida Route 120, also known as NW 23rd Avenue, in Gainesville, Florida (**Figure 1**). A Seaboard Coast Line Railroad (SCR) line ran in a corridor located between the two facilities, with the Koppers facility on the west side of the rail line and the Cabot Carbon facility on the east side. SCR became part of what is now CSX Transportation.

Under the Consent Decree, Beazer has RD and RA responsibilities for the former Koppers facility and impacts related to the Koppers facility. The Koppers facility was operated on an 86-acre parcel (Property) located at 200 NW 23rd Avenue and bearing Alachua County parcel tax identifier 08250-000-000. The Property is zoned for general industrial use. Beazer currently owns the Property. The Property is approximately rectangular, covering a north-south distance of 3100 feet and an average east-west distance of 1200 feet. The Property is no longer used for industrial activity.

A paved main driveway runs from the Property entrance at NW 23rd Avenue north to approximately the center of the Property. There are other unpaved mulch-covered roadways used to access different parts of the Property. Much of the Property is nearly flat and covered with grass.

Residential parcels of the Stephen Foster neighborhood are located west of the Property. Several residential parcels (including the pilot-project parcel) are located immediately adjacent to the Property at the western Property boundary. In some areas, a 20-foot wide City right of way containing stormwater swales separates the Property from the residential parcels.

1.2 Site History

The wood-treating facility that formerly existed on the Property (the Koppers facility) began operations in 1916 and ceased wood treating operations in 2009. Beazer is the current owner of the Property.

Over the years, wood-treatment preservatives used at the Koppers facility included creosote, pentachlorophenol, and chromated copper arsenate (CCA). Creosote is a dense (heavier than water) non-aqueous liquid (DNAPL) derived from coal tar that is comprised mainly of polycyclic aromatic hydrocarbons (PAHs) with other semivolatile organic compounds (SVOCs) and volatile organic compounds (VOCs). Pentachlorophenol is an anthropogenic organic pesticide which, in commercial form, often contained impurities including polychlorinated dibenzo-*p*-dioxins and polychlorinated dibenzofurans (collectively referred to as “dioxin”). As its name implies, CCA contains chromium, copper, and arsenic compounds. Historical wood-treatment practices led to releases of wood preservatives at the Property. Primary release areas included the former Process (pressure-treatment) Area, the former Drip Track area where wood was allowed to dry immediately after treatment, and two former process-water lagoons called the South Lagoon and North Lagoon. The lagoons have been closed and filled.

The initial Record of Decision (ROD) was issued by EPA on September 27, 1990. At the Koppers portion of the Site, data from studies conducted after issuance of the 1990 ROD revealed Site conditions that were not contemplated by the 1990 ROD. Various environmental investigation and interim measures were completed through 2011. EPA issued a final Feasibility Study report in May 2010 and in 2011 an Amended ROD was issued.

1.3 Soil Concentrations

Surface and subsurface soil has been sampled in several phases at both on-Property and off-Property locations. Dioxin is the constituent that most often exceeds the residential cleanup goal in off-Site samples and is the constituent that is used to define areas of remediation. **Figure 2** summarizes the results, showing where applicable cleanup goals are met and where they are not. In many of the locations depicted on this figure, samples were taken at multiple depths. In on-Property areas, most locations have at least one sample that does not meet all cleanup goals.

All off-Property samples taken at depths greater than 6 inches met the residential cleanup goal for dioxin (locations identified in **Figure 2**), even though the co-located shallow surface samples did not meet the residential cleanup goal. This reflects the understood migration pathway via dust which resulted in impacts that are limited to the upper few inches of soil.

1.4 Pilot Property

The pilot property is located at 436 NW 30th Avenue. It is immediately west of the Beazer Property. Based on results of soil sampling conducted between 2006 and 2013 (**Figure 2**), it has been determined that soil concentrations in the upper six inches at the pilot property do not meet residential cleanup goals set forth in the 2011 Amended ROD.

The property is owned by Cindy and Terroll Anderson. Beazer has an agreement with the Andersons permitting access for the remediation. The Andersons have approved the soil restoration plan presented in Section 2 of this report.

The home will be unoccupied during the soil replacement work.

1.5 Pilot Project Objectives

The objectives of this pilot remedial action are to:

- Provide information that can be used to complete the remedial design for the remainder of OU5.
- Assist in implementation planning for the remainder of OU5.
- Provide the community with an example of the results of soil replacement implementation.
- Eliminate potential risks to receptors exposed to Site-related constituents in soil at the pilot property by replacing surface soil available for human contact with clean soil that meets all cleanup goals and other applicable criteria.

The remedial action objective (RAO) applicable for this component of the remedy is to eliminate potential risks to receptors exposed to Site-related contaminants in surface soil (from Section 8.0 of the 2011 Amended ROD).

The ROD further states that specific cleanup goals for off-Site soil are based on stringent state standards of increased cancer risk less than 1 x 10^{-6} and hazard index less than 1. The ROD (at Table 8) identifies residential default direct-contact soil cleanup target levels (SCTLs) as the cleanup goals for off-Site residential properties (**Table 1**). Based on the data collected to date, dioxin is the critical constituent for defining the off-Site area with concentrations exceeding one or more cleanup goals.

Table 1. ROD Cleanup Goals for Residential-Property Surface Soil

Constituent	Cleanup Goal
Arsenic	2.1 mg/kg
PAHs (total benzo-a-pyrene toxic equivalents)	0.1 mg/kg
Dioxin (TCDD-TEQ)	7 ng/kg
Pentachlorophenol	7.2 mg/kg

Note that the above cleanup goals are average concentrations over an appropriate "exposure unit" such as a residential lot. Also, the concentrations are based on conservative, default assumptions for residential exposure.

1.6 Remedy Overview for Off-Property Soil (OU5)

In accordance with the Consent Decree and ROD, soil removal and replacement is to be conducted in off-Property residential areas where cleanup goals are not currently met (OU5), subject to property owner agreement. Soil removal and replacement includes the following (further described in Section 2 as pertinent to the pilot property):

- Excavation of surface soil in areas that are not paved or under permanent structures.
  - A target excavation depth of 1 foot is conservatively selected based on the fact that off-Property samples deeper than 6 inches meet cleanup goals.
  - Fences and other non-vegetative landscaping are to be removed and either reused after soil replacement or replaced with materials of like kind or like value.
  - Existing landscaping vegetation such as turf, mulch, shrubs, and small trees are to be removed and replaced after soil replacement with new landscaping vegetation of like kind or like value.
  - Large or valuable trees may be left in place and protected by carefully digging near the tree trunk down to the root mat.
  - The property owner may designate trees to remain and may designate landscaping that should not be disturbed.
- Placement of the excavated soil in an on-Property soil management area, which will eventually become part of the Site soil consolidation area that will be under a low-permeability cover and within the footprint of a subsurface cutoff wall.
- Backfill of the excavation with clean soil from an off-Site borrow source.
- Replacement of landscaping with materials of like kind or like value.
  - An owner may elect to use the same species of plants and same types of non-vegetative materials as currently present in his or her landscape.
  - Optionally, an owner may elect to have a new "Florida-Friendly" landscape of equivalent value installed that uses native, drought-resistant plants and that do not require excessive maintenance once established.
  - Large, healthy, trees that are removed to facilitate soil removal will be replaced on a two-for-one basis with nursery trees that will grow to similar sizes, unless the property owner does not desire such replacement. (However, in most cases, large trees will be protected rather than removed, thereby preserving the canopy of the neighborhood.) A local arborist will assist in development of plans for tree removal and replacement.

- A local landscape architect will provide the landscape design. The property owner must approve the landscape design prior to commencement of restoration on his or her property.

2 PILOT PARCEL REMEDIATION PLAN

This pilot parcel remediation plan includes descriptions of the activities that will be completed for the pilot parcel in order to achieve cleanup goals. These activities are divided into: pre-removal activities, surface soil removal (upper 1 foot), management of removed soil, replacement with clean soil, landscaping, and close-out.

A conservative target soil removal depth of 1 foot is chosen for this plan based on the off-Site data collected to date which indicates that concentrations exceeding remediation goals are within the upper six inches of soil (see Section 1.3).

2.1 Parcel Design Drawing

A soil restoration plan design drawing for the pilot parcel is provided as **Figure 3**.

The left side of this drawing shows existing conditions determined by a physical feature and topography survey (conducted by Nobles Consulting Group) and a landscaping assessment (conducted by a local professional landscape architect firm, Zamia Design, and a local arborist from Kestrel Ecological Services). The left side of the figure shows:

- Property boundary locations including the location of the right-of-way for NW 30th Avenue.
- Locations, sizes, and types of trees and vegetation to be removed at the pilot property and along the edge of the Beazer property adjacent to the pilot property.
- Locations of two existing trees near the northwestern corner of the pilot property that will be kept in place.
- Tree protection zones for the two trees to remain; careful excavation procedures will be used within the protection zones as described below.
- Protection zones a tree on an adjacent property that has a protection zone extending onto the pilot property.
- Existing topographic elevations at specific measuring points in the front and back yards of the pilot property; topographic contours are also shown.
- Temporary benchmark elevations for use in verifying removal depths and replacement elevations.
- Locations of overhead and underground utilities; the exact location of underground utilities will be determined in the field and careful digging procedures will be implemented in the vicinity of underground utilities.
- Locations of permanent structures (house and garage/shed) and paving (roadway, sidewalk, patios); no soil removal will be conducted beneath these features.
- Location of an existing boulder-ringed fire pit; the boulders will be removed and reused in the restored landscape.
- Location of a gravel driveway; the gravel will be removed and managed with removed soil.

- Location of fences to be removed and discarded.
- Areas of 1-ft soil removal at the pilot property (areas outside structures, pavement, and protection zones).
- Area of (up to) 2-ft soil removal on the Beazer property to facilitate placement of a 2-ft clean soil cover.
- Alignment of temporary erosion-control barriers (silt fence or wattles) along the edge of the work zone and alignment of temporary high-visibility construction fencing along the edge of the work zone.

The right side of the figure shows the restoration plan to be implemented after replacement of clean soil to existing grade. This plan has been approved by the property owners. This depiction includes:

- Areas and details of ground cover including turf, mulch, and ground-cover plantings.
- Locations and species of new trees (nursery stock, 15-gallon size and smaller, see **Appendix A**) to be planted on the pilot property; tree locations will be adjusted as needed to be at least 10 feet from underground utilities.
- Locations and species of new trees on the Beazer property that will provide a visual screen when mature.
- Locations and species of other new vegetation such as shrubs and vines to be planted.
- Alignment of new replacement fences to be installed including a 6-ft privacy fence along the Beazer property line;
- Location of a Property access gate in line with the street to facilitate future work at other parcels along NW 30th Ave.
- New gravel driveway with a border of landscaping timbers.
- New fire ring that incorporates boulders from the existing fire ring.

2.2 Pre-Removal Activities

A number of actions will be taken prior to pilot implementation. The actions are described in this subsection.

2.2.1 Utilities Location

Overhead and underground utilities on and adjacent to the pilot parcel have been identified using a combination of sources, including:

- Visible presence of utilities and utility appurtenances;
- Field markings completed by telephone and cable service providers; and
- Approximate utility locations provided by Gainesville Regional Utilities.

The underground utilities will be field located prior to commencing with excavation. The Sunshine One Call service will be used to facilitate field marking by all utility providers and a utility locating contractor will use methods such as ground-penetrating radar (GPR) systems,

electromagnetic tracing equipment, and shallow excavation to identify the locations and depths of underground utilities that may be encountered during excavation.

Identified underground utilities will be marked in the field.

2.2.2 Documentation of Pre-Remediation Conditions

Conditions of property features prior to remediation will be carefully noted in order to compare with post-remediation conditions and determine if any unintended property or infrastructure damage was caused during remediation.

A set of digital photographs will be taken to document property features and conditions prior to soil removal. The number of photographs will be sufficient to show vegetation, structures, debris, landscaping conditions, and driveway/walkway conditions. The location and orientation of each photo will also be recorded.

2.2.3 Design Approval and Permitting

The property owners, Mr. and Mrs. Anderson, have had input on the restoration landscaping design and have approved of this project. Beazer representatives have met with Ms. Anderson to discuss the project in detail.

EPA has primary regulatory authority and must approve of the pilot parcel design before remediation can proceed.

Beazer will coordinate with the City to meet all substantive requirements of relevant local permits. In particular, the City arborist will approve of the tree replanting plan or adjustments will be made.

2.2.4 Dust Monitoring Equipment Setup

Four real-time dust monitors will be installed at the property several days prior to beginning the soil removal work. The monitors will measure respirable dust concentrations: particulate matter less than 10 microns in aerodynamic diameter (PM_{10}). Two monitors will be placed in the home, one will be placed outdoors on the patio, and one will be placed along the work-zone perimeter (**Figure 3**).

Appendix B provides specifications of the dust monitors and outdoor enclosures that will be used. The dust monitors will be mounted atop tripods. The monitors will be connected wirelessly to relay measured dust concentrations to an on-Property Site computer system for continuous monitoring and data recording. A weather monitoring station will also be connected to this system. Additionally, the dust monitors will be set to alarm if an action level is reached.

The oversight personnel will be responsible for ensuring that manufacturer operation recommendations are followed to ensure instrument calibration and data validity.

Dust monitoring will occur beginning several days before soil-removal operations (for background levels), will continue through soil replacement and sod placement, and will be discontinued several days after completion of the work. Monitoring will be conducted each working day from the beginning of work to the end of work.

Dust concentration data will be recorded for reporting along with pilot property remediation results.

The Occupational Safety and Health Administration (OSHA) eight-hour, time-weighted-average Permissible Exposure Limit (PEL) for PM_{10} dust concentration is 5 mg/m^3 in a work zone. Dust becomes a potential nuisance issue at approximately 2 mg/m^3. EPA has established a national ambient air quality standard (NAAQS) for dust (PM_{10}) of 0.150 mg/m^3 averaged over a 24-hour period.

During work, the monitors will be set to alarm whenever the instantaneous PM_{10} concentration exceeds 1.5 mg/m^3 or whenever the 15-minute average concentration exceeds 0.150 mg/m^3. This will let the field team know that dust control measures should be considered in to keep average daily dust levels below the NAAQS.

2.2.5 On-Property Access Roads and Stockpiles

Figure 4 shows the locations of the planned removed soil management area (inside the eventual soil consolidation area), a clean soil stockpile for backfill, and the green waste staging area. Access roads to these areas and to the pilot property are also shown.

The removed soil management area will be able to hold at least 750 cubic yards of removed soil, and will be surrounded by rubber-filled erosion-control wattles.

A clean-soil stockpile area will be constructed adjacent to the property driveway. This area will be capable of holding at least 1400 cubic yards of material and will be paved with 2 inches of asphalt over 8 inches of compacted lime-rock road base atop a 10 oz. woven geotextile fabric.

Access road improvements will be made from the main Property driveway to: (a) the soil management area and (b) the property fence at NW 30th Avenue near the pilot property. The roads will be at least 15-ft wide and constructed of an 8-inch (minimum) compacted lime-rock road base over a 10 oz. woven geotextile fabric.

2.2.6 Tree and Vegetation Removal

A local licensed contractor will remove all trees to ground level and move the trees to a green-waste staging area on the Beazer Property (**Figure 4**). The trees will later be ground and shipped off-Site for disposal or use as a fuel source.

As needed to facilitate excavation, stumps may be ground in place to a depth of at least one foot with dust control measures such as water spray in use. Stump grindings will be left at the stump location for management with removed soil.

2.2.7 Pilot Property Site Preparation

Immediately prior to commencing excavation activities at a parcel, several initial activities will be conducted, as indicated below:

- All excavation areas will be marked in the field per the final design using stakes, flags, field paint, etc.
- Placement of silt fence or straw wattles at the outer edges of the excavation area to control erosion and protect against sediment migration (see **Figure 3**).
- Fences will be removed per the design drawing (**Figure 3**). Removed fence materials will be discarded.
- Tree-protection zones will be field marked.
- The boulders for the fire pit will be removed and stored on the house patio. Soil on the boulders will be brushed off as they are being removed.

2.3 Soil Excavation

Based on the design drawing, approximately 700 cubic yards of soil will be removed from the pilot property and the adjacent strip of the Beazer Property. The following subsections describe the processes to be conducted during excavation.

2.3.1 Excavation Procedures and Equipment

In accessible areas not within special protection zones, soil on the pilot property will be removed using an excavator or mini-excavator with appropriate size and maneuverability. Soil removal will generally proceed from the northwest to southeast. The target excavation depth will be 1.0 foot, which will be verified by the oversight engineer/technician as described in the next subsection. This target depth is appropriate and conservative based on off-Site data, which indicate that concentrations exceeding cleanup goals are only in the upper 6-inch sample collection interval. By removing a conservative thickness (more than the 6-inch impacted zone), confirmation sampling will not be needed.

In order to protect existing paved features and foundations, small buffer areas will be established adjacent to pavement and structures where limited excavation will occur. Within approximately 1 foot of pavement and within approximately 2 feet of permanent buildings, only ground cover and a thin layer of soil will be removed using careful digging procedures (e.g. with hand tools).

In tree-root-protection areas and other special areas designated on the design drawing (**Figure 3**), special tools and procedures will be used to ensure optimum protection of trees and property. For instance, special soft-tooth buckets may be used on excavation equipment to prevent or limit root damage. Alternatively, manual digging or raking of soil from the protection zone into the adjacent excavation area may be employed, if appropriate. The area within the tree protection zone would then be covered with mulch immediately. No storage of any construction or landscape materials will take place within the tree protection zone. Excavation depths less than 1.0 ft are acceptable in these areas to prevent damage to tree roots or underground structures/utilities.

At the outer edges of tree protection zones, the 1.0-ft cuts will be made in a manner that cuts roots cleanly rather than pulling roots.

On the Beazer property in the 15-ft wide work area, soil will be removed up to a depth of 2 feet to facilitate placement of a 2-ft soil cover that matches existing grade along the western property boundary adjacent to the pilot property. That is, the minimum excavation depth will be 2 feet at the property boundary and will grade to zero at the eastern end of the 15-ft wide soil-cover area.

Excavated soil will be placed either into a roll-off bin or into a dump truck at the property. Transport and management of this removed soil are discussed in below.

2.3.2 Field Verification Measurement and Acceptance

Beazer oversight personnel will spot-check excavation depth using a laser level referenced to a pre-determined elevation at a temporary bench mark to each verification check point identified in the design figure (all pre-construction survey data points in excavation areas shown in **Figure 3**). The target removal depth will be 1.0 ft at the pilot property and 2.0 ft on the Beazer side of the property boundary.

At each measurement point, the post-excavation elevation will be determined and compared to the pre-excavation (survey) elevation. If the difference (depth of excavation) rounded to the nearest 0.1 ft, is less than the target depth, then additional excavation will be conducted to reach the target depth throughout the excavation. A field form will be used to document elevation checks during excavation.

Photographs will be taken during excavation to show the excavation areas and to document progress. Detailed records will be kept in a field book by the oversight personnel.

2.3.3 Dust Control

Non-contaminated water will be spread on soil before and during excavation, if necessary, to suppress/control generation of dust. The water spread will be controlled to keep the soil moist but not cause water runoff. Excavation will not be performed during inclement weather to prevent transport of soil via erosion/stormwater runoff or dust.

Dust monitoring will be conducted throughout the excavation work to ensure that dust generation remains low and to trigger control measures if needed. Whenever an instantaneous or time-averaged dust concentration alarm is triggered, dust control measures will be considered and reasons for implementing or not implementing control measures will be documented. Action levels for PM_{10} dust are 1.5 mg/m^3 instantaneous and 0.15 mg/m^3 averaged over any 15-minute interval. These levels are based on both nuisance levels for respirable dust and NAAQS.

Also, soil backfilling (as described in a subsequent subsection) and landscaping will occur as soon as practicable after soil removal which will limit the potential for dust generation.

2.3.4 Erosion and Stormwater Control

Due to the shallow (1.0 ft) excavation depth, and the short expected duration of work (less than 1 week), erosion and stormwater control should not be major issues. Nonetheless, intense storms during the work could cause erosion. As previously indicated, erosion control devices will be installed around the perimeter of the excavation area to limit runoff and prevent sediment migration (**Figure 3**). If other control measures such as hay bales or temporary stormwater diversions are warranted due to occurring or expected intense storms during remediation, these measures will be taken.

2.3.5 Equipment Contamination Mitigation

In order to limit the potential for transport of impacted soil via remediation equipment, several precautions will be taken:

- When possible, soil-transport trucks and roll-offs will be placed on hard surfaces, mats, or in areas that have already been excavated in order to eliminate or limit contact of transport-truck wheels with impacted soil.
- Soil adhering to the wheels or buckets of excavation equipment, or to other equipment coming in contact with impacted soil, will be brushed or washed away and collected with the excavation spoils for removal.
- Work may be delayed during wet conditions to avoid tracking mud.
- A water truck and/or street sweeper will be used as needed to collect soil from street surfaces. The material will be collected with excavation soils for removal.

2.4 Management of Removed Soil

Excavated soil will be placed into a roll-off bin or a truck at the excavation area. The material will be transported to a designated removed soil management area on the Beazer Property via an improved access road (**Figure 4**). The management area will be surrounded by rubber-filled erosion-control wattles to prevent soil from washing off of the pile to other areas of the Property.

On a daily basis, the bare soil in the management area will be covered with a polyethylene (or similar) cover. The soil mound may be stabilized with grass after the pilot project.

2.5 Backfill

2.5.1 Backfill Materials, Equipment and Procedures

Clean off-Site soil will be brought to the remediation parcel for placement in the excavation. Two local soil sources have been identified for potential use. A sample from each source was tested to ensure that (a) the soil does not exhibit hazardous characteristics and (b) the soil does not contain levels of Site constituents or other common contaminants above Florida default residential SCTLs. The laboratory results are provided in **Appendix C**.

Clean soil will be delivered to a clean-soil stockpile area on the Beazer Property (**Figure 4**). Equipment to be used to transport clean soil to the excavation and used for backfilling will be decontaminated prior to use.

Backfill soil will be placed into excavations using equipment similar to that used for the soil removal (i.e. small excavators). Soil will be shaped and lightly compacted using grading equipment until reasonable consolidation is achieved. Dense compaction is not desired in landscaped areas because it would limit drainage and root growth.

Backfill will continue until the pre-restoration grade is achieved.

2.5.2 Field Check and Criteria for Acceptance

Beazer oversight personnel will spot-check restoration elevations using a laser level from a pre-determined elevation at a temporary bench mark to each verification check point identified on the pilot-property survey. Generally, restoration will be to within 0.2 ft of the design elevation at pilot-property check points.

On the Beazer Property, the design backfill thickness is at least 2.0 ft.

A field form will be used for documenting elevation checks.

2.5.3 Dust Control

Dust control and dust monitoring procedures will continue during backfilling as described in Section 2.3.3. Also, landscaping will occur as soon as practicable after backfilling to limit the potential for dust generation.

2.5.4 Erosion and Stormwater Control

The erosion-control devices installed around the perimeter of the excavation area will remain in place until landscaping has been conducted to establish ground cover. If other control measures such as hay bales or temporary stormwater diversions are warranted due to occurring or expected intense storms during remediation, these measures will be taken.

2.6 Landscaping

Landscaping features will be installed as soon as practicable after completion of backfilling. Landscaping will follow the owner-accepted landscaping plan (**Figure 3**). Beazer will conduct any necessary lawn watering for up to 30 days and will water new trees as needed for up to six months after landscape installation. The property owners will be responsible for the maintenance thereafter. Beazer will provide a written information sheet to define best practices for long-term landscaping maintenance.

2.7 Close-out

Close-out actions listed below will be taken in order to complete the off-Site soil remediation.

2.7.1 Elevation Data

Elevations at verification points will be compiled after the construction is completed to ensure post-construction site grade is similar to pre-construction condition. These elevations will be included on the as-built drawing.

2.7.2 Photo Documentation

Final finish with site features and vegetation will be photographed for documentation.

2.7.3 Owner/Resident Interview

The property owner will be interviewed soon after the project is completed. Maintenance instructions for ground cover, shrubs, and trees (if applicable) will be provided to the owner. A project completion sheet will be signed by the owner and the project engineer to indicate the completion and satisfaction of the soil remediation project.

2.7.4 Stormwater Observation

A field engineer will inspect the site grade, after vegetation is established, during and after the first few storm events to evaluate stormwater runoff conditions. The stormwater observation will be included in the final soil remediation construction report.

2.7.5 Courtesy Home Cleaning

Beazer will provide a cleaning service for a one-time reasonable house cleaning as a courtesy after the completion of the soil removal and landscaping. The house cleaning will include vacuuming of floors/rugs; dust removal from furniture, shelves, light fixtures, and baseboards; bathroom cleaning; and kitchen cleaning.

2.7.6 Corrective Actions

If the remediation activities directly cause damage to property, Beazer will make appropriate repairs or replacements in order to leave overall conditions of the property similar to, or better than, they were prior to remediation.

Likewise, if Beazer-installed landscape vegetation fails to become viable within one year due to installation or other material defects, Beazer will replant vegetation in order to implement the original intended landscaping plan or an alternative agreeable to the property owner and Beazer. However, Beazer will not be responsible for landscape failure due to lack of irrigation by the owner or for long-term maintenance of off-Site landscapes.

If protected trees die or become severely and chronically unhealthy within one year as a direct result of remediation, Beazer will have the trees removed and replaced on a two-for-one basis.

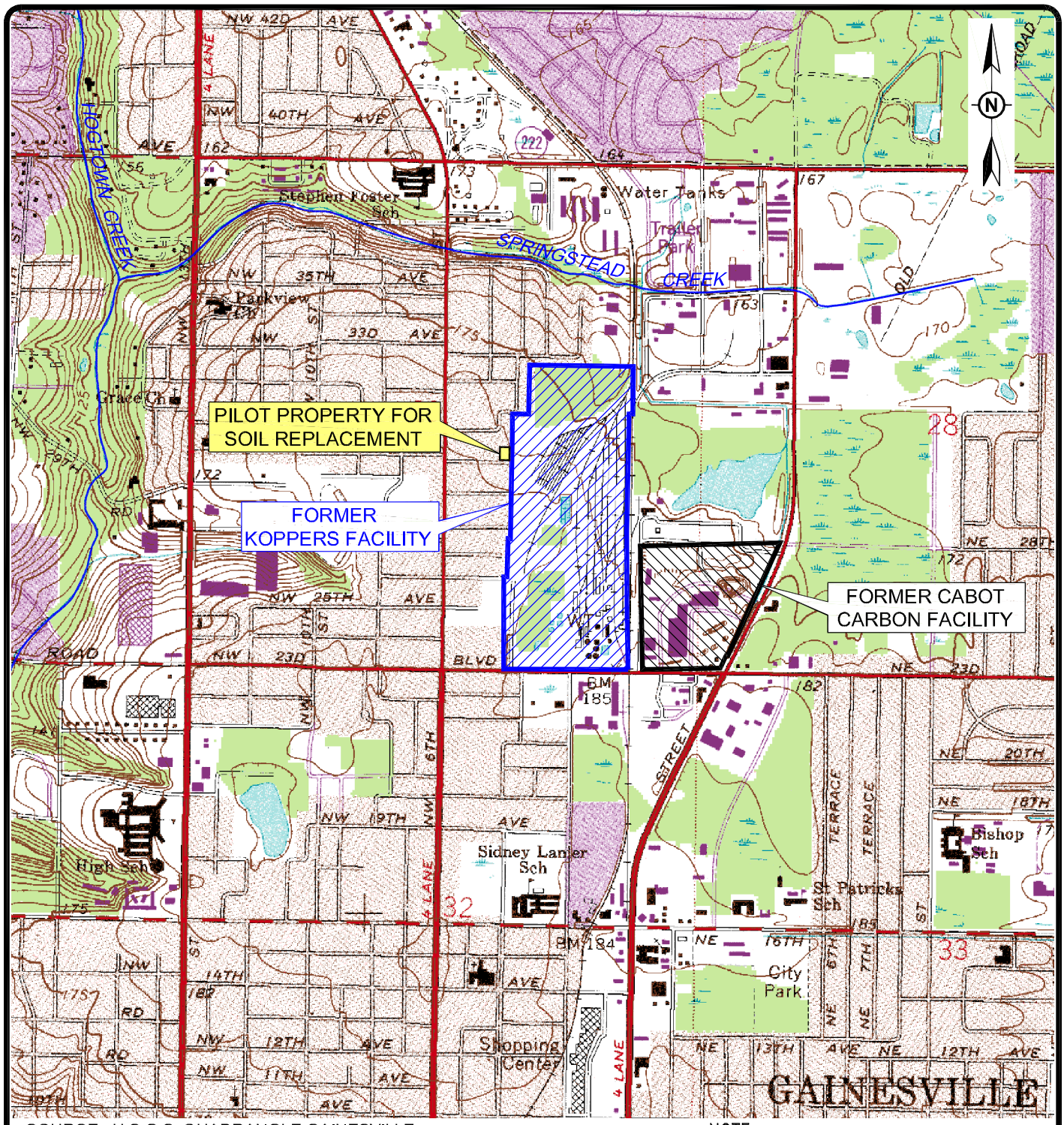
2.7.7 Completion Drawing and Documentation

A completion drawing with updated site features and final grades will be prepared. The drawing will be similar to the post-remediation design drawing (see right side of **Figure 3**) but with as-built information included.

The pilot implementation will be documented in the Preliminary Design document for the off-Property soil replacement (OU5) action.

3 SCHEDULE

The pilot property pilot project is scheduled to begin the week of November 11, 2013, and will be completed within three weeks thereafter.



SOURCE: U.S.G.S. QUADRANGLE GAINESVILLE EAST, FLA 1966 (PHOTOREVISED 1988)

LEGEND

- FORMER KOPPERS FACILITY
- FORMER CABOT CARBON FACILITY

NOTE:
FEATURES SHOWN AT FORMER KOPPERS FACILITY DO NOT REFLECT CURRENT CONDITIONS.

0 1500 3000
SCALE IN FEET

TITLE: **SITE LOCATION**

LOCATION: **Cabot Carbon/Koppers Superfund Site Gainesville, Florida**

TETRA TECH

APPROVED	GC
DRAFTED	CP
PROJECT#	117-2201283
DATE	11-5-13

FIGURE 1

P:\ACAD\2201-319-BEAZ\2201319007A.DWG

P:\ACAD\2201-319-BEAZ\2201319008A.DWG

SPRINGSTEAD CREEK

NW 36TH AVE

NW 5TH ST

NW 4TH ST

NW 3RD ST

NW 2ND ST

NE 2ND ST

NE 4TH ST

N MAIN TERR

NW 33RD AVE

NE 33RD AVE

NW 31ST LN

NW 31ST AVE

PILOT PROPERTY

BEAZER PROPERTY

RAILROAD CORRIDOR

NW 6TH ST

NE 28TH PL

FORMER CABOT CARBON FACILITY

NE 1ST BLVD

NW 23RD AVE

NW 22ND AVE

NW 21ST LANE

NW 21ST AVE

NW 20TH AVE

NE 2ND ST

N

LEGEND

- DIOXIN CONCENTRATION MEETS ROD RESIDENTIAL CLEANUP GOAL
- DIOXIN CONCENTRATION MEETS ROD COMMERCIAL/INDUSTRIAL CLEANUP GOAL
- DIOXIN CONCENTRATION DOES NOT MEET ROD CLEANUP GOALS
- SAMPLE COLLECTED 6-24" MEETS ROD CLEANUP GOAL

0 400 800

SCALE IN FEET

TITLE: **SURFACE SOIL CONCENTRATIONS RELATIVE TO OFF-PROPERTY SOIL CLEANUP GOALS**

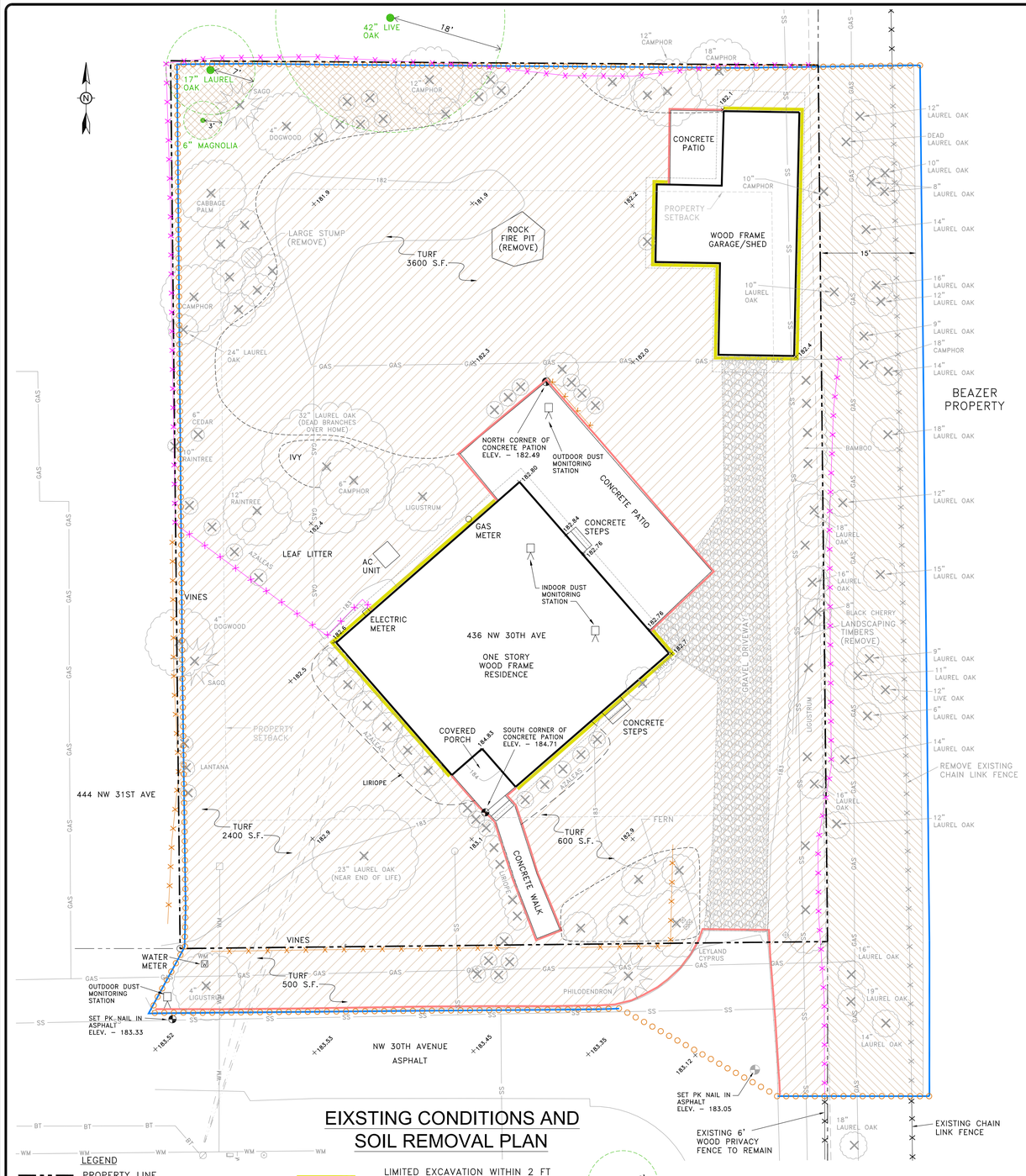
LOCATION: **Cabot Carbon/Koppers Superfund Site Gainesville, Florida**

TETRA TECH

APPROVED	GC
DRAFTED	CP
PROJECT#	117-2201315
DATE	10-29-13

FIGURE 2

EIXSTING CONDITIONS AND SOIL REMOVAL PLAN



LEGEND

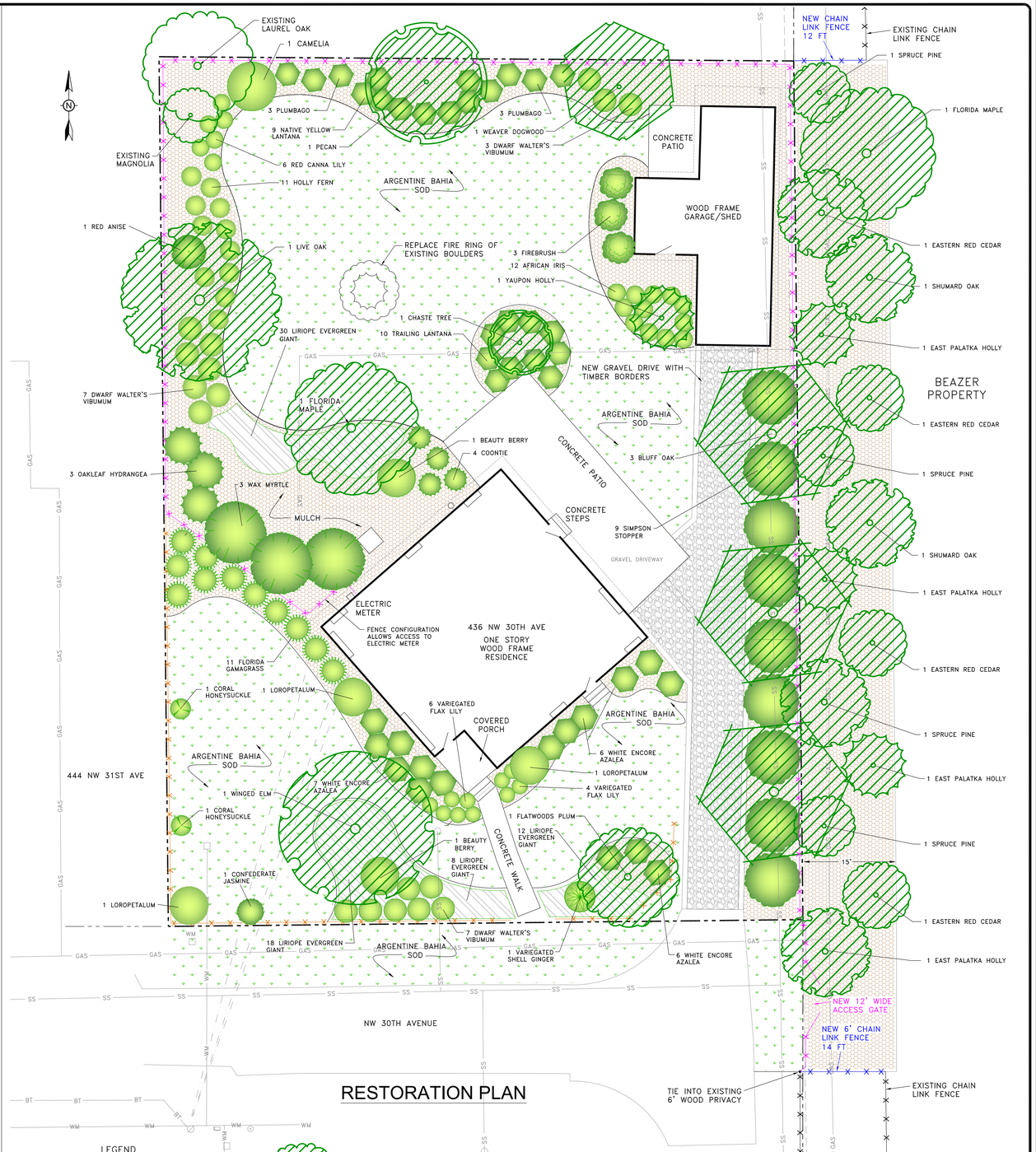
- PROPERTY LINE
- BRUSH OR RAKE TOPSOIL TO ROOT MAT. REPLACE IMMEDIATELY. AREA = 379 S.F.
- 1–FT SOIL REMOVAL AREA AREA = 11,938 S.F.
- 2–FT SOIL REMOVAL AREA AREA = 2,432 S.F.
- EXISTING 3' SPLIT RAIL FENCE (TO BE REMOVED)
- EXISTING 6' WOOD PRIVACY FENCE (TO BE REMOVED)
- LIMITED EXCAVATION WITHIN 2 FT OF PERMANENT BUILDINGS
- LIMITED EXCAVATION WITHIN 1 FT OF PAVEMENT
- SHRUB TO BE REMOVED
- TREE OR SHRUB TO BE REMOVED
- TEMPORARY BENCHMARK
- +184.83 PRE–CONSTRUCTION SURVEY DATA
- 182 TOPOGRAPHIC CONTOUR
- 8' TREE TO BE PROTECTED WITH PROTECTION RADIUS AND TREE PROTECTION AREA
- SILT FENCE OR STRAW WATTLES DURING WORK LENGTH = 527 FT
- HIGH VISIBILITY CONSTRUCTION FENCE DURING WORK LENGTH = 393 FT

UTILITIES

- OVERHEAD UTILITY LINES
- SS UNDERGROUND SANITARY SEWER (APPROX.)
- WM UNDERGROUND WATER MAIN (APPROX.)
- GAS UNDERGROUND NATURAL GAS (APPROX.)
- BT UNDERGROUND TELEPHONE (APPROX.)

0 10 20
SCALE IN FEET

RESTORATION PLAN



LEGEND

- SOD (ARGENTINE BAHIA) AREA = 6,271 S.F.
- PINE BARK MULCH AREA = 6,806 S.F.
- PROPERTY LINE
- NEW 4 BOARD FENCE LENGTH = 150 FT
- NEW 6' BOARD ON BOARD PRIVACY FENCE LENGTH = 374 FT
- NEW TREE
- TREE OR SHRUB
- EXISTING TREE

UTILITIES

- OVERHEAD UTILITY LINES
- SS UNDERGROUND SANITARY SEWER (APPROX.)
- WM UNDERGROUND WATER MAIN (APPROX.)
- GAS UNDERGROUND NATURAL GAS (APPROX.)
- BT UNDERGROUND TELEPHONE (APPROX.)

0 10 20
SCALE IN FEET

TITLE: **SOIL RESTORATION PLAN FOR THE PILOT PROPERTY**

LOCATION: **436 NW 30th Avenue Gainesville, Florida**

TETRA TECH

APPROVED	GC
DRAFTED	CP
PROJECT#	117-2201319
DATE	11-5-13

FIGURE 3

NW 4TH TERR

NW 23RD AVE

NW 26TH AVE

NW 27TH AVE

NW 28TH AVE

NW 29TH AVE

NW 30TH AVE

NW 31ST LANE

NW 4TH ST

I06 I05 I04 I03 I02 I01

A06 A05 A04 A03 A02 A01

B07 B06 B05 B04 B02 B03 B01

C05 C04 C03 C02 C01

D06 D04 D03 D02 D01

E06 E07 F01 E05 E01 E02 E03 E04

G05 G06 G03 G04 G01 G02

H01 H02 H03 H04

E01 PILOT PROPERTY

OFF-SITE FENCE

IMPROVED ACCESS ROAD

ELEVATION =167.3

OFFICE

SOLIDIFIED SOIL MOUND

CLEAN SOIL STOCKPILE AREA

GREEN WASTE STAGING AREA

INTERIM STORMWATER BASIN

INTERIM STORMWATER BASIN

STORMWATER DITCH

CCA DRIP TRACK COVER

REMOVED SOIL MANAGEMENT AREA

TEMPORARY WASTE STORAGE AREA

GROUNDWATER PRETREATMENT FACILITY

IMPROVED ACCESS ROAD

RAILROAD CORRIDOR

CMP INVERT =161.76

N MAIN TERR

LEGEND

PROPERTY BOUNDARY
TOPOGRAPHIC CONTOUR
WELL
STEEL FENCE
WOOD FENCE
UNPAVED ROAD
ASPHALT ROAD
TREE CANOPY
PLANNED SUBSURFACE BARRIER
RAILROAD
BUILDING OUTLINE
ROCK
MULCH
CRUSHED CONCRETE
CONCRETE
HEADWALL
SOURCE AREA
GROUNDWATER COLLECTION DRAIN

0 100 200 300
SCALE IN FEET

TITLE: ON-PROPERTY MANAGEMENT AREAS AND ACCESS ROADS

LOCATION: Cabot Carbon/Koppers Superfund Site Gainesville, Florida

TETRA TECH

APPROVED	GC
DRAFTED	CP
PROJECT#	117-2201319
DATE	11-5-13

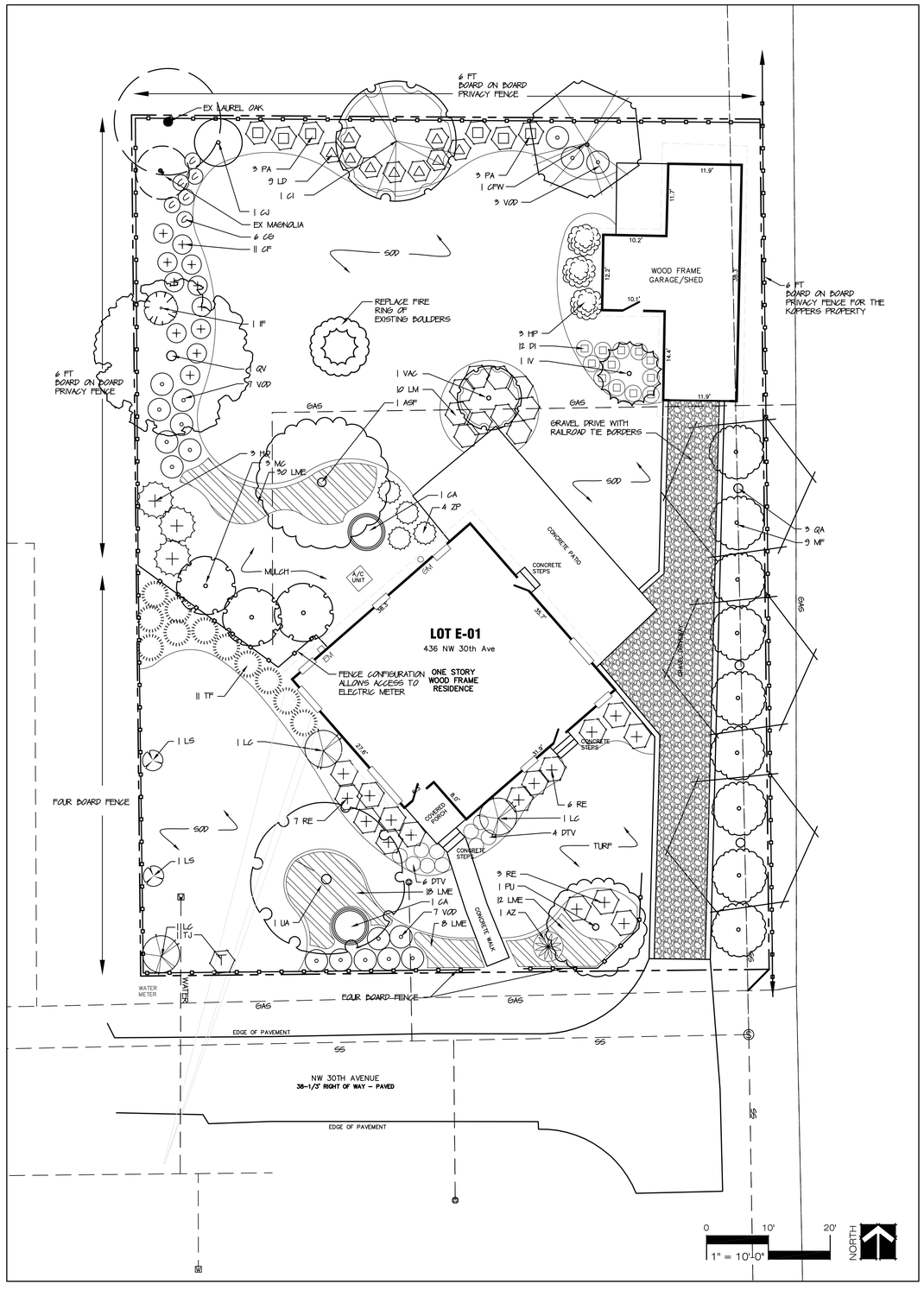
FIGURE 4

APPENDIX A.

PILOT PROPERTY PLANTING PLAN

PLANT MATERIAL SCHEDULE

SYM	QTY	BOTANICAL NAME	COMMON NAME	MINIMUM CONTAINER	HT X WIDTH (Caliper)	SPACING	FLA NATIVE	DROUGHT TOLERANCE	COMMENTS
		LARGE TREES							
ASF	1	Acer saccharum floridanum	Florida Maple	15 Gal	6-8' x 3' (1.5" cal)	As Shown	Y	High	
CI	1	Carya illinoinensis	Pecan	7 Gal	4' x 2'	As Shown	Y	High	
QA	3	Quercus austrina	Bluff Oak	15 Gal	6-8' x 3' (1.5" cal)	As Shown	Y	High	
QV	1	Quercus virginiana	Live Oak	15 Gal	6-8' x 3' (1.5" cal)	As Shown	Y	High	
UA	1	Ulmus alata	Winged Elm	15 Gal	6-8' x 3' (1.5" cal)	As Shown	Y	High	
		SMALL TREES							
CFW	1	Cornus florida 'Weaver'	Weaver Dogwood	15 Gal	6-8' x 3' (1.5" cal)	As Shown	Y	Moderate	
IV	1	Ilex vometoria	Yaupon Holly	7 Gal	4' x 2'	As Shown	Y	High	Female
PU	1	Prunus umbellata	Flatwoods Plum	15 Gal	6-8' x 3' (1.5" cal)	As Shown	Y	High	
VAC	1	Vitex Agnus-castus	Chaste Tree	7 Gal	4' x 2'	As Shown	-	High	
		SHRUBS							
AZ	1	Alpinia zerumbet 'Variegata'	Variegated Shell Ginger	3 Gal	18" x 20"	4' O.C.	-	-	
CA	2	Calicarpa americana	Beauty Berry	3 Gal	18" x 20"	As Shown	Y	High	
CJ	1	Camelia japonica	Camelia	7 Gal	3-4' x 2'	As Shown	-	Moderate	
CG	6	Canna X Generalis 'Red'	Red Canna Lily	3 Gal	20" x 16"	3' O.C.	-	Moderate	
HP	3	Hamelia patens	Firebush	3 Gal	18" x 20"	5' O.C.	Y	Moderate	
HQ	3	Hydrangea quercifolia	Oakleaf Hydrangea	3 Gal	18" x 20"	As Shown	Y	Moderate	
IF	1	Illicium floridanum	Red Anise	7 Gal	30" x 24"	As Shown	Y	Moderate	
LC	3	Loropetalum chinense 'Rubrum'	Loropetalum	3 Gal	18" x 20"	4' O.C.	-	Moderate	
MF	9	Myrcianthes fragrans	Simpson Stopper	7 Gal	36" x 30"	As Shown	Y	Moderate	
MC	3	Myrica cerifera	Wax Myrtle	7 Gal	36" x 30"	As Shown	Y	Moderate	
PA	6	Plumbago auriculata	Plumbago	3 Gal	18" x 20"	4' O.C.	-	High	
RE	16	Rhododendron 'Encore' Whtie	White Encore Azalea	3 Gal	18" x 20"	4' O.C.	-	Moderate	
VOD	17	Viburnum obovatum ' Densa'	Dwarf Walter's Viburnum	3 Gal	14" x 16"	4' O.C.	Y	High	
ZP	4	Zamia pumila	Coontie	3 Gal	20" (min. 6 fronds)	4' O.C.	Y	High	Wide leaflets
		GROUND COVERS and GRASSES							
CF	11	Cyrtomium falcatum	Holly Fern	1 Gal	Full	3' O.C.	-	Moderate	
DTV	10	Dianella tasmanica 'variegata'	Variegated Flax Lily	1 Gal	Full	2.5' O.C.	-	High	
DI	12	Dietes iridioides	African Iris	1 Gal	Full	3' O.C.	-	High	
LD	9	Lantana depressa	Native Yellow Lantana	1 Gal	Full	3' O.C.	Y	High	
LM	10	Lantana montevidensis	Trailing Lantana	1 Gal	Full	3' O.C.	-	High	
LME	68	Liriope muscari 'Evergreen Giant'	Liriope Evergreen Giant	1 Gal	Full	2.5' OC.	-	Moderate	
TF	11	Tripsacum floridanum	Florida Gamagrass	3 Gal	d	4' O.C.	Y	Moderate	
		VINES							
LS	2	Lonicera sempervirens	Coral Honeysuckle	3 Gal	Full	As Shown	Y	High	
TJ	1	Trachelospermum jasminoides	Confederate Jasmine	1 Gal	Full	As Shown	-	High	
		TURF							
SOD	6,000 s.f.	Paspalum notatum 'Argentine'	Argentine Bahia						
		MULCH							
	4,200 s.f.	Pine Bark mulch to be placed in all planting areas to a depth of 3 inches.							



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PROJECT:

KOPPERS SUPERFUND
Stephen Foster Remediation

Gainesville, FL

SHEET TITLE:

PLANTING PLAN

Lot E-01
Pilot Project

PROJECT PHASE:

Construction Documents

ISSUE DATE:

11-04-2013

REVISIONS		
NO.	DATE	COMMENTS

PROFESSIONAL SEAL:

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FLORIDA: LA0001582

PROJECT NUMBER:

13019.1

DRAWN BY:	CHECKED BY:
LET	LET

SHEET NUMBER:

L-1

APPENDIX B.

DUST MONITORING EQUIPMENT SPECIFICATIONS

HEALTH AND SAFETY

Exposure Monitoring

Features and Benefits

- Easy to program, easy to operate
- New graphical user interface with color touch-screen
- Perform in-line gravimetric analysis for custom reference calibrations
- Automatic zeroing (with optional zero module) minimizes the effect of zero drift
- Measure aerosol concentrations corresponding to PM_1, $PM_{2.5}$, PM_{10}, or Respirable size fractions

DustTrak™ II Aerosol Monitor

Models 8530, 8531, and 8532

Desktop or Handheld Units for Any Environment, Any Application

The new DustTrak II Aerosol Monitors are battery-operated, data-logging, light-scattering laser photometers that give you real-time aerosol mass readings. They use a sheath air system that isolates the aerosol in the optics chamber to keep the optics clean for improved reliability and low maintenance. Suitable for clean office settings as well as harsh industrial workplaces, construction and environmental sites and other outdoor applications. DustTrak II monitors measure aerosol contaminants such as dust, smoke, fumes and mists.

Applications

- Industrial/occupational hygiene surveys
- Indoor air quality investigations
- Outdoor environmental monitoring
- Baseline trending and screening
- Point source monitoring
- Engineering control evaluations
- Engineering studies
- Remote monitoring
- Process monitoring
- Emissions monitoring
- Aerosol research studies

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Easy to Program and Operate

The new graphical user interface with color touch-screen puts everything at your fingertips. The easy-to-read display shows real-time mass concentration and graphical data as well as other statistical information along with instrument pump, laser and flow status, and much more. Perform quick walk-through surveys or program the instrument's advanced logging modes for long-term sampling investigations. Program start times, total sampling times, logging intervals, alarm setpoints and many other parameters. You can even set up the instrument for continuous unattended operation.

Desktop Models: Ideal for Long-Term Surveys and Remote Monitoring Applications

Manual and programmable data logging functions also make DustTrak II desktop monitors ideal for unattended applications. They come with USB (device and host), Ethernet, and analog and alarm outputs allowing remote access to data. User adjustable alarm setpoints for instantaneous or 15-minute short-term excursion limit (STEL) are available on desktop models. The alarm output with user-defined setpoint alerts you when upset or changing conditions occur.

All DustTrak II desktop monitors have three unique features:

- Gravimetric sampling capability using a 37-mm filter cassette which can be inserted in-line with the aerosol stream allowing you to perform an integral gravimetric analysis for custom reference calibrations.
- They can be zeroed automatically using the external zeroing module. This optional accessory is used when sampling over extended periods of time. By zeroing the monitor during sampling, the effect of zero drift is minimized.
- STEL alarm feature for tracking 15-minute average mass concentrations when alarm setpoint has been reached for applications like monitoring fugitive emissions at hazardous waste sites.

Handheld Models: Perfect for Walk-Through Surveys and Single-Point Data Collection Applications

DustTrak II handheld models are lightweight and portable. They're perfect for industrial hygiene surveys, point source location monitoring, indoor air quality investigations, engineering control evaluations/ validation, and for baseline trending and screening. Like desktop models, they have manual and programmable data logging functions. In addition, they have single-point data logging capability. Single-point data collection is used for walk-through industrial hygiene surveys and indoor air quality investigations.

New Software Makes Monitoring Easier than Ever

TrakPro™ Data Analysis Software allows you to set up and program directly from a PC. A new feature is the ability for remote programming and data acquisition from your PC via wireless (922 MHz or 2.4 GHz) communications or over an Ethernet network. As always, you can print graphs, raw data tables, and statistical and comprehensive reports for recordkeeping purposes.

DustTrak II Aerosol Monitor Features

All Models

- Li-Ion rechargeable batteries
- Internal and external battery charging capabilities
- Outlet port for isokinetic sampling applications
- User serviceable sheath flow and pump filters
- Logged test pause and restart feature
- Logged test programming
  - – Color touch screen—either manual mode or program mode
  - – TrakPro™ Data Analysis Software via a PC
- User adjustable custom calibration settings
- Instantaneous alarm settings with visual and audible warnings
- Real-time graph display
- View statistical information during and after sampling
- On-screen instrument status indicators: FLOW, LASER and FILTER
- Filter service indicator for user preventative maintenance

All Desktop Models

- Hot swappable batteries
- Gravimetric reference sample capability
- Long life 10,000-hour internal pump
- TrakPro Data Analysis Software
- Auto zeroing module (optional accessory)
- STEL alarm setpoint

All Handheld Models

- Long life 2,500-hour internal pump
- Single-point data collection for walk through surveys
- TrakPro Data Analysis Software

Battery Performance

Models 8530/8531 (typical) 6600 mAH Li-Ion Battery Pack (P/N 801680)	1 Battery	2 Batteries
Battery Runtime (hours)	up to 6	up to 12
Charge Time * (hours) in DustTrak	4	8
Charge Time* (hours) in external battery charger (P/N 801685)	4	8

Model 8532 (typical) 3600 mAH Li-Ion Battery Pack (P/N 801681)	Battery
Battery Runtime (hours)	up to 6
Charge Time * (hours) in DustTrak	4
Charge Time* (hours) in external battery charger (P/N 801686)	4

*of a fully depleted battery

Specifications

Models 8530, 8531, and 8532
DustTrak™ II Aerosol Monitor

Sensor Type
90° light scattering

Particle Size Range
0.1 to 10 µm

Aerosol Concentration Range

8530 Desktop	0.001 to 150 mg/m^3
8531 Desktop High Conc.	0.001 to 400 mg/m^3
8532 Handheld	0.001 to 150 mg/m^3

Resolution
±0.1% of reading or 0.001 mg/m^3, whichever is greater

Zero Stability
±0.002 mg/m^3 per 24 hours at 10 sec time constant

Flow Rate
3.0 L/min set at factory, 1.40 to 3.0 L/min, user adjustable

Flow Accuracy
±5% of factory set point, internal flow controlled

Temperature Coefficient
+0.001 mg/m^3 per °C

Operational Temp
32 to 120°F (0 to 50°C)

Storage Temp
-4 to 140°F (-20 to 60°C)

Operational Humidity
0 to 95% RH, non-condensing

Time Constant
User adjustable, 1 to 60 seconds

Data Logging
5 MB of on-board memory (>60,000 data points)
45 days at 1 minute logging interval

Log Interval
User adjustable, 1 second to 1 hour

Physical Size (HWD)

Handheld	4.9 x 4.8 x 12.5 in. (12.5 x 12.1 x 31.6 cm)
Desktop	5.3 x 8.5 x 8.8 in. (13.5 x 21.6 x 22.4 cm)

Weight

Handheld	2.9 lb (1.3 kg), 3.3 lb (1.5 kg) with battery
Desktop	3.5 lb (1.6 kg), 4.5 lb (2.0 kg)–1 battery, 5.5 lb (2.5 kg)–2 batteries

Communications

8530/31	USB (host and device) and Ethernet. Stored data accessible using flash memory drive
8532	USB (Hose and device). Stored data accessible using flash memory drive

Power–AC
Switching AC power adapter with universal line cord included, 115–240 VAC

Analog Out

8530/31	User selectable output, 0 to 5 V or 2 to 20 mA User selectable scaling range

Alarm Out

8530/31	Relay or audible buzzer Relay Non-latching MOSFET switch User selectable set point –5% deadband Connector 4-pin, Mini-DIN connectors
8532	Audible buzzer

Screen

8530/31	5.7 in. VGA color touchscreen
8532	3.5 in. VGA color touchscreen

Gravimetric Sampling

8530/31	Removable 37 mm cartridge (user supplied)

CE Rating

Immunity	EN61236-1:2006
Emissions	EN61236-1:2006

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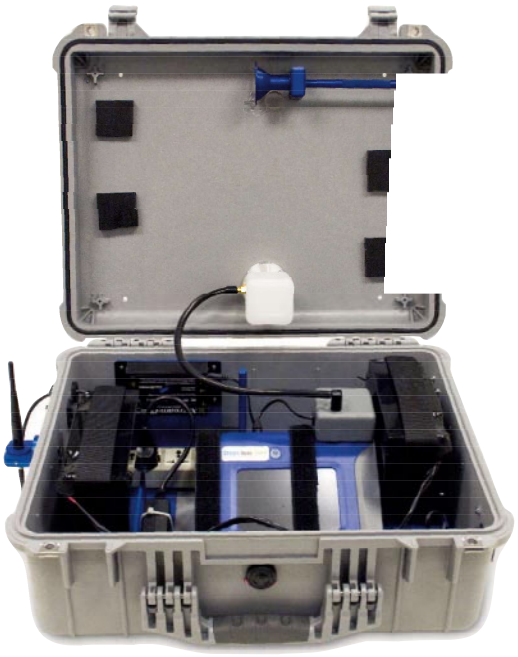
HEALTH AND SAFETY

Exposure Monitoring



Features and Benefits

- New optional accessories
  - Internal Battery System
  - Heat Shield
  - Solar Power System
  - Wireless Radio Modems
- 360° omni-directional sampling inlet specifically designed to sample efficiently in a broad range of wind conditions
- Mount enclosure to a standard survey tripod equipped with a ⅝"–11 threaded stud
- Water trap that prevents precipitation from entering the instrument
- The rugged enclosure provides a secure method of deploying the DustTrak aerosol monitor and its accessories

DustTrak™ Aerosol Monitor Environmental Enclosure

Model 8535

The new DustTrak™ II and DRX Aerosol Monitor Models 8530, 8531, and 8533 are portable, battery-operated, laser-photometers that measure and record airborne dust concentrations. The new DustTrak aerosol monitors have a new custom designed weatherproof Environmental Enclosure for making the same accurate and precise measurements outdoors.

Applications

- Outdoor environmental monitoring
  - Fugitive emissions monitoring
  - Site perimeter monitoring
  - Fence-line monitoring
  - Dust control operations
  - Environmental research studies
- Construction sites
- Harsh industrial environments
- Urban pollution studies

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Any Environment, Any Application

The new DustTrak Environmental Enclosure Model 8535 can be used in conjunction with the DustTrak aerosol monitor for many different applications. While its primary use is in outdoor applications it may also be advantageous in indoor industrial applications to provide additional security and protection for the instrument. The enclosure should be set up in a location where it can easily sample the aerosols of interest. It should be placed away from obstructions which may affect wind currents. The sampling inlet on the Environmental Enclosure samples most efficiently from 0 to 22 mph/0 to 36 kph.

New Optional Accessories for the DustTrak™ Environmental Enclosure

Internal Battery System—this internal power system will provide continuous power to the DustTrak aerosol monitor and the wireless radio modems when dedicated AC power is not available, allowing autonomous, 24-hour operation of the DustTrak Environmental Enclosure. This optional accessory is supplied with two sets of batteries, allowing one set of batteries to be charged while the other is in operation. It includes; two sets of 36 Ah lead acid batteries, and battery charger with universal line cord.

Heat Shield—it is mounted directly to the top of the Environmental Enclosure and is for use in applications where the enclosure needs to be shielded from direct sunlight.

Solar Power System—this external power system will provide continuous power to the DustTrak aerosol monitor and wireless radio modem when dedicated AC power is not available for remote, long-term unattended sampling applications. It will power all equipment and charge the external battery during the daytime, and then automatically switches to battery power during the night or in low-light conditions. It includes; two solar panels with stand, weatherproof battery and charge regulator enclosure, charge regulator, extended-life lead acid battery, and DC power cables.

Wireless Radio Modems—the wireless radio modem provides for two-way communications between the DustTrak II or DRX aerosol monitor using TrakPro™ Data Analysis Software. You can set up and program your DustTrak II or DRX aerosol monitor for remote sampling and retrieve data remotely using this new system. It includes; wireless radio (922 MHz or 2.4 GHz) modems for computer and instrument (sold separately), USB cable, dipole antenna, modem configuration software CD, and manual.

Specifications

Model 8535
DustTrak™ Environmental Enclosure

Sampling Conditions

Wind Speed	0 to 22 mph (0 to 36 kph)
Operating Temperature	32 to 120°F (0 to 50°C)
Storage Temperature	-4 to 140°F (-20 to 60°C)

Physical

External Dimensions (HWD)	8.1 x 16.9 x 20.6 in. (21 x 43 x 52 cm)
Weight (with Internal Battery System and DustTrak)	38 lb (17 kg)

Clean Inlet

Weekly, under normal conditions, or daily if concentrations are over 30 mg/m³

Re-grease O-rings

As needed

Internal Battery System

Power Requirements

Internal Battery Pack	12 VDC, 36 Ah
Battery Run-time	24 to 40 hours (typical)
Battery Charge Time	8 hours at 72°F (22°C) (New battery, deep discharge to 95% charge)

Solar Power System

Power Requirements

Solar System Run-time	Continuous (with adequate sunlight)
Rated Power	80 x 2 watts
Power Tolerance	±5%
Nominal Voltage	12 volts
External Battery Pack	12 VDC, 100 Ah
Battery Run-time	90 to 120 hours (typical)
Battery Charge Time	<10 hours at 72°F (22°C) (New battery, deep discharge to 95% charge, with adequate sunlight)
Operating Temperature	32 to 120°F (0 to 50°C)
Storage Temperature	-4 to 140°F (-20 to 60°C)

Physical (Solar Panels)

Dimensions (HWD)	2 x 43 x 48 in. (5 x 109 x 122 cm)
Weight	34 lb (15.3 kg)

Physical (Battery and Case)

Dimensions (HWD)	8.5 x 15.3 x 17 in. (22 x 39 x 43 cm)
Weight	85 lb (38.3 kg)

Wireless Radio Modem

Power Requirements

Power Supply Voltage	5–12 V
Receive Current	–90 mA @ 922 MHz –115 mA @ 2.4 GHz
Transmit Current	–185 mA @ 922 MHz –200 mA @ 2.4 GHz
Power Down Current	50 mA

Operating Temperature

32°F to 158°F (0°C to 70°C)

Storage Temperature

–4°F to 158°F (–20°C to 70°C)

Physical

Dimensions (HWD)	1.12 x 5.50 x 2.75 in. (3 x 14 x 7 cm)
Weight	7.1 oz (200 g)

Country specific wireless transmission information

US, Canada, Australia, New Zealand	922 MHz
Europe, Asia	2.4 GHz

Transmission Ranges (typical—line-of-sight)

Indoor/Urban Range (with 2.1 dB dipole antenna)	Up to 1500 feet (450 m) @ 922 MHz Up to 600 feet (180 m) @ 2.4 GHz
Outdoor RF line-of-sight range (with 2.1 dB dipole antenna)	Up to 7 mi (11 km) @ 922 MHz Up to 3 mi (5 km) @ 2.4 GHz
Outdoor RF line-of-sight range (with high gain antenna)	Up to 20 mi (32 km) @ 922 MHz Up to 10 mi (16 km) @ 2.4 GHz
Transmit Power Output	100 mW (20 dBm) @ 922 MHz 50 mW (17 dBm) @ 2.4 GHz

Data Rate

9,600 bps

To Order

Model 8535 DustTrak Environmental Enclosure

Specify	*Description*
8535	Weatherproof Case with Survey Tripod Mount 360° Omni-directional Sampling Inlet, Water Trap Bottle, internal equipment bracket with VELCRO® Straps, Dust Caps, Tubing, Plug, O-rings, and external weatherproof AC/DC Power Supply.

Optional Accessories

Specify	*Description*
801801	Internal Battery System
801810	Heat Shield
801811	Solar Power System
801820	922 MHz Modem with Antenna Mount for Enclosure
801821	922 MHz Computer Modem
801825	2.4 GHz Modem with Antenna Mount for Enclosure
801826	2.4 GHz Computer Modem

Exposure Monitoring

TSI Incorporated - 500 Cardigan Road, Shoreview, MN 55126-3996 USA

USA	**Tel:** +1 800 874 2811	**E-mail:** info@tsi.com	**Website:** www.tsi.com
UK	**Tel:** +44 149 4 459200	**E-mail:** tsiuk@tsi.com	**Website:** www.tsiinc.co.uk
France	**Tel:** +33 491 95 21 90	**E-mail:** tsifrance@tsi.com	**Website:** www.tsiinc.fr
Germany	**Tel:** +49 241 523030	**E-mail:** tsigmbh@tsi.com	**Website:** www.tsiinc.de
India	**Tel:** +91 80 41132470	**E-mail:** tsi-india@tsi.com	
China	**Tel:** +86 10 8260 1595	**E-mail:** tsibeijing@tsi.com	

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Contact your local TSI Distributor or visit our website **www.tsi.com** for more detailed specifications.

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APPENDIX C.

BORROW SOIL SAMPLING RESULTS

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 09:30
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Johnson Soil	**Units:**	ug/Kg
Lab Code:	J1306351-001	**Basis:**	Dry

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B
Prep Method: EPA 5035

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,1,1,2-Tetrachloroethane	0.410 U	3.60	0.410	1	10/24/13 19:47	10/24/13	
1,1,1-Trichloroethane (TCA)	0.230 U	3.60	0.230	1	10/24/13 19:47	10/24/13	
1,1,2,2-Tetrachloroethane	0.230 U	3.60	0.230	1	10/24/13 19:47	10/24/13	
1,1,2-Trichloroethane	0.390 U	3.60	0.390	1	10/24/13 19:47	10/24/13	
1,1-Dichloroethane (1,1-DCA)	0.310 U	3.60	0.310	1	10/24/13 19:47	10/24/13	
1,1-Dichloroethene (1,1-DCE)	0.690 U	3.60	0.690	1	10/24/13 19:47	10/24/13	
1,2,3-Trichloropropane	0.760 U	3.60	0.760	1	10/24/13 19:47	10/24/13	
1,2-Dibromo-3-chloropropane (DBCP)	0.530 U	7.21	0.530	1	10/24/13 19:47	10/24/13	
1,2-Dibromoethane (EDB)	0.580 U	3.60	0.580	1	10/24/13 19:47	10/24/13	
1,2-Dichlorobenzene	0.320 U	3.60	0.320	1	10/24/13 19:47	10/24/13	
1,2-Dichloroethane	0.300 U	3.60	0.300	1	10/24/13 19:47	10/24/13	
1,2-Dichloropropane	0.410 U	3.60	0.410	1	10/24/13 19:47	10/24/13	
1,3-Dichlorobenzene	0.300 U	3.60	0.300	1	10/24/13 19:47	10/24/13	
1,4-Dichlorobenzene	0.100 U	3.60	0.100	1	10/24/13 19:47	10/24/13	
2-Butanone (MEK)	1.60 U	18.0	1.60	1	10/24/13 19:47	10/24/13	
2-Hexanone	2.20 U	7.21	2.20	1	10/24/13 19:47	10/24/13	
4-Methyl-2-pentanone (MIBK)	1.50 U	7.21	1.50	1	10/24/13 19:47	10/24/13	
Acetone	2.30 U	90.1	2.30	1	10/24/13 19:47	10/24/13	
Benzene	0.170 U	3.60	0.170	1	10/24/13 19:47	10/24/13	
Bromochloromethane	0.600 U	3.60	0.600	1	10/24/13 19:47	10/24/13	
Bromodichloromethane	0.370 U	3.60	0.370	1	10/24/13 19:47	10/24/13	
Bromoform	0.340 U	3.60	0.340	1	10/24/13 19:47	10/24/13	
Bromomethane	0.270 U	3.60	0.270	1	10/24/13 19:47	10/24/13	
Carbon Disulfide	0.800 U	7.21	0.800	1	10/24/13 19:47	10/24/13	
Carbon Tetrachloride	0.190 U	3.60	0.190	1	10/24/13 19:47	10/24/13	
Chlorobenzene	0.140 U	3.60	0.140	1	10/24/13 19:47	10/24/13	
Chloroethane	0.330 U	3.60	0.330	1	10/24/13 19:47	10/24/13	
Chloroform	0.180 U	3.60	0.180	1	10/24/13 19:47	10/24/13	
Chloromethane	0.210 U	3.60	0.210	1	10/24/13 19:47	10/24/13	
cis-1,2-Dichloroethene	0.330 U	3.60	0.330	1	10/24/13 19:47	10/24/13	
cis-1,3-Dichloropropene	0.140 U	3.60	0.140	1	10/24/13 19:47	10/24/13	
Dibromochloromethane	0.220 U	3.60	0.220	1	10/24/13 19:47	10/24/13	
Dibromomethane	0.390 U	3.60	0.390	1	10/24/13 19:47	10/24/13	
Dichlorodifluoromethane	0.180 U	14.4	0.180	1	10/24/13 19:47	10/24/13	
Ethylbenzene	0.120 U	3.60	0.120	1	10/24/13 19:47	10/24/13	
Iodomethane	1.10 U	7.21	1.10	1	10/24/13 19:47	10/24/13	
m,p-Xylenes	0.210 U	7.21	0.210	1	10/24/13 19:47	10/24/13	
Methyl tert-Butyl Ether	0.260 U	3.60	0.260	1	10/24/13 19:47	10/24/13	
Methylene Chloride	**0.555 IV**	7.21	0.310	1	10/24/13 19:47	10/24/13	
o-Xylene	0.160 U	3.60	0.160	1	10/24/13 19:47	10/24/13	
Styrene	0.270 U	3.60	0.270	1	10/24/13 19:47	10/24/13	
Tetrachloroethene (PCE)	0.250 U	3.60	0.250	1	10/24/13 19:47	10/24/13	
Toluene	0.270 U	3.60	0.270	1	10/24/13 19:47	10/24/13	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 09:30
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Johnson Soil	**Units:**	ug/Kg
Lab Code:	J1306351-001	**Basis:**	Dry

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B
Prep Method: EPA 5035

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
trans-1,2-Dichloroethene	0.390 U	3.60	0.390	1	10/24/13 19:47	10/24/13	
trans-1,3-Dichloropropene	0.220 U	3.60	0.220	1	10/24/13 19:47	10/24/13	
trans-1,4-Dichloro-2-butene	0.540 U	14.4	0.540	1	10/24/13 19:47	10/24/13	
Trichloroethene (TCE)	0.250 U	3.60	0.250	1	10/24/13 19:47	10/24/13	
Trichlorofluoromethane	0.210 U	14.4	0.210	1	10/24/13 19:47	10/24/13	
Vinyl Acetate	1.20 U	7.21	1.20	1	10/24/13 19:47	10/24/13	
Vinyl Chloride	0.260 U	3.60	0.260	1	10/24/13 19:47	10/24/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	108	80 - 120	10/24/13 19:47	
4-Bromofluorobenzene	101	64 - 135	10/24/13 19:47	
Dibromofluoromethane	105	74 - 125	10/24/13 19:47	
Toluene-d8	102	46 - 156	10/24/13 19:47	

ALS Group USA, Corp.
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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 09:30
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Johnson Soil	**Units:**	mg/L
Lab Code:	J1306351-001	**Basis:**	As Received

TCLP Volatile Organics by GC/MS

Analysis Method: 8260B
Pre-Prep Method: EPA 1311
Pre-Prep Date: 10/24/13

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1-Dichloroethene (1,1-DCE)	0.0160 U	0.100	0.0160	100	11/01/13 00:55	
1,2-Dichloroethane	0.0220 U	0.100	0.0220	100	11/01/13 00:55	
1,4-Dichlorobenzene	0.0160 U	0.100	0.0160	100	11/01/13 00:55	
2-Butanone (MEK)	0.380 U	2.50	0.380	100	11/01/13 00:55	
Benzene	0.0210 U	0.100	0.0210	100	11/01/13 00:55	
Carbon Tetrachloride	0.0340 U	0.100	0.0340	100	11/01/13 00:55	
Chlorobenzene	0.0160 U	0.100	0.0160	100	11/01/13 00:55	
Chloroform	0.0350 U	0.100	0.0350	100	11/01/13 00:55	
Tetrachloroethene (PCE)	0.0220 U	0.100	0.0220	100	11/01/13 00:55	
Trichloroethene (TCE)	0.0361 U	0.100	0.0361	100	11/01/13 00:55	
Vinyl Chloride	0.0361 U	0.100	0.0361	100	11/01/13 00:55	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	91	72 - 121	11/01/13 00:55	
4-Bromofluorobenzene	101	86 - 113	11/01/13 00:55	
Dibromofluoromethane	94	86 - 112	11/01/13 00:55	
Toluene-d8	106	88 - 115	11/01/13 00:55	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 09:30
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Johnson Soil	**Units:**	ug/Kg
Lab Code:	J1306351-001	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270C
Prep Method: EPA 3550C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	63.0 U	161	63.0	1	10/30/13 06:54	10/28/13	
1,2-Dichlorobenzene	32.0 U	161	32.0	1	10/30/13 06:54	10/28/13	
1,3-Dichlorobenzene	38.0 U	161	38.0	1	10/30/13 06:54	10/28/13	
1,4-Dichlorobenzene	41.0 U	161	41.0	1	10/30/13 06:54	10/28/13	
1-Methylnaphthalene	66.0 U	161	66.0	1	10/30/13 06:54	10/28/13	
2,4,5-Trichlorophenol	57.0 U	161	57.0	1	10/30/13 06:54	10/28/13	
2,4,6-Trichlorophenol	50.0 U	161	50.0	1	10/30/13 06:54	10/28/13	
2,4-Dichlorophenol	63.0 U	161	63.0	1	10/30/13 06:54	10/28/13	
2,4-Dimethylphenol	83.0 U	161	83.0	1	10/30/13 06:54	10/28/13	
2,4-Dinitrophenol	23.0 U	633	23.0	1	10/30/13 06:54	10/28/13	
2,4-Dinitrotoluene	41.0 U	161	41.0	1	10/30/13 06:54	10/28/13	
2,6-Dinitrotoluene	48.0 U	161	48.0	1	10/30/13 06:54	10/28/13	
2-Chloronaphthalene	43.0 U	161	43.0	1	10/30/13 06:54	10/28/13	
2-Chlorophenol	35.0 U	161	35.0	1	10/30/13 06:54	10/28/13	
2-Methylnaphthalene	59.0 U	161	59.0	1	10/30/13 06:54	10/28/13	
2-Methylphenol	48.0 U	161	48.0	1	10/30/13 06:54	10/28/13	
2-Nitroaniline	51.0 U	161	51.0	1	10/30/13 06:54	10/28/13	
2-Nitrophenol	52.0 U	633	52.0	1	10/30/13 06:54	10/28/13	
3- and 4-Methylphenol Coelution	43.0 U	161	43.0	1	10/30/13 06:54	10/28/13	
3,3'-Dichlorobenzidine	85.0 U	633	85.0	1	10/30/13 06:54	10/28/13	
3-Nitroaniline	51.0 U	161	51.0	1	10/30/13 06:54	10/28/13	
4,6-Dinitro-2-methylphenol	48.0 U	161	48.0	1	10/30/13 06:54	10/28/13	
4-Bromophenyl Phenyl Ether	52.0 U	161	52.0	1	10/30/13 06:54	10/28/13	
4-Chloro-3-methylphenol	53.0 U	161	53.0	1	10/30/13 06:54	10/28/13	
4-Chloroaniline	69.0 U	161	69.0	1	10/30/13 06:54	10/28/13	
4-Chlorophenyl Phenyl Ether	52.0 U	161	52.0	1	10/30/13 06:54	10/28/13	
4-Nitroaniline	55.0 U	161	55.0	1	10/30/13 06:54	10/28/13	
4-Nitrophenol	56.0 U	633	56.0	1	10/30/13 06:54	10/28/13	
Acenaphthene	53.0 U	161	53.0	1	10/30/13 06:54	10/28/13	
Acenaphthylene	47.0 U	161	47.0	1	10/30/13 06:54	10/28/13	
Acetophenone	46.0 U	321	46.0	1	10/30/13 06:54	10/28/13	
Anthracene	43.0 U	161	43.0	1	10/30/13 06:54	10/28/13	
Benz(a)anthracene	47.0 U	161	47.0	1	10/30/13 06:54	10/28/13	
Benzo(a)pyrene	37.0 U	161	37.0	1	10/30/13 06:54	10/28/13	
Benzo(b)fluoranthene	26.0 U	161	26.0	1	10/30/13 06:54	10/28/13	
Benzo(g,h,i)perylene	52.0 U	161	52.0	1	10/30/13 06:54	10/28/13	
Benzo(k)fluoranthene	59.0 U	161	59.0	1	10/30/13 06:54	10/28/13	
Benzyl Alcohol	38.0 U	321	38.0	1	10/30/13 06:54	10/28/13	
Bis(2-chloroethoxy)methane	53.0 U	161	53.0	1	10/30/13 06:54	10/28/13	
Bis(2-chloroethyl) Ether	42.0 U	161	42.0	1	10/30/13 06:54	10/28/13	
Bis(2-chloroisopropyl) Ether	35.0 U	161	35.0	1	10/30/13 06:54	10/28/13	
Bis(2-ethylhexyl) Phthalate	44.0 U	161	44.0	1	10/30/13 06:54	10/28/13	
Butyl Benzyl Phthalate	47.0 U	321	47.0	1	10/30/13 06:54	10/28/13	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 09:30
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Johnson Soil	**Units:**	ug/Kg
Lab Code:	J1306351-001	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270C
Prep Method: EPA 3550C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbazole	57.0 U	161	57.0	1	10/30/13 06:54	10/28/13	
Chrysene	45.0 U	161	45.0	1	10/30/13 06:54	10/28/13	
Dibenz(a,h)anthracene	46.0 U	161	46.0	1	10/30/13 06:54	10/28/13	
Dibenzofuran	46.0 U	161	46.0	1	10/30/13 06:54	10/28/13	
Diethyl Phthalate	51.0 U	161	51.0	1	10/30/13 06:54	10/28/13	
Dimethyl Phthalate	53.0 U	161	53.0	1	10/30/13 06:54	10/28/13	
Di-n-butyl Phthalate	34.0 U	161	34.0	1	10/30/13 06:54	10/28/13	
Di-n-octyl Phthalate	52.0 U	161	52.0	1	10/30/13 06:54	10/28/13	
Diphenylamine + n-Nitrosodiphenylamine	37.0 U	161	37.0	1	10/30/13 06:54	10/28/13	
Fluoranthene	48.0 U	161	48.0	1	10/30/13 06:54	10/28/13	
Fluorene	47.0 U	161	47.0	1	10/30/13 06:54	10/28/13	
Hexachlorobenzene	48.0 U	161	48.0	1	10/30/13 06:54	10/28/13	
Hexachlorobutadiene	55.0 U	161	55.0	1	10/30/13 06:54	10/28/13	
Hexachlorocyclopentadiene	34.0 U	161	34.0	1	10/30/13 06:54	10/28/13	
Hexachloroethane	31.0 U	161	31.0	1	10/30/13 06:54	10/28/13	
Indeno(1,2,3-cd)pyrene	41.0 U	161	41.0	1	10/30/13 06:54	10/28/13	
Isophorone	58.0 U	161	58.0	1	10/30/13 06:54	10/28/13	
Naphthalene	49.0 U	161	49.0	1	10/30/13 06:54	10/28/13	
Nitrobenzene	39.0 U	161	39.0	1	10/30/13 06:54	10/28/13	
N-Nitrosodi-n-propylamine	50.0 U	161	50.0	1	10/30/13 06:54	10/28/13	
Pentachlorophenol (PCP)	35.0 U	633	35.0	1	10/30/13 06:54	10/28/13	
Phenanthrene	42.0 U	161	42.0	1	10/30/13 06:54	10/28/13	
Phenol	46.0 U	161	46.0	1	10/30/13 06:54	10/28/13	
Pyrene	46.0 U	161	46.0	1	10/30/13 06:54	10/28/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	71	28 - 164	10/30/13 06:54	
2-Fluorobiphenyl	75	33 - 133	10/30/13 06:54	
2-Fluorophenol	62	10 - 126	10/30/13 06:54	
Nitrobenzene-d5	66	25 - 138	10/30/13 06:54	
Phenol-d6	67	10 - 170	10/30/13 06:54	
p-Terphenyl-d14	89	16 - 168	10/30/13 06:54	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 09:30
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Johnson Soil	**Units:**	mg/L
Lab Code:	J1306351-001	**Basis:**	As Received

TCLP Semivolatile Organic Compounds by GC/MS

Analysis Method:	8270C	**Pre-Prep Method:**	EPA 1311
Prep Method:	EPA 3510C	**Pre-Prep Date:**	10/24/13

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
o-Cresol, TCLP	0.0131 U	0.0500	0.0131	1	10/31/13 01:11	10/29/13	
m,p-Cresols, TCLP	0.0100 U	0.0500	0.0100	1	10/31/13 01:11	10/29/13	
2,4-Dinitrotoluene, TCLP	0.0131 U	0.0500	0.0131	1	10/31/13 01:11	10/29/13	
Hexachlorobenzene, TCLP	0.0170 U	0.0500	0.0170	1	10/31/13 01:11	10/29/13	
Hexachlorobutadiene, TCLP	0.0120 U	0.0500	0.0120	1	10/31/13 01:11	10/29/13	
Hexachloroethane, TCLP	0.00811 U	0.0500	0.00811	1	10/31/13 01:11	10/29/13	
Nitrobenzene, TCLP	0.0210 U	0.0500	0.0210	1	10/31/13 01:11	10/29/13	
Pentachlorophenol (PCP), TCLP	0.0110 U	0.200	0.0110	1	10/31/13 01:11	10/29/13	
Pyridine, TCLP	0.0110 U	0.200	0.0110	1	10/31/13 01:11	10/29/13	
2,4,5-Trichlorophenol, TCLP	0.0131 U	0.0500	0.0131	1	10/31/13 01:11	10/29/13	
2,4,6-Trichlorophenol, TCLP	0.00890 U	0.0500	0.00890	1	10/31/13 01:11	10/29/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	72	13 - 133	10/31/13 01:11	
2-Fluorobiphenyl	77	22 - 105	10/31/13 01:11	
2-Fluorophenol	56	10 - 69	10/31/13 01:11	
Nitrobenzene-d5	65	10 - 123	10/31/13 01:11	
Phenol-d6	40	10 - 59	10/31/13 01:11	
p-Terphenyl-d14	106	28 - 120	10/31/13 01:11	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 09:30
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Johnson Soil	**Units:**	ug/Kg
Lab Code:	J1306351-001	**Basis:**	Dry

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	0.674 U	1.59	0.674	1	10/29/13 20:09	10/25/13	
4,4'-DDE	0.743 U	1.59	0.743	1	10/29/13 20:09	10/25/13	
4,4'-DDT	1.12 U	1.59	1.12	1	10/29/13 20:09	10/25/13	
Aldrin	0.745 U	1.59	0.745	1	10/29/13 20:09	10/25/13	
alpha-BHC	0.520 U	1.59	0.520	1	10/29/13 20:09	10/25/13	
alpha-Chlordane	0.553 U	1.59	0.553	1	10/29/13 20:09	10/25/13	
beta-BHC	0.547 U	1.59	0.547	1	10/29/13 20:09	10/25/13	
Chlordane	10.7 U	31.7	10.7	1	10/29/13 20:09	10/25/13	
delta-BHC	0.547 U	1.59	0.547	1	10/29/13 20:09	10/25/13	
Dieldrin	0.893 U	1.59	0.893	1	10/29/13 20:09	10/25/13	
Endosulfan I	0.736 U	1.59	0.736	1	10/29/13 20:09	10/25/13	
Endosulfan II	1.05 U	1.59	1.05	1	10/29/13 20:09	10/25/13	
Endosulfan Sulfate	0.996 U	1.59	0.996	1	10/29/13 20:09	10/25/13	
Endrin	1.24 U	1.59	1.24	1	10/29/13 20:09	10/25/13	
Endrin Aldehyde	0.997 U	1.59	0.997	1	10/29/13 20:09	10/25/13	
Endrin Ketone	0.802 U	1.59	0.802	1	10/29/13 20:09	10/25/13	
gamma-BHC (Lindane)	1.07 U	1.59	1.07	1	10/29/13 20:09	10/25/13	
gamma-Chlordane	0.547 U	1.59	0.547	1	10/29/13 20:09	10/25/13	
Heptachlor	1.07 U	1.59	1.07	1	10/29/13 20:09	10/25/13	
Heptachlor Epoxide	0.853 U	1.59	0.853	1	10/29/13 20:09	10/25/13	
Methoxychlor	0.724 U	3.17	0.724	1	10/29/13 20:09	10/25/13	
Toxaphene	12.9 U	31.7	12.9	1	10/29/13 20:09	10/25/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	64	32 - 170	10/29/13 20:09	
Tetrachloro-m-xylene	49	10 - 147	10/29/13 20:09	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 09:30
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Johnson Soil	**Units:**	mg/L
Lab Code:	J1306351-001	**Basis:**	As Received

TCLP Organochlorine Pesticides by Gas Chromatography

Analysis Method:	8081A	**Pre-Prep Method:**	EPA 1311
Prep Method:	EPA 3510C	**Pre-Prep Date:**	10/24/13

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Chlordane, TCLP	0.00259 U	0.0500	0.00259	1	10/31/13 12:43	10/29/13	
Endrin, TCLP	0.0000900 U	0.000200	0.0000900	1	10/31/13 12:43	10/29/13	
gamma-BHC (Lindane), TCLP	0.000131 U	0.000200	0.000131	1	10/31/13 12:43	10/29/13	
Heptachlor, TCLP	0.000150 U	0.000200	0.000150	1	10/31/13 12:43	10/29/13	
Heptachlor Epoxide, TCLP	0.000100 U	0.000200	0.000100	1	10/31/13 12:43	10/29/13	
Methoxychlor, TCLP	0.0000900 U	0.000400	0.0000900	1	10/31/13 12:43	10/29/13	
Toxaphene, TCLP	0.00256 U	0.00500	0.00256	1	10/31/13 12:43	10/29/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	86	10 - 160	10/31/13 12:43	
Tetrachloro-m-xylene	55	22 - 126	10/31/13 12:43	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 09:30
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Johnson Soil	**Units:**	ug/Kg
Lab Code:	J1306351-001	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082
Prep Method: EPA 3550B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	9.06 U	30.8	9.06	1	10/26/13 15:21	10/25/13	
Aroclor 1221	6.68 U	30.8	6.68	1	10/26/13 15:21	10/25/13	
Aroclor 1232	21.6 U	30.8	21.6	1	10/26/13 15:21	10/25/13	
Aroclor 1242	8.89 U	30.8	8.89	1	10/26/13 15:21	10/25/13	
Aroclor 1248	16.1 U	30.8	16.1	1	10/26/13 15:21	10/25/13	
Aroclor 1254	12.2 U	30.8	12.2	1	10/26/13 15:21	10/25/13	
Aroclor 1260	9.30 U	30.8	9.30	1	10/26/13 15:21	10/25/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	72	10 - 258	10/26/13 15:21	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 09:30
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Johnson Soil	**Units:**	ug/Kg
Lab Code:	J1306351-001	**Basis:**	Dry

Chlorinated Herbicides by GC

Analysis Method: 8151A
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4,5-T	4.2 U	10	4.2	1	10/31/13 18:39	10/29/13	
2,4,5-TP	3.6 U	10	3.6	1	10/31/13 18:39	10/29/13	
2,4-D	7.7 U	10	7.7	1	10/31/13 18:39	10/29/13	
Dicamba	1.9 U	10	1.9	1	10/31/13 18:39	10/29/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4-Dichlorophenylacetic Acid	78	15 - 143	10/31/13 18:39	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 09:30
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Johnson Soil	**Units:**	ug/L
Lab Code:	J1306351-001	**Basis:**	Dry

TCLP Chlorinated Herbicides by GC

Analysis Method:	8151A	**Pre-Prep Method:**	EPA 1311
Prep Method:	Method	**Pre-Prep Date:**	10/24/13

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4-D	0.13 U	5.1	0.13	1	10/31/13 13:32	10/29/13	
2,4,5-TP (Silvex)	0.082 U	5.1	0.082	1	10/31/13 13:32	10/29/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
DCAA	84	12 - 131	10/31/13 13:32	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 09:30
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Johnson Soil	**Basis:**	Dry
Lab Code:	J1306351-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum, Total Recoverable	6010B	**2950**		mg/Kg	4.5	0.9	1	10/29/13 03:33	10/28/13	
Antimony, Total Recoverable	6010B	**0.14**	**I**	mg/Kg	0.45	0.08	1	10/29/13 03:35	10/28/13	
Arsenic, Total Recoverable	6010B	**0.32**	**I**	mg/Kg	0.45	0.12	1	10/29/13 03:35	10/28/13	
Barium, Total Recoverable	6010B	**7.31**		mg/Kg	0.45	0.03	1	10/29/13 03:35	10/28/13	
Beryllium, Total Recoverable	6010B	**0.05**	**I**	mg/Kg	0.18	0.008	1	10/29/13 03:34	10/28/13	
Boron, Total Recoverable	6010B	**0.9**	**I**	mg/Kg	2.3	0.3	1	10/29/13 03:35	10/28/13	
Cadmium, Total Recoverable	6010B	**0.05**	**I**	mg/Kg	0.23	0.007	1	10/29/13 03:35	10/28/13	
Calcium, Total Recoverable	6010B	**183**		mg/Kg	4.5	1.1	1	10/29/13 03:33	10/28/13	
Chromium, Total Recoverable	6010B	**1.76**		mg/Kg	0.45	0.02	1	10/29/13 03:35	10/28/13	
Copper, Total Recoverable	6010B	**0.59**		mg/Kg	0.45	0.07	1	10/29/13 03:35	10/28/13	
Iron, Total Recoverable	6010B	**781**		mg/Kg	4.5	0.6	1	10/29/13 03:33	10/28/13	
Lead, Total Recoverable	6010B	**2.48**		mg/Kg	0.45	0.13	1	10/29/13 03:35	10/28/13	
Magnesium, Total Recoverable	6010B	**88.3**		mg/Kg	4.5	0.7	1	10/29/13 03:33	10/28/13	
Manganese, Total Recoverable	6010B	**49.5**		mg/Kg	0.45	0.009	1	10/29/13 03:34	10/28/13	
Mercury, Total	7471B	**0.0148**		mg/Kg	0.0066	0.0010	1	10/29/13 17:33	10/26/13	
Molybdenum, Total Recoverable	6010B	**0.14**	**I**	mg/Kg	0.45	0.04	1	10/29/13 03:35	10/28/13	
Nickel, Total Recoverable	6010B	**0.81**		mg/Kg	0.45	0.04	1	10/29/13 03:35	10/28/13	
Phosphorus, Total Recoverable	6010B	**131**		mg/Kg	4.5	0.4	1	10/29/13 03:35	10/28/13	
Potassium, Total Recoverable	6010B	**41**	**I**	mg/Kg	90	4	1	10/29/13 03:33	10/28/13	
Selenium, Total Recoverable	6010B	0.27	U	mg/Kg	0.45	0.27	1	10/29/13 03:35	10/28/13	
Silver, Total Recoverable	6010B	0.05	U	mg/Kg	0.45	0.05	1	10/29/13 03:34	10/28/13	
Sodium, Total Recoverable	6010B	**8**	**I**	mg/Kg	23	2	1	10/29/13 03:33	10/28/13	
Strontium, Total Recoverable	6010B	**2.17**		mg/Kg	0.45	0.02	1	10/29/13 03:33	10/28/13	
Thallium, Total Recoverable	6010B	0.11	U	mg/Kg	0.45	0.11	1	10/29/13 03:35	10/28/13	
Tin, Total Recoverable	6010B	**0.1**	**I**	mg/Kg	1.8	0.07	1	10/29/13 03:35	10/28/13	
Titanium, Total Recoverable	6010B	**39.0**		mg/Kg	2.3	0.03	1	10/29/13 03:34	10/28/13	
Vanadium, Total Recoverable	6010B	**1.49**		mg/Kg	0.90	0.11	1	10/29/13 03:35	10/28/13	
Zinc, Total Recoverable	6010B	**1.81**		mg/Kg	0.90	0.16	1	10/29/13 03:35	10/28/13	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 09:30
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Johnson Soil	**Basis:**	As Received
Lab Code:	J1306351-001		

Toxicity Characteristics Leachate Procedure (TCLP)

Inorganic Parameters

Pre-Prep Method: EPA 1311

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, TCLP	6010B	0.04 U	mg/L	0.10	0.04	1	10/28/13 21:39	10/28/13	
Barium, TCLP	6010B	**0.06 I**	mg/L	0.10	0.003	1	10/28/13 21:39	10/28/13	
Cadmium, TCLP	6010B	0.002 U	mg/L	0.050	0.002	1	10/28/13 21:39	10/28/13	
Chromium, TCLP	6010B	0.005 U	mg/L	0.10	0.005	1	10/28/13 21:39	10/28/13	
Lead, TCLP	6010B	0.04 U	mg/L	0.10	0.04	1	10/28/13 21:39	10/28/13	
Mercury, TCLP	7470A	0.0010 U	mg/L	0.0010	0.0010	1	10/29/13 18:05	10/26/13	
Selenium, TCLP	6010B	**0.07 I**	mg/L	0.10	0.07	1	10/28/13 21:39	10/28/13	
Silver, TCLP	6010B	0.02 U	mg/L	0.10	0.02	1	10/28/13 21:39	10/28/13	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 09:30
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Johnson Soil	**Basis:**	Dry
Lab Code:	J1306351-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result		Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	9060M	**8070**		mg/Kg	500	500	1	10/29/13	NA	
Cyanide, Total	9012B	0.13	U	mg/Kg	0.45	0.13	1	10/30/13	10/30/13	
Sulfide, Acid-Soluble	9034	13	U	mg/Kg	20	13	1	10/29/13	10/29/13	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 09:30
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Johnson Soil	**Basis:**	As Received
Lab Code:	J1306351-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Ignitability	1030	**Not**	NONE	-	-	1	10/28/13	NA	
pH	9045D	**5.77**	pH Units	-	-	1	10/28/13	10/28/13	H
Solids, Total	160.3 Modified	**98**	Percent	0.10	0.10	1	10/28/13	NA	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 10:50
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Andrews Pit	**Units:**	ug/Kg
Lab Code:	J1306351-002	**Basis:**	Dry

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B
Prep Method: EPA 5035

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,1,1,2-Tetrachloroethane	0.410 U	3.27	0.410	1	10/24/13 20:13	10/24/13	
1,1,1-Trichloroethane (TCA)	0.230 U	3.27	0.230	1	10/24/13 20:13	10/24/13	
1,1,2,2-Tetrachloroethane	0.230 U	3.27	0.230	1	10/24/13 20:13	10/24/13	
1,1,2-Trichloroethane	0.390 U	3.27	0.390	1	10/24/13 20:13	10/24/13	
1,1-Dichloroethane (1,1-DCA)	0.310 U	3.27	0.310	1	10/24/13 20:13	10/24/13	
1,1-Dichloroethene (1,1-DCE)	0.690 U	3.27	0.690	1	10/24/13 20:13	10/24/13	
1,2,3-Trichloropropane	0.760 U	3.27	0.760	1	10/24/13 20:13	10/24/13	
1,2-Dibromo-3-chloropropane (DBCP)	0.530 U	6.53	0.530	1	10/24/13 20:13	10/24/13	
1,2-Dibromoethane (EDB)	0.580 U	3.27	0.580	1	10/24/13 20:13	10/24/13	
1,2-Dichlorobenzene	0.320 U	3.27	0.320	1	10/24/13 20:13	10/24/13	
1,2-Dichloroethane	0.300 U	3.27	0.300	1	10/24/13 20:13	10/24/13	
1,2-Dichloropropane	0.410 U	3.27	0.410	1	10/24/13 20:13	10/24/13	
1,3-Dichlorobenzene	0.300 U	3.27	0.300	1	10/24/13 20:13	10/24/13	
1,4-Dichlorobenzene	0.100 U	3.27	0.100	1	10/24/13 20:13	10/24/13	
2-Butanone (MEK)	1.60 U	16.3	1.60	1	10/24/13 20:13	10/24/13	
2-Hexanone	2.20 U	6.53	2.20	1	10/24/13 20:13	10/24/13	
4-Methyl-2-pentanone (MIBK)	1.50 U	6.53	1.50	1	10/24/13 20:13	10/24/13	
Acetone	2.30 U	81.7	2.30	1	10/24/13 20:13	10/24/13	
Benzene	0.170 U	3.27	0.170	1	10/24/13 20:13	10/24/13	
Bromochloromethane	0.600 U	3.27	0.600	1	10/24/13 20:13	10/24/13	
Bromodichloromethane	0.370 U	3.27	0.370	1	10/24/13 20:13	10/24/13	
Bromoform	0.340 U	3.27	0.340	1	10/24/13 20:13	10/24/13	
Bromomethane	0.270 U	3.27	0.270	1	10/24/13 20:13	10/24/13	
Carbon Disulfide	0.800 U	6.53	0.800	1	10/24/13 20:13	10/24/13	
Carbon Tetrachloride	0.190 U	3.27	0.190	1	10/24/13 20:13	10/24/13	
Chlorobenzene	0.140 U	3.27	0.140	1	10/24/13 20:13	10/24/13	
Chloroethane	0.330 U	3.27	0.330	1	10/24/13 20:13	10/24/13	
Chloroform	0.180 U	3.27	0.180	1	10/24/13 20:13	10/24/13	
Chloromethane	0.210 U	3.27	0.210	1	10/24/13 20:13	10/24/13	
cis-1,2-Dichloroethene	0.330 U	3.27	0.330	1	10/24/13 20:13	10/24/13	
cis-1,3-Dichloropropene	0.140 U	3.27	0.140	1	10/24/13 20:13	10/24/13	
Dibromochloromethane	0.220 U	3.27	0.220	1	10/24/13 20:13	10/24/13	
Dibromomethane	0.390 U	3.27	0.390	1	10/24/13 20:13	10/24/13	
Dichlorodifluoromethane	0.180 U	13.1	0.180	1	10/24/13 20:13	10/24/13	
Ethylbenzene	0.120 U	3.27	0.120	1	10/24/13 20:13	10/24/13	
Iodomethane	1.10 U	6.53	1.10	1	10/24/13 20:13	10/24/13	
m,p-Xylenes	0.210 U	6.53	0.210	1	10/24/13 20:13	10/24/13	
Methyl tert-Butyl Ether	0.260 U	3.27	0.260	1	10/24/13 20:13	10/24/13	
Methylene Chloride	**0.581 IV**	6.53	0.310	1	10/24/13 20:13	10/24/13	
o-Xylene	0.160 U	3.27	0.160	1	10/24/13 20:13	10/24/13	
Styrene	0.270 U	3.27	0.270	1	10/24/13 20:13	10/24/13	
Tetrachloroethene (PCE)	0.250 U	3.27	0.250	1	10/24/13 20:13	10/24/13	
Toluene	0.270 U	3.27	0.270	1	10/24/13 20:13	10/24/13	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 10:50
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Andrews Pit	**Units:**	ug/Kg
Lab Code:	J1306351-002	**Basis:**	Dry

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B
Prep Method: EPA 5035

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
trans-1,2-Dichloroethene	0.390 U	3.27	0.390	1	10/24/13 20:13	10/24/13	
trans-1,3-Dichloropropene	0.220 U	3.27	0.220	1	10/24/13 20:13	10/24/13	
trans-1,4-Dichloro-2-butene	0.540 U	13.1	0.540	1	10/24/13 20:13	10/24/13	
Trichloroethene (TCE)	0.250 U	3.27	0.250	1	10/24/13 20:13	10/24/13	
Trichlorofluoromethane	0.210 U	13.1	0.210	1	10/24/13 20:13	10/24/13	
Vinyl Acetate	1.20 U	6.53	1.20	1	10/24/13 20:13	10/24/13	
Vinyl Chloride	0.260 U	3.27	0.260	1	10/24/13 20:13	10/24/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	110	80 - 120	10/24/13 20:13	
4-Bromofluorobenzene	102	64 - 135	10/24/13 20:13	
Dibromofluoromethane	105	74 - 125	10/24/13 20:13	
Toluene-d8	100	46 - 156	10/24/13 20:13	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 10:50
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Andrews Pit	**Units:**	mg/L
Lab Code:	J1306351-002	**Basis:**	As Received

TCLP Volatile Organics by GC/MS

Analysis Method: 8260B
Pre-Prep Method: EPA 1311
Pre-Prep Date: 10/24/13

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1-Dichloroethene (1,1-DCE)	0.0160 U	0.100	0.0160	100	11/01/13 01:23	
1,2-Dichloroethane	0.0220 U	0.100	0.0220	100	11/01/13 01:23	
1,4-Dichlorobenzene	0.0160 U	0.100	0.0160	100	11/01/13 01:23	
2-Butanone (MEK)	0.380 U	2.50	0.380	100	11/01/13 01:23	
Benzene	0.0210 U	0.100	0.0210	100	11/01/13 01:23	
Carbon Tetrachloride	0.0340 U	0.100	0.0340	100	11/01/13 01:23	
Chlorobenzene	0.0160 U	0.100	0.0160	100	11/01/13 01:23	
Chloroform	0.0350 U	0.100	0.0350	100	11/01/13 01:23	
Tetrachloroethene (PCE)	0.0220 U	0.100	0.0220	100	11/01/13 01:23	
Trichloroethene (TCE)	0.0361 U	0.100	0.0361	100	11/01/13 01:23	
Vinyl Chloride	0.0361 U	0.100	0.0361	100	11/01/13 01:23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	92	72 - 121	11/01/13 01:23	
4-Bromofluorobenzene	104	86 - 113	11/01/13 01:23	
Dibromofluoromethane	93	86 - 112	11/01/13 01:23	
Toluene-d8	103	88 - 115	11/01/13 01:23	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 10:50
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Andrews Pit	**Units:**	ug/Kg
Lab Code:	J1306351-002	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270C
Prep Method: EPA 3550C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	66.3 U	179	66.3	1	10/30/13 07:31	10/28/13	
1,2-Dichlorobenzene	33.7 U	179	33.7	1	10/30/13 07:31	10/28/13	
1,3-Dichlorobenzene	40.0 U	179	40.0	1	10/30/13 07:31	10/28/13	
1,4-Dichlorobenzene	43.2 U	179	43.2	1	10/30/13 07:31	10/28/13	
1-Methylnaphthalene	69.5 U	179	69.5	1	10/30/13 07:31	10/28/13	
2,4,5-Trichlorophenol	60.0 U	179	60.0	1	10/30/13 07:31	10/28/13	
2,4,6-Trichlorophenol	52.6 U	179	52.6	1	10/30/13 07:31	10/28/13	
2,4-Dichlorophenol	66.3 U	179	66.3	1	10/30/13 07:31	10/28/13	
2,4-Dimethylphenol	87.4 U	179	87.4	1	10/30/13 07:31	10/28/13	
2,4-Dinitrophenol	24.2 U	705	24.2	1	10/30/13 07:31	10/28/13	
2,4-Dinitrotoluene	43.2 U	179	43.2	1	10/30/13 07:31	10/28/13	
2,6-Dinitrotoluene	50.5 U	179	50.5	1	10/30/13 07:31	10/28/13	
2-Chloronaphthalene	45.3 U	179	45.3	1	10/30/13 07:31	10/28/13	
2-Chlorophenol	36.9 U	179	36.9	1	10/30/13 07:31	10/28/13	
2-Methylnaphthalene	62.1 U	179	62.1	1	10/30/13 07:31	10/28/13	
2-Methylphenol	50.5 U	179	50.5	1	10/30/13 07:31	10/28/13	
2-Nitroaniline	53.7 U	179	53.7	1	10/30/13 07:31	10/28/13	
2-Nitrophenol	54.8 U	705	54.8	1	10/30/13 07:31	10/28/13	
3- and 4-Methylphenol Coelution	45.3 U	179	45.3	1	10/30/13 07:31	10/28/13	
3,3'-Dichlorobenzidine	89.5 U	705	89.5	1	10/30/13 07:31	10/28/13	
3-Nitroaniline	53.7 U	179	53.7	1	10/30/13 07:31	10/28/13	
4,6-Dinitro-2-methylphenol	50.5 U	179	50.5	1	10/30/13 07:31	10/28/13	
4-Bromophenyl Phenyl Ether	54.8 U	179	54.8	1	10/30/13 07:31	10/28/13	
4-Chloro-3-methylphenol	55.8 U	179	55.8	1	10/30/13 07:31	10/28/13	
4-Chloroaniline	72.6 U	179	72.6	1	10/30/13 07:31	10/28/13	
4-Chlorophenyl Phenyl Ether	54.8 U	179	54.8	1	10/30/13 07:31	10/28/13	
4-Nitroaniline	57.9 U	179	57.9	1	10/30/13 07:31	10/28/13	
4-Nitrophenol	59.0 U	705	59.0	1	10/30/13 07:31	10/28/13	
Acenaphthene	55.8 U	179	55.8	1	10/30/13 07:31	10/28/13	
Acenaphthylene	49.5 U	179	49.5	1	10/30/13 07:31	10/28/13	
Acetophenone	48.4 U	358	48.4	1	10/30/13 07:31	10/28/13	
Anthracene	45.3 U	179	45.3	1	10/30/13 07:31	10/28/13	
Benz(a)anthracene	49.5 U	179	49.5	1	10/30/13 07:31	10/28/13	
Benzo(a)pyrene	39.0 U	179	39.0	1	10/30/13 07:31	10/28/13	
Benzo(b)fluoranthene	27.4 U	179	27.4	1	10/30/13 07:31	10/28/13	
Benzo(g,h,i)perylene	54.8 U	179	54.8	1	10/30/13 07:31	10/28/13	
Benzo(k)fluoranthene	62.1 U	179	62.1	1	10/30/13 07:31	10/28/13	
Benzyl Alcohol	40.0 U	358	40.0	1	10/30/13 07:31	10/28/13	
Bis(2-chloroethoxy)methane	55.8 U	179	55.8	1	10/30/13 07:31	10/28/13	
Bis(2-chloroethyl) Ether	44.2 U	179	44.2	1	10/30/13 07:31	10/28/13	
Bis(2-chloroisopropyl) Ether	36.9 U	179	36.9	1	10/30/13 07:31	10/28/13	
Bis(2-ethylhexyl) Phthalate	46.3 U	179	46.3	1	10/30/13 07:31	10/28/13	
Butyl Benzyl Phthalate	49.5 U	358	49.5	1	10/30/13 07:31	10/28/13	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 10:50
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Andrews Pit	**Units:**	ug/Kg
Lab Code:	J1306351-002	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270C
Prep Method: EPA 3550C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbazole	60.0 U	179	60.0	1	10/30/13 07:31	10/28/13	
Chrysene	47.4 U	179	47.4	1	10/30/13 07:31	10/28/13	
Dibenz(a,h)anthracene	48.4 U	179	48.4	1	10/30/13 07:31	10/28/13	
Dibenzofuran	48.4 U	179	48.4	1	10/30/13 07:31	10/28/13	
Diethyl Phthalate	53.7 U	179	53.7	1	10/30/13 07:31	10/28/13	
Dimethyl Phthalate	55.8 U	179	55.8	1	10/30/13 07:31	10/28/13	
Di-n-butyl Phthalate	35.8 U	179	35.8	1	10/30/13 07:31	10/28/13	
Di-n-octyl Phthalate	54.8 U	179	54.8	1	10/30/13 07:31	10/28/13	
Diphenylamine + n-Nitrosodiphenylamine	39.0 U	179	39.0	1	10/30/13 07:31	10/28/13	
Fluoranthene	50.5 U	179	50.5	1	10/30/13 07:31	10/28/13	
Fluorene	49.5 U	179	49.5	1	10/30/13 07:31	10/28/13	
Hexachlorobenzene	50.5 U	179	50.5	1	10/30/13 07:31	10/28/13	
Hexachlorobutadiene	57.9 U	179	57.9	1	10/30/13 07:31	10/28/13	
Hexachlorocyclopentadiene	35.8 U	179	35.8	1	10/30/13 07:31	10/28/13	
Hexachloroethane	32.7 U	179	32.7	1	10/30/13 07:31	10/28/13	
Indeno(1,2,3-cd)pyrene	43.2 U	179	43.2	1	10/30/13 07:31	10/28/13	
Isophorone	61.1 U	179	61.1	1	10/30/13 07:31	10/28/13	
Naphthalene	51.6 U	179	51.6	1	10/30/13 07:31	10/28/13	
Nitrobenzene	41.1 U	179	41.1	1	10/30/13 07:31	10/28/13	
N-Nitrosodi-n-propylamine	52.6 U	179	52.6	1	10/30/13 07:31	10/28/13	
Pentachlorophenol (PCP)	36.9 U	705	36.9	1	10/30/13 07:31	10/28/13	
Phenanthrene	44.2 U	179	44.2	1	10/30/13 07:31	10/28/13	
Phenol	48.4 U	179	48.4	1	10/30/13 07:31	10/28/13	
Pyrene	48.4 U	179	48.4	1	10/30/13 07:31	10/28/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	69	28 - 164	10/30/13 07:31	
2-Fluorobiphenyl	73	33 - 133	10/30/13 07:31	
2-Fluorophenol	61	10 - 126	10/30/13 07:31	
Nitrobenzene-d5	64	25 - 138	10/30/13 07:31	
Phenol-d6	66	10 - 170	10/30/13 07:31	
p-Terphenyl-d14	71	16 - 168	10/30/13 07:31	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 10:50
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Andrews Pit	**Units:**	mg/L
Lab Code:	J1306351-002	**Basis:**	As Received

TCLP Semivolatile Organic Compounds by GC/MS

Analysis Method:	8270C	**Pre-Prep Method:**	EPA 1311
Prep Method:	EPA 3510C	**Pre-Prep Date:**	10/24/13

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
o-Cresol, TCLP	0.0131 U	0.0500	0.0131	1	10/31/13 01:48	10/29/13	
m,p-Cresols, TCLP	0.0100 U	0.0500	0.0100	1	10/31/13 01:48	10/29/13	
2,4-Dinitrotoluene, TCLP	0.0131 U	0.0500	0.0131	1	10/31/13 01:48	10/29/13	
Hexachlorobenzene, TCLP	0.0170 U	0.0500	0.0170	1	10/31/13 01:48	10/29/13	
Hexachlorobutadiene, TCLP	0.0120 U	0.0500	0.0120	1	10/31/13 01:48	10/29/13	
Hexachloroethane, TCLP	0.00811 U	0.0500	0.00811	1	10/31/13 01:48	10/29/13	
Nitrobenzene, TCLP	0.0210 U	0.0500	0.0210	1	10/31/13 01:48	10/29/13	
Pentachlorophenol (PCP), TCLP	0.0110 U	0.200	0.0110	1	10/31/13 01:48	10/29/13	
Pyridine, TCLP	0.0110 U	0.200	0.0110	1	10/31/13 01:48	10/29/13	
2,4,5-Trichlorophenol, TCLP	0.0131 U	0.0500	0.0131	1	10/31/13 01:48	10/29/13	
2,4,6-Trichlorophenol, TCLP	0.00890 U	0.0500	0.00890	1	10/31/13 01:48	10/29/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	69	13 - 133	10/31/13 01:48	
2-Fluorobiphenyl	74	22 - 105	10/31/13 01:48	
2-Fluorophenol	54	10 - 69	10/31/13 01:48	
Nitrobenzene-d5	62	10 - 123	10/31/13 01:48	
Phenol-d6	39	10 - 59	10/31/13 01:48	
p-Terphenyl-d14	81	28 - 120	10/31/13 01:48	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 10:50
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Andrews Pit	**Units:**	ug/Kg
Lab Code:	J1306351-002	**Basis:**	Dry

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	0.674 U	1.66	0.674	1	10/29/13 21:26	10/25/13	
4,4'-DDE	0.743 U	1.66	0.743	1	10/29/13 21:26	10/25/13	
4,4'-DDT	1.12 U	1.66	1.12	1	10/29/13 21:26	10/25/13	
Aldrin	0.745 U	1.66	0.745	1	10/29/13 21:26	10/25/13	
alpha-BHC	0.520 U	1.66	0.520	1	10/29/13 21:26	10/25/13	
alpha-Chlordane	0.553 U	1.66	0.553	1	10/29/13 21:26	10/25/13	
beta-BHC	0.547 U	1.66	0.547	1	10/29/13 21:26	10/25/13	
Chlordane	10.7 U	33.1	10.7	1	10/29/13 21:26	10/25/13	
delta-BHC	0.547 U	1.66	0.547	1	10/29/13 21:26	10/25/13	
Dieldrin	0.893 U	1.66	0.893	1	10/29/13 21:26	10/25/13	
Endosulfan I	0.736 U	1.66	0.736	1	10/29/13 21:26	10/25/13	
Endosulfan II	1.05 U	1.66	1.05	1	10/29/13 21:26	10/25/13	
Endosulfan Sulfate	0.996 U	1.66	0.996	1	10/29/13 21:26	10/25/13	
Endrin	1.24 U	1.66	1.24	1	10/29/13 21:26	10/25/13	
Endrin Aldehyde	0.997 U	1.66	0.997	1	10/29/13 21:26	10/25/13	
Endrin Ketone	0.802 U	1.66	0.802	1	10/29/13 21:26	10/25/13	
gamma-BHC (Lindane)	1.07 U	1.66	1.07	1	10/29/13 21:26	10/25/13	
gamma-Chlordane	0.547 U	1.66	0.547	1	10/29/13 21:26	10/25/13	
Heptachlor	1.07 U	1.66	1.07	1	10/29/13 21:26	10/25/13	
Heptachlor Epoxide	0.853 U	1.66	0.853	1	10/29/13 21:26	10/25/13	
Methoxychlor	0.724 U	3.31	0.724	1	10/29/13 21:26	10/25/13	
Toxaphene	12.9 U	33.1	12.9	1	10/29/13 21:26	10/25/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	61	32 - 170	10/29/13 21:26	
Tetrachloro-m-xylene	48	10 - 147	10/29/13 21:26	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 10:50
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Andrews Pit	**Units:**	mg/L
Lab Code:	J1306351-002	**Basis:**	As Received

TCLP Organochlorine Pesticides by Gas Chromatography

Analysis Method:	8081A	**Pre-Prep Method:**	EPA 1311
Prep Method:	EPA 3510C	**Pre-Prep Date:**	10/24/13

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Chlordane, TCLP	0.00259 U	0.0500	0.00259	1	10/31/13 13:09	10/29/13	
Endrin, TCLP	0.0000900 U	0.000200	0.0000900	1	10/31/13 13:09	10/29/13	
gamma-BHC (Lindane), TCLP	0.000131 U	0.000200	0.000131	1	10/31/13 13:09	10/29/13	
Heptachlor, TCLP	0.000150 U	0.000200	0.000150	1	10/31/13 13:09	10/29/13	
Heptachlor Epoxide, TCLP	0.000100 U	0.000200	0.000100	1	10/31/13 13:09	10/29/13	
Methoxychlor, TCLP	0.0000900 U	0.000400	0.0000900	1	10/31/13 13:09	10/29/13	
Toxaphene, TCLP	0.00256 U	0.00500	0.00256	1	10/31/13 13:09	10/29/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	72	10 - 160	10/31/13 13:09	
Tetrachloro-m-xylene	50	22 - 126	10/31/13 13:09	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 10:50
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Andrews Pit	**Units:**	ug/Kg
Lab Code:	J1306351-002	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082
Prep Method: EPA 3550B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	9.06 U	32.2	9.06	1	10/26/13 15:45	10/25/13	
Aroclor 1221	6.68 U	32.2	6.68	1	10/26/13 15:45	10/25/13	
Aroclor 1232	21.6 U	32.2	21.6	1	10/26/13 15:45	10/25/13	
Aroclor 1242	8.89 U	32.2	8.89	1	10/26/13 15:45	10/25/13	
Aroclor 1248	16.1 U	32.2	16.1	1	10/26/13 15:45	10/25/13	
Aroclor 1254	12.2 U	32.2	12.2	1	10/26/13 15:45	10/25/13	
Aroclor 1260	9.30 U	32.2	9.30	1	10/26/13 15:45	10/25/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	66	10 - 258	10/26/13 15:45	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 10:50
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Andrews Pit	**Units:**	ug/Kg
Lab Code:	J1306351-002	**Basis:**	Dry

Chlorinated Herbicides by GC

Analysis Method: 8151A
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4,5-T	4.2 U	10	4.2	1	10/31/13 19:09	10/29/13	
2,4,5-TP	3.6 U	10	3.6	1	10/31/13 19:09	10/29/13	
2,4-D	7.7 U	10	7.7	1	10/31/13 19:09	10/29/13	
Dicamba	1.9 U	10	1.9	1	10/31/13 19:09	10/29/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4-Dichlorophenylacetic Acid	86	15 - 143	10/31/13 19:09	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 10:50
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Andrews Pit	**Units:**	ug/L
Lab Code:	J1306351-002	**Basis:**	Dry

TCLP Chlorinated Herbicides by GC

Analysis Method:	8151A	**Pre-Prep Method:**	EPA 1311
Prep Method:	Method	**Pre-Prep Date:**	10/24/13

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4-D	0.13 U	5.1	0.13	1	10/31/13 13:03	10/29/13	
2,4,5-TP (Silvex)	0.082 U	5.1	0.082	1	10/31/13 13:03	10/29/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
DCAA	83	12 - 131	10/31/13 13:03	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 10:50
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Andrews Pit	**Basis:**	Dry
Lab Code:	J1306351-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum, Total Recoverable	6010B	**2110**		mg/Kg	5.0	0.9	1	10/29/13 03:38	10/28/13	
Antimony, Total Recoverable	6010B	**0.10**	**I**	mg/Kg	0.50	0.08	1	10/29/13 03:40	10/28/13	
Arsenic, Total Recoverable	6010B	**0.45**	**I**	mg/Kg	0.50	0.12	1	10/29/13 03:40	10/28/13	
Barium, Total Recoverable	6010B	**7.73**		mg/Kg	0.50	0.03	1	10/29/13 03:40	10/28/13	
Beryllium, Total Recoverable	6010B	0.008	U	mg/Kg	0.20	0.008	1	10/29/13 03:39	10/28/13	
Boron, Total Recoverable	6010B	**0.9**	**I**	mg/Kg	2.5	0.3	1	10/29/13 03:40	10/28/13	
Cadmium, Total Recoverable	6010B	**0.05**	**I**	mg/Kg	0.25	0.007	1	10/29/13 03:40	10/28/13	
Calcium, Total Recoverable	6010B	**342**		mg/Kg	5.0	1.1	1	10/29/13 03:38	10/28/13	
Chromium, Total Recoverable	6010B	**1.88**		mg/Kg	0.50	0.02	1	10/29/13 03:40	10/28/13	
Copper, Total Recoverable	6010B	**0.45**	**I**	mg/Kg	0.50	0.07	1	10/29/13 03:40	10/28/13	
Iron, Total Recoverable	6010B	**1070**		mg/Kg	5.0	0.6	1	10/29/13 03:38	10/28/13	
Lead, Total Recoverable	6010B	**2.67**		mg/Kg	0.50	0.13	1	10/29/13 03:40	10/28/13	
Magnesium, Total Recoverable	6010B	**60.1**		mg/Kg	5.0	0.7	1	10/29/13 03:38	10/28/13	
Manganese, Total Recoverable	6010B	**11.1**		mg/Kg	0.50	0.009	1	10/29/13 03:39	10/28/13	
Mercury, Total	7471B	**0.0120**		mg/Kg	0.0068	0.0011	1	10/29/13 17:40	10/26/13	
Molybdenum, Total Recoverable	6010B	**0.15**	**I**	mg/Kg	0.50	0.04	1	10/29/13 03:40	10/28/13	
Nickel, Total Recoverable	6010B	**0.69**		mg/Kg	0.50	0.04	1	10/29/13 03:40	10/28/13	
Phosphorus, Total Recoverable	6010B	**111**		mg/Kg	5.0	0.4	1	10/29/13 03:40	10/28/13	
Potassium, Total Recoverable	6010B	**30**	**I**	mg/Kg	99	4	1	10/29/13 03:38	10/28/13	
Selenium, Total Recoverable	6010B	0.27	U	mg/Kg	0.50	0.27	1	10/29/13 03:40	10/28/13	
Silver, Total Recoverable	6010B	0.05	U	mg/Kg	0.50	0.05	1	10/29/13 03:39	10/28/13	
Sodium, Total Recoverable	6010B	**10**	**I**	mg/Kg	25	2	1	10/29/13 03:38	10/28/13	
Strontium, Total Recoverable	6010B	**13.4**		mg/Kg	0.50	0.02	1	10/29/13 03:38	10/28/13	
Thallium, Total Recoverable	6010B	0.11	U	mg/Kg	0.50	0.11	1	10/29/13 03:40	10/28/13	
Tin, Total Recoverable	6010B	**0.3**	**I**	mg/Kg	2.0	0.07	1	10/29/13 03:40	10/28/13	
Titanium, Total Recoverable	6010B	**33.3**		mg/Kg	2.5	0.03	1	10/29/13 03:39	10/28/13	
Vanadium, Total Recoverable	6010B	**1.83**		mg/Kg	0.99	0.11	1	10/29/13 03:40	10/28/13	
Zinc, Total Recoverable	6010B	**1.73**		mg/Kg	0.99	0.16	1	10/29/13 03:40	10/28/13	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 10:50
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Andrews Pit	**Basis:**	As Received
Lab Code:	J1306351-002		

Toxicity Characteristics Leachate Procedure (TCLP)

Inorganic Parameters

Pre-Prep Method: EPA 1311

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, TCLP	6010B	0.04 U	mg/L	0.10	0.04	1	10/28/13 21:44	10/28/13	
Barium, TCLP	6010B	**0.02 I**	mg/L	0.10	0.003	1	10/28/13 21:44	10/28/13	
Cadmium, TCLP	6010B	0.002 U	mg/L	0.050	0.002	1	10/28/13 21:44	10/28/13	
Chromium, TCLP	6010B	0.005 U	mg/L	0.10	0.005	1	10/28/13 21:44	10/28/13	
Lead, TCLP	6010B	0.04 U	mg/L	0.10	0.04	1	10/28/13 21:44	10/28/13	
Mercury, TCLP	7470A	0.0010 U	mg/L	0.0010	0.0010	1	10/29/13 18:06	10/26/13	
Selenium, TCLP	6010B	0.07 U	mg/L	0.10	0.07	1	10/28/13 21:44	10/28/13	
Silver, TCLP	6010B	0.02 U	mg/L	0.10	0.02	1	10/28/13 21:44	10/28/13	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 10:50
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Andrews Pit	**Basis:**	Dry
Lab Code:	J1306351-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result		Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	9060M	**6240**		mg/Kg	590	590	1	10/29/13	NA	
Cyanide, Total	9012B	0.13	U	mg/Kg	0.44	0.13	1	10/30/13	10/30/13	
Sulfide, Acid-Soluble	9034	**17**	**I**	mg/Kg	20	13	1	10/29/13	10/29/13	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	10/23/13 10:50
Sample Matrix:	Soil	**Date Received:**	10/24/13 09:15
Sample Name:	Andrews Pit	**Basis:**	As Received
Lab Code:	J1306351-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Ignitability	1030	**Not**	NONE	-	-	1	10/28/13	NA	
pH	9045D	**6.92**	pH Units	-	-	1	10/28/13	10/28/13	H
Solids, Total	160.3 Modified	**98**	Percent	0.10	0.10	1	10/28/13	NA	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	JQ1307551-02	**Basis:**	Dry

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B
Prep Method: EPA 5035

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,1,1,2-Tetrachloroethane	0.410 U	5.00	0.410	1	10/24/13 18:31	10/24/13	
1,1,1-Trichloroethane (TCA)	0.230 U	5.00	0.230	1	10/24/13 18:31	10/24/13	
1,1,2,2-Tetrachloroethane	0.230 U	5.00	0.230	1	10/24/13 18:31	10/24/13	
1,1,2-Trichloroethane	0.390 U	5.00	0.390	1	10/24/13 18:31	10/24/13	
1,1-Dichloroethane (1,1-DCA)	0.310 U	5.00	0.310	1	10/24/13 18:31	10/24/13	
1,1-Dichloroethene (1,1-DCE)	0.690 U	5.00	0.690	1	10/24/13 18:31	10/24/13	
1,2,3-Trichloropropane	0.760 U	5.00	0.760	1	10/24/13 18:31	10/24/13	
1,2-Dibromo-3-chloropropane (DBCP)	0.530 U	10.0	0.530	1	10/24/13 18:31	10/24/13	
1,2-Dibromoethane (EDB)	0.580 U	5.00	0.580	1	10/24/13 18:31	10/24/13	
1,2-Dichlorobenzene	0.320 U	5.00	0.320	1	10/24/13 18:31	10/24/13	
1,2-Dichloroethane	0.300 U	5.00	0.300	1	10/24/13 18:31	10/24/13	
1,2-Dichloropropane	0.410 U	5.00	0.410	1	10/24/13 18:31	10/24/13	
1,3-Dichlorobenzene	0.300 U	5.00	0.300	1	10/24/13 18:31	10/24/13	
1,4-Dichlorobenzene	0.100 U	5.00	0.100	1	10/24/13 18:31	10/24/13	
2-Butanone (MEK)	1.60 U	25.0	1.60	1	10/24/13 18:31	10/24/13	
2-Hexanone	2.20 U	10.0	2.20	1	10/24/13 18:31	10/24/13	
4-Methyl-2-pentanone (MIBK)	1.50 U	10.0	1.50	1	10/24/13 18:31	10/24/13	
Acetone	2.30 U	125	2.30	1	10/24/13 18:31	10/24/13	
Benzene	0.170 U	5.00	0.170	1	10/24/13 18:31	10/24/13	
Bromochloromethane	0.600 U	5.00	0.600	1	10/24/13 18:31	10/24/13	
Bromodichloromethane	0.370 U	5.00	0.370	1	10/24/13 18:31	10/24/13	
Bromoform	0.340 U	5.00	0.340	1	10/24/13 18:31	10/24/13	
Bromomethane	0.270 U	5.00	0.270	1	10/24/13 18:31	10/24/13	
Carbon Disulfide	0.800 U	10.0	0.800	1	10/24/13 18:31	10/24/13	
Carbon Tetrachloride	0.190 U	5.00	0.190	1	10/24/13 18:31	10/24/13	
Chlorobenzene	0.140 U	5.00	0.140	1	10/24/13 18:31	10/24/13	
Chloroethane	0.330 U	5.00	0.330	1	10/24/13 18:31	10/24/13	
Chloroform	0.180 U	5.00	0.180	1	10/24/13 18:31	10/24/13	
Chloromethane	0.210 U	5.00	0.210	1	10/24/13 18:31	10/24/13	
cis-1,2-Dichloroethene	0.330 U	5.00	0.330	1	10/24/13 18:31	10/24/13	
cis-1,3-Dichloropropene	0.140 U	5.00	0.140	1	10/24/13 18:31	10/24/13	
Dibromochloromethane	0.220 U	5.00	0.220	1	10/24/13 18:31	10/24/13	
Dibromomethane	0.390 U	5.00	0.390	1	10/24/13 18:31	10/24/13	
Dichlorodifluoromethane	0.180 U	20.0	0.180	1	10/24/13 18:31	10/24/13	
Ethylbenzene	0.120 U	5.00	0.120	1	10/24/13 18:31	10/24/13	
Iodomethane	1.10 U	10.0	1.10	1	10/24/13 18:31	10/24/13	
m,p-Xylenes	0.210 U	10.0	0.210	1	10/24/13 18:31	10/24/13	
Methyl tert-Butyl Ether	0.260 U	5.00	0.260	1	10/24/13 18:31	10/24/13	
Methylene Chloride	**2.33 I**	10.0	0.310	1	10/24/13 18:31	10/24/13	
o-Xylene	0.160 U	5.00	0.160	1	10/24/13 18:31	10/24/13	
Styrene	0.270 U	5.00	0.270	1	10/24/13 18:31	10/24/13	
Tetrachloroethene (PCE)	0.250 U	5.00	0.250	1	10/24/13 18:31	10/24/13	
Toluene	0.270 U	5.00	0.270	1	10/24/13 18:31	10/24/13	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	JQ1307551-02	**Basis:**	Dry

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B
Prep Method: EPA 5035

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
trans-1,2-Dichloroethene	0.390 U	5.00	0.390	1	10/24/13 18:31	10/24/13	
trans-1,3-Dichloropropene	0.220 U	5.00	0.220	1	10/24/13 18:31	10/24/13	
trans-1,4-Dichloro-2-butene	0.540 U	20.0	0.540	1	10/24/13 18:31	10/24/13	
Trichloroethene (TCE)	0.250 U	5.00	0.250	1	10/24/13 18:31	10/24/13	
Trichlorofluoromethane	0.210 U	20.0	0.210	1	10/24/13 18:31	10/24/13	
Vinyl Acetate	1.20 U	10.0	1.20	1	10/24/13 18:31	10/24/13	
Vinyl Chloride	0.260 U	5.00	0.260	1	10/24/13 18:31	10/24/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	103	80 - 120	10/24/13 18:31	
4-Bromofluorobenzene	96	64 - 135	10/24/13 18:31	
Dibromofluoromethane	102	74 - 125	10/24/13 18:31	
Toluene-d8	101	46 - 156	10/24/13 18:31	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	mg/L
Lab Code:	JQ1307561-01	**Basis:**	As Received

TCLP Volatile Organics by GC/MS

Analysis Method: 8260B
Pre-Prep Method: EPA 1311
Pre-Prep Date: 10/24/13

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1-Dichloroethene (1,1-DCE)	0.0160 U	0.100	0.0160	100	10/31/13 09:41	
1,2-Dichloroethane	0.0220 U	0.100	0.0220	100	10/31/13 09:41	
1,4-Dichlorobenzene	0.0160 U	0.100	0.0160	100	10/31/13 09:41	
2-Butanone (MEK)	0.380 U	2.50	0.380	100	10/31/13 09:41	
Benzene	0.0210 U	0.100	0.0210	100	10/31/13 09:41	
Carbon Tetrachloride	0.0340 U	0.100	0.0340	100	10/31/13 09:41	
Chlorobenzene	0.0160 U	0.100	0.0160	100	10/31/13 09:41	
Chloroform	0.0350 U	0.100	0.0350	100	10/31/13 09:41	
Tetrachloroethene (PCE)	0.0220 U	0.100	0.0220	100	10/31/13 09:41	
Trichloroethene (TCE)	0.0361 U	0.100	0.0361	100	10/31/13 09:41	
Vinyl Chloride	0.0361 U	0.100	0.0361	100	10/31/13 09:41	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	93	72 - 121	10/31/13 09:41	
4-Bromofluorobenzene	108	86 - 113	10/31/13 09:41	
Dibromofluoromethane	94	86 - 112	10/31/13 09:41	
Toluene-d8	103	88 - 115	10/31/13 09:41	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	JQ1307584-01	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270C
Prep Method: EPA 3550C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	63.0 U	170	63.0	1	10/30/13 01:33	10/28/13	
1,2-Dichlorobenzene	32.0 U	170	32.0	1	10/30/13 01:33	10/28/13	
1,3-Dichlorobenzene	38.0 U	170	38.0	1	10/30/13 01:33	10/28/13	
1,4-Dichlorobenzene	41.0 U	170	41.0	1	10/30/13 01:33	10/28/13	
1-Methylnaphthalene	66.0 U	170	66.0	1	10/30/13 01:33	10/28/13	
2,4,5-Trichlorophenol	57.0 U	170	57.0	1	10/30/13 01:33	10/28/13	
2,4,6-Trichlorophenol	50.0 U	170	50.0	1	10/30/13 01:33	10/28/13	
2,4-Dichlorophenol	63.0 U	170	63.0	1	10/30/13 01:33	10/28/13	
2,4-Dimethylphenol	83.0 U	170	83.0	1	10/30/13 01:33	10/28/13	
2,4-Dinitrophenol	23.0 U	670	23.0	1	10/30/13 01:33	10/28/13	
2,4-Dinitrotoluene	41.0 U	170	41.0	1	10/30/13 01:33	10/28/13	
2,6-Dinitrotoluene	48.0 U	170	48.0	1	10/30/13 01:33	10/28/13	
2-Chloronaphthalene	43.0 U	170	43.0	1	10/30/13 01:33	10/28/13	
2-Chlorophenol	35.0 U	170	35.0	1	10/30/13 01:33	10/28/13	
2-Methylnaphthalene	59.0 U	170	59.0	1	10/30/13 01:33	10/28/13	
2-Methylphenol	48.0 U	170	48.0	1	10/30/13 01:33	10/28/13	
2-Nitroaniline	51.0 U	170	51.0	1	10/30/13 01:33	10/28/13	
2-Nitrophenol	52.0 U	670	52.0	1	10/30/13 01:33	10/28/13	
3- and 4-Methylphenol Coelution	43.0 U	170	43.0	1	10/30/13 01:33	10/28/13	
3,3'-Dichlorobenzidine	85.0 U	670	85.0	1	10/30/13 01:33	10/28/13	
3-Nitroaniline	51.0 U	170	51.0	1	10/30/13 01:33	10/28/13	
4,6-Dinitro-2-methylphenol	48.0 U	170	48.0	1	10/30/13 01:33	10/28/13	
4-Bromophenyl Phenyl Ether	52.0 U	170	52.0	1	10/30/13 01:33	10/28/13	
4-Chloro-3-methylphenol	53.0 U	170	53.0	1	10/30/13 01:33	10/28/13	
4-Chloroaniline	69.0 U	170	69.0	1	10/30/13 01:33	10/28/13	
4-Chlorophenyl Phenyl Ether	52.0 U	170	52.0	1	10/30/13 01:33	10/28/13	
4-Nitroaniline	55.0 U	170	55.0	1	10/30/13 01:33	10/28/13	
4-Nitrophenol	56.0 U	670	56.0	1	10/30/13 01:33	10/28/13	
Acenaphthene	53.0 U	170	53.0	1	10/30/13 01:33	10/28/13	
Acenaphthylene	47.0 U	170	47.0	1	10/30/13 01:33	10/28/13	
Acetophenone	46.0 U	340	46.0	1	10/30/13 01:33	10/28/13	
Anthracene	43.0 U	170	43.0	1	10/30/13 01:33	10/28/13	
Benz(a)anthracene	47.0 U	170	47.0	1	10/30/13 01:33	10/28/13	
Benzo(a)pyrene	37.0 U	170	37.0	1	10/30/13 01:33	10/28/13	
Benzo(b)fluoranthene	26.0 U	170	26.0	1	10/30/13 01:33	10/28/13	
Benzo(g,h,i)perylene	52.0 U	170	52.0	1	10/30/13 01:33	10/28/13	
Benzo(k)fluoranthene	59.0 U	170	59.0	1	10/30/13 01:33	10/28/13	
Benzyl Alcohol	38.0 U	340	38.0	1	10/30/13 01:33	10/28/13	
Bis(2-chloroethoxy)methane	53.0 U	170	53.0	1	10/30/13 01:33	10/28/13	
Bis(2-chloroethyl) Ether	42.0 U	170	42.0	1	10/30/13 01:33	10/28/13	
Bis(2-chloroisopropyl) Ether	35.0 U	170	35.0	1	10/30/13 01:33	10/28/13	
Bis(2-ethylhexyl) Phthalate	44.0 U	170	44.0	1	10/30/13 01:33	10/28/13	
Butyl Benzyl Phthalate	47.0 U	340	47.0	1	10/30/13 01:33	10/28/13	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	JQ1307584-01	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270C
Prep Method: EPA 3550C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbazole	57.0 U	170	57.0	1	10/30/13 01:33	10/28/13	
Chrysene	45.0 U	170	45.0	1	10/30/13 01:33	10/28/13	
Dibenz(a,h)anthracene	46.0 U	170	46.0	1	10/30/13 01:33	10/28/13	
Dibenzofuran	46.0 U	170	46.0	1	10/30/13 01:33	10/28/13	
Diethyl Phthalate	51.0 U	170	51.0	1	10/30/13 01:33	10/28/13	
Dimethyl Phthalate	53.0 U	170	53.0	1	10/30/13 01:33	10/28/13	
Di-n-butyl Phthalate	34.0 U	170	34.0	1	10/30/13 01:33	10/28/13	
Di-n-octyl Phthalate	52.0 U	170	52.0	1	10/30/13 01:33	10/28/13	
Diphenylamine + n-Nitrosodiphenylamine	37.0 U	170	37.0	1	10/30/13 01:33	10/28/13	
Fluoranthene	48.0 U	170	48.0	1	10/30/13 01:33	10/28/13	
Fluorene	47.0 U	170	47.0	1	10/30/13 01:33	10/28/13	
Hexachlorobenzene	48.0 U	170	48.0	1	10/30/13 01:33	10/28/13	
Hexachlorobutadiene	55.0 U	170	55.0	1	10/30/13 01:33	10/28/13	
Hexachlorocyclopentadiene	34.0 U	170	34.0	1	10/30/13 01:33	10/28/13	
Hexachloroethane	31.0 U	170	31.0	1	10/30/13 01:33	10/28/13	
Indeno(1,2,3-cd)pyrene	41.0 U	170	41.0	1	10/30/13 01:33	10/28/13	
Isophorone	58.0 U	170	58.0	1	10/30/13 01:33	10/28/13	
Naphthalene	49.0 U	170	49.0	1	10/30/13 01:33	10/28/13	
Nitrobenzene	39.0 U	170	39.0	1	10/30/13 01:33	10/28/13	
N-Nitrosodi-n-propylamine	50.0 U	170	50.0	1	10/30/13 01:33	10/28/13	
Pentachlorophenol (PCP)	35.0 U	670	35.0	1	10/30/13 01:33	10/28/13	
Phenanthrene	42.0 U	170	42.0	1	10/30/13 01:33	10/28/13	
Phenol	46.0 U	170	46.0	1	10/30/13 01:33	10/28/13	
Pyrene	46.0 U	170	46.0	1	10/30/13 01:33	10/28/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	55	28 - 164	10/30/13 01:33	
2-Fluorobiphenyl	59	33 - 133	10/30/13 01:33	
2-Fluorophenol	54	10 - 126	10/30/13 01:33	
Nitrobenzene-d5	55	25 - 138	10/30/13 01:33	
Phenol-d6	56	10 - 170	10/30/13 01:33	
p-Terphenyl-d14	69	16 - 168	10/30/13 01:33	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	mg/L
Lab Code:	JQ1307552-01	**Basis:**	As Received

TCLP Semivolatile Organic Compounds by GC/MS

Analysis Method:	8270C	**Pre-Prep Method:**	EPA 1311
Prep Method:	EPA 3510C	**Pre-Prep Date:**	10/24/13

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
o-Cresol, TCLP	0.0131 U	0.0500	0.0131	1	10/31/13 10:06	10/29/13	
m,p-Cresols, TCLP	0.0100 U	0.0500	0.0100	1	10/31/13 10:06	10/29/13	
2,4-Dinitrotoluene, TCLP	0.0131 U	0.0500	0.0131	1	10/31/13 10:06	10/29/13	
Hexachlorobenzene, TCLP	0.0170 U	0.0500	0.0170	1	10/31/13 10:06	10/29/13	
Hexachlorobutadiene, TCLP	0.0120 U	0.0500	0.0120	1	10/31/13 10:06	10/29/13	
Hexachloroethane, TCLP	0.00811 U	0.0500	0.00811	1	10/31/13 10:06	10/29/13	
Nitrobenzene, TCLP	0.0210 U	0.0500	0.0210	1	10/31/13 10:06	10/29/13	
Pentachlorophenol (PCP), TCLP	0.0110 U	0.200	0.0110	1	10/31/13 10:06	10/29/13	
Pyridine, TCLP	0.0110 U	0.200	0.0110	1	10/31/13 10:06	10/29/13	
2,4,5-Trichlorophenol, TCLP	0.0131 U	0.0500	0.0131	1	10/31/13 10:06	10/29/13	
2,4,6-Trichlorophenol, TCLP	0.00890 U	0.0500	0.00890	1	10/31/13 10:06	10/29/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	70	13 - 133	10/31/13 10:06	
2-Fluorobiphenyl	77	22 - 105	10/31/13 10:06	
2-Fluorophenol	56	10 - 69	10/31/13 10:06	
Nitrobenzene-d5	65	10 - 123	10/31/13 10:06	
Phenol-d6	39	10 - 59	10/31/13 10:06	
p-Terphenyl-d14	99	28 - 120	10/31/13 10:06	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	JQ1307525-01	**Basis:**	Dry

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081A
Prep Method: EPA 3550B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	0.674 U	1.70	0.674	1	10/29/13 19:18	10/25/13	
4,4'-DDE	0.743 U	1.70	0.743	1	10/29/13 19:18	10/25/13	
4,4'-DDT	1.12 U	1.70	1.12	1	10/29/13 19:18	10/25/13	
Aldrin	0.745 U	1.70	0.745	1	10/29/13 19:18	10/25/13	
alpha-BHC	0.520 U	1.70	0.520	1	10/29/13 19:18	10/25/13	
alpha-Chlordane	0.553 U	1.70	0.553	1	10/29/13 19:18	10/25/13	
beta-BHC	0.547 U	1.70	0.547	1	10/29/13 19:18	10/25/13	
Chlordane	10.7 U	34.0	10.7	1	10/29/13 19:18	10/25/13	
delta-BHC	0.547 U	1.70	0.547	1	10/29/13 19:18	10/25/13	
Dieldrin	0.893 U	1.70	0.893	1	10/29/13 19:18	10/25/13	
Endosulfan I	0.736 U	1.70	0.736	1	10/29/13 19:18	10/25/13	
Endosulfan II	1.05 U	1.70	1.05	1	10/29/13 19:18	10/25/13	
Endosulfan Sulfate	0.996 U	1.70	0.996	1	10/29/13 19:18	10/25/13	
Endrin	1.24 U	1.70	1.24	1	10/29/13 19:18	10/25/13	
Endrin Aldehyde	0.997 U	1.70	0.997	1	10/29/13 19:18	10/25/13	
Endrin Ketone	0.802 U	1.70	0.802	1	10/29/13 19:18	10/25/13	
gamma-BHC (Lindane)	1.07 U	1.70	1.07	1	10/29/13 19:18	10/25/13	
gamma-Chlordane	0.547 U	1.70	0.547	1	10/29/13 19:18	10/25/13	
Heptachlor	1.07 U	1.70	1.07	1	10/29/13 19:18	10/25/13	
Heptachlor Epoxide	0.853 U	1.70	0.853	1	10/29/13 19:18	10/25/13	
Methoxychlor	0.724 U	3.40	0.724	1	10/29/13 19:18	10/25/13	
Toxaphene	12.9 U	34.0	12.9	1	10/29/13 19:18	10/25/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	94	32 - 170	10/29/13 19:18	
Tetrachloro-m-xylene	75	10 - 147	10/29/13 19:18	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	mg/L
Lab Code:	JQ1307552-01	**Basis:**	As Received

TCLP Organochlorine Pesticides by Gas Chromatography

Analysis Method:	8081A	**Pre-Prep Method:**	EPA 1311
Prep Method:	EPA 3510C	**Pre-Prep Date:**	10/24/13

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Chlordane, TCLP	0.00259 U	0.0500	0.00259	1	10/31/13 11:01	10/29/13	
Endrin, TCLP	0.0000900 U	0.000200	0.0000900	1	10/31/13 11:01	10/29/13	
gamma-BHC (Lindane), TCLP	0.000131 U	0.000200	0.000131	1	10/31/13 11:01	10/29/13	
Heptachlor, TCLP	0.000150 U	0.000200	0.000150	1	10/31/13 11:01	10/29/13	
Heptachlor Epoxide, TCLP	0.000100 U	0.000200	0.000100	1	10/31/13 11:01	10/29/13	
Methoxychlor, TCLP	0.0000900 U	0.000400	0.0000900	1	10/31/13 11:01	10/29/13	
Toxaphene, TCLP	0.00256 U	0.00500	0.00256	1	10/31/13 11:01	10/29/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	74	10 - 160	10/31/13 11:01	
Tetrachloro-m-xylene	44	22 - 126	10/31/13 11:01	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	JQ1307525-01	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082
Prep Method: EPA 3550B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	9.06 U	33.0	9.06	1	10/26/13 14:32	10/25/13	
Aroclor 1221	6.68 U	33.0	6.68	1	10/26/13 14:32	10/25/13	
Aroclor 1232	21.6 U	33.0	21.6	1	10/26/13 14:32	10/25/13	
Aroclor 1242	8.89 U	33.0	8.89	1	10/26/13 14:32	10/25/13	
Aroclor 1248	16.1 U	33.0	16.1	1	10/26/13 14:32	10/25/13	
Aroclor 1254	12.2 U	33.0	12.2	1	10/26/13 14:32	10/25/13	
Aroclor 1260	9.30 U	33.0	9.30	1	10/26/13 14:32	10/25/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	84	10 - 258	10/26/13 14:32	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ1313513-01	**Basis:**	Dry

Chlorinated Herbicides by GC

Analysis Method: 8151A
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4,5-T	4.1 U	10	4.1	1	10/31/13 20:10	10/29/13	
2,4,5-TP	3.5 U	10	3.5	1	10/31/13 20:10	10/29/13	
2,4-D	7.5 U	10	7.5	1	10/31/13 20:10	10/29/13	
Dicamba	1.9 U	10	1.9	1	10/31/13 20:10	10/29/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4-Dichlorophenylacetic Acid	44	15 - 143	10/31/13 20:10	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	JQ1307552-01	**Basis:**	Dry

TCLP Chlorinated Herbicides by GC

Analysis Method:	8151A	**Pre-Prep Method:**	EPA 1311
Prep Method:	Method	**Pre-Prep Date:**	10/24/13

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4-D	0.12 U	5.0	0.12	1	10/31/13 13:33	10/29/13	
2,4,5-TP (Silvex)	0.080 U	5.0	0.080	1	10/31/13 13:33	10/29/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
DCAA	84	12 - 131	10/31/13 13:33	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1313511-01	**Basis:**	Dry

TCLP Chlorinated Herbicides by GC

Analysis Method: 8151A
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4-D	0.12 U	5.0	0.12	1	10/31/13 11:00	10/29/13	
2,4,5-TP (Silvex)	0.080 U	5.0	0.080	1	10/31/13 11:00	10/29/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
DCAA	45	12 - 131	10/31/13 11:00	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	Dry
Lab Code:	J1306351-MB2		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum, Total Recoverable	6010B	0.9	U	mg/Kg	5.0	0.9	1	10/29/13 03:03	10/28/13	
Antimony, Total Recoverable	6010B	**0.15**	**I**	mg/Kg	0.50	0.08	1	10/29/13 03:05	10/28/13	
Arsenic, Total Recoverable	6010B	0.12	U	mg/Kg	0.50	0.12	1	10/29/13 03:05	10/28/13	
Barium, Total Recoverable	6010B	0.03	U	mg/Kg	0.50	0.03	1	10/29/13 03:05	10/28/13	
Beryllium, Total Recoverable	6010B	0.008	U	mg/Kg	0.20	0.008	1	10/29/13 03:04	10/28/13	
Boron, Total Recoverable	6010B	**0.6**	**I**	mg/Kg	2.5	0.3	1	10/29/13 03:05	10/28/13	
Cadmium, Total Recoverable	6010B	0.007	U	mg/Kg	0.25	0.007	1	10/29/13 03:05	10/28/13	
Calcium, Total Recoverable	6010B	1.1	U	mg/Kg	5.0	1.1	1	10/29/13 03:03	10/28/13	
Chromium, Total Recoverable	6010B	0.02	U	mg/Kg	0.50	0.02	1	10/29/13 03:05	10/28/13	
Copper, Total Recoverable	6010B	0.07	U	mg/Kg	0.50	0.07	1	10/29/13 03:04	10/28/13	
Iron, Total Recoverable	6010B	0.6	U	mg/Kg	5.0	0.6	1	10/29/13 03:03	10/28/13	
Lead, Total Recoverable	6010B	0.13	U	mg/Kg	0.50	0.13	1	10/29/13 03:05	10/28/13	
Magnesium, Total Recoverable	6010B	0.7	U	mg/Kg	5.0	0.7	1	10/29/13 03:03	10/28/13	
Manganese, Total Recoverable	6010B	0.009	U	mg/Kg	0.50	0.009	1	10/29/13 03:05	10/28/13	
Mercury, Total	7471B	**0.0034**	**I**	mg/Kg	0.0067	0.0010	1	10/29/13 17:30	10/26/13	
Molybdenum, Total Recoverable	6010B	**0.05**	**I**	mg/Kg	0.50	0.04	1	10/29/13 03:05	10/28/13	
Nickel, Total Recoverable	6010B	**0.05**	**I**	mg/Kg	0.50	0.04	1	10/29/13 03:05	10/28/13	
Phosphorus, Total Recoverable	6010B	**0.7**	**I**	mg/Kg	5.0	0.4	1	10/29/13 03:05	10/28/13	
Potassium, Total Recoverable	6010B	**5**	**I**	mg/Kg	100	4	1	10/29/13 03:03	10/28/13	
Selenium, Total Recoverable	6010B	0.27	U	mg/Kg	0.50	0.27	1	10/29/13 03:05	10/28/13	
Silver, Total Recoverable	6010B	0.05	U	mg/Kg	0.50	0.05	1	10/29/13 03:04	10/28/13	
Sodium, Total Recoverable	6010B	**6**	**I**	mg/Kg	25	2	1	10/29/13 03:03	10/28/13	
Strontium, Total Recoverable	6010B	0.02	U	mg/Kg	0.50	0.02	1	10/29/13 03:03	10/28/13	
Thallium, Total Recoverable	6010B	0.11	U	mg/Kg	0.50	0.11	1	10/29/13 03:05	10/28/13	
Tin, Total Recoverable	6010B	**0.1**	**I**	mg/Kg	2.0	0.07	1	10/29/13 03:05	10/28/13	
Titanium, Total Recoverable	6010B	0.03	U	mg/Kg	2.5	0.03	1	10/29/13 03:04	10/28/13	
Vanadium, Total Recoverable	6010B	0.2	U	mg/Kg	1.0	0.2	1	10/29/13 03:04	10/28/13	
Zinc, Total Recoverable	6010B	0.2	U	mg/Kg	1.0	0.2	1	10/29/13 03:05	10/28/13	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	As Received
Lab Code:	J1306351-MB1		

Toxicity Characteristics Leachate Procedure (TCLP)

Inorganic Parameters

Pre-Prep Method: EPA 1311

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, TCLP	6010B	0.04 U	mg/L	0.10	0.04	1	10/28/13 20:36	10/28/13	
Barium, TCLP	6010B	0.003 U	mg/L	0.10	0.003	1	10/28/13 20:36	10/28/13	
Cadmium, TCLP	6010B	0.002 U	mg/L	0.050	0.002	1	10/28/13 20:36	10/28/13	
Chromium, TCLP	6010B	0.005 U	mg/L	0.10	0.005	1	10/28/13 20:36	10/28/13	
Lead, TCLP	6010B	0.04 U	mg/L	0.10	0.04	1	10/28/13 20:36	10/28/13	
Mercury, TCLP	7470A	0.0010 U	mg/L	0.0010	0.0010	1	10/29/13 17:54	10/26/13	
Selenium, TCLP	6010B	0.07 U	mg/L	0.10	0.07	1	10/28/13 20:36	10/28/13	
Silver, TCLP	6010B	0.02 U	mg/L	0.10	0.02	1	10/28/13 20:36	10/28/13	

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Analytical Report

Client:	Beazer East, Inc.	**Service Request:**	J1306351
Project:	Gainesville/Soil Remediation (Borrow Pit)	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	Dry
Lab Code:	J1306351-MB		

General Chemistry Parameters

Analyte Name	Analysis Method	Result		Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	9060M	500	U	mg/Kg	500	500	1	10/29/13 10:50	NA	
Cyanide, Total	9012B	0.13	U	mg/Kg	0.50	0.13	1	10/30/13 18:05	10/30/13	
Sulfide, Acid-Soluble	9034	13	U	mg/Kg	20	13	1	10/29/13 09:53	10/29/13	

Vista
Analytical Laboratory

October 29, 2013

Vista Project I.D.: 1300728

Ms. Angela Gatchie
FTS
200 Third Ave.
Carnegie, PA 15106

Dear Ms. Gatchie,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on October 24, 2013. This sample set was analyzed on a rush turn-around time, under your Project Name 'Gainsville Borrows Pit'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier
Laboratory Director

ACCREDITED IN ACCORDANCE WITH nelac

Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAC for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Work Order No. 1300728
Case Narrative

Sample Condition on Receipt:

Two soil samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

EPA Method 1613

These samples were extracted and analyzed for tetra-through-octa chlorinated dioxins and furans by EPA Method 1613 using a ZB-5MS GC column.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank. The OPR recoveries were within the method acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

TABLE OF CONTENTS

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/ Containers
1300728-01	Johnson Soil	23-Oct-13 09:30	24-Oct-13 08:40	Amber Glass, 250mL
		23-Oct-13 09:30	24-Oct-13 08:40	Amber Glass, 250mL
1300728-02	Andrews Pit	23-Oct-13 10:50	24-Oct-13 08:40	Amber Glass, 250mL
		23-Oct-13 10:50	24-Oct-13 08:40	Amber Glass, 250mL

Vista Project: 1300728

Client Project: Gainsville Borrows Pit

ANALYTICAL RESULTS

Sample ID: Method Blank **EPA Method 1613B**

Matrix: Solid
Sample Size: 10.0 g

QC Batch: B3J0110
Date Extracted: 24-Oct-2013 13:32

Lab Sample: B3J0110-BLK1
Date Analyzed : 28-Oct-13 01:57 Column: ZB-5MS Analyst: FEB

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
2,3,7,8-TCDD	ND	0.0455		
1,2,3,7,8-PeCDD	ND	0.0529		
1,2,3,4,7,8-HxCDD	ND	0.0566		
1,2,3,6,7,8-HxCDD	ND	0.0614		
1,2,3,7,8,9-HxCDD	ND	0.0735		
1,2,3,4,6,7,8-HpCDD	ND	0.0953		
OCDD	ND	0.0931		
2,3,7,8-TCDF	ND	0.0403		
1,2,3,7,8-PeCDF	ND	0.0297		
2,3,4,7,8-PeCDF	ND	0.0284		
1,2,3,4,7,8-HxCDF	ND	0.0327		
1,2,3,6,7,8-HxCDF	ND	0.0309		
2,3,4,6,7,8-HxCDF	ND	0.0354		
1,2,3,7,8,9-HxCDF	ND	0.0502		
1,2,3,4,6,7,8-HpCDF	ND	0.0341		
1,2,3,4,7,8,9-HpCDF	ND	0.0483		
OCDF	ND	0.0561		

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-2,3,7,8-TCDD	101	25 - 164	
	13C-1,2,3,7,8-PeCDD	99.1	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	90.8	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	95.9	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	93.2	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	92.7	23 - 140	
	13C-OCDD	96.2	17 - 157	
	13C-2,3,7,8-TCDF	97.8	24 - 169	
	13C-1,2,3,7,8-PeCDF	99.7	24 - 185	
	13C-2,3,4,7,8-PeCDF	99.6	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	94.3	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	95.8	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	98.2	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	92.2	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	102	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	97.8	26 - 138	
	13C-OCDF	103	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	100	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	0.00

TOTALS

Total TCDD	ND	0.0455
Total PeCDD	ND	0.0529
Total HxCDD	ND	0.0735
Total HpCDD	ND	0.0953
Total TCDF	ND	0.0403
Total PeCDF	ND	0.0297
Total HxCDF	ND	0.0502
Total HpCDF	ND	0.0483

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: OPR **EPA Method 1613B**

Matrix: Solid	QC Batch: B3J0110	Lab Sample: B3J0110-BS1
Sample Size: 10.0 g	Date Extracted: 24-Oct-2013 13:32	Date Analyzed: 27-Oct-13 23:24 Column: ZB-5MS Analyst: FEB

Analyte	Amt Found (pg/g)	Spike Amt	%R	Limits
2,3,7,8-TCDD	18.1	20.0	90.4	67 - 158
1,2,3,7,8-PeCDD	94.7	100	94.7	70 - 142
1,2,3,4,7,8-HxCDD	99.4	100	99.4	70 - 164
1,2,3,6,7,8-HxCDD	98.1	100	98.1	76 - 134
1,2,3,7,8,9-HxCDD	98.4	100	98.4	64 - 162
1,2,3,4,6,7,8-HpCDD	98.9	100	98.9	70 - 140
OCDD	193	200	96.4	78 - 144
2,3,7,8-TCDF	19.3	20.0	96.4	75 - 158
1,2,3,7,8-PeCDF	103	100	103	80 - 134
2,3,4,7,8-PeCDF	102	100	102	68 - 160
1,2,3,4,7,8-HxCDF	106	100	106	72 - 134
1,2,3,6,7,8-HxCDF	105	100	105	84 - 130
2,3,4,6,7,8-HxCDF	105	100	105	70 - 156
1,2,3,7,8,9-HxCDF	109	100	109	78 - 130
1,2,3,4,6,7,8-HpCDF	102	100	102	82 - 122
1,2,3,4,7,8,9-HpCDF	107	100	107	78 - 138
OCDF	204	200	102	63 - 170

	Labeled Standard	%R	LCL-UCL
IS	13C-2,3,7,8-TCDD	99.6	20 - 175
	13C-1,2,3,7,8-PeCDD	99.3	21 - 227
	13C-1,2,3,4,7,8-HxCDD	91.1	21 - 193
	13C-1,2,3,6,7,8-HxCDD	95.1	25 - 163
	13C-1,2,3,7,8,9-HxCDD	89.3	21 - 193
	13C-1,2,3,4,6,7,8-HpCDD	93.0	26 - 166
	13C-OCDD	104	13 - 199
	13C-2,3,7,8-TCDF	96.4	22 - 152
	13C-1,2,3,7,8-PeCDF	100	21 - 192
	13C-2,3,4,7,8-PeCDF	100	13 - 328
	13C-1,2,3,4,7,8-HxCDF	93.9	19 - 202
	13C-1,2,3,6,7,8-HxCDF	99.0	21 - 159
	13C-2,3,4,6,7,8-HxCDF	96.8	22 - 176
	13C-1,2,3,7,8,9-HxCDF	89.0	17 - 205
	13C-1,2,3,4,6,7,8-HpCDF	103	21 - 158
	13C-1,2,3,4,7,8,9-HpCDF	98.7	20 - 186
	13C-OCDF	109	13 - 199
CRS	37Cl-2,3,7,8-TCDD	101	31 - 191

LCL-UCL - Lower control limit - upper control limit

Sample ID: Johnson Soil

EPA Method 1613B

Client Data
Name: FTS
Project: Gainsville Borrows Pit
Date Collected: 23-Oct-2013 9:30

Sample Data
Matrix: Soil
Sample Size: 10.4 g
% Solids: 97.9

Laboratory Data
Lab Sample: 1300728-01 Date Received: 24-Oct-2013 8:40
QC Batch: B3J0110 Date Extracted: 24-Oct-2013 13:32
Date Analyzed : 28-Oct-13 09:42 Column: ZB-5MS Analyst: FEB

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
2,3,7,8-TCDD	ND	0.0485		
1,2,3,7,8-PeCDD	ND		0.0769	
1,2,3,4,7,8-HxCDD	ND		0.136	
1,2,3,6,7,8-HxCDD	ND	0.122		
1,2,3,7,8,9-HxCDD	0.235			J
1,2,3,4,6,7,8-HpCDD	1.12			J
OCDD	6.47			
2,3,7,8-TCDF	ND	0.0572		
1,2,3,7,8-PeCDF	ND	0.0517		
2,3,4,7,8-PeCDF	0.133			J
1,2,3,4,7,8-HxCDF	0.139			J
1,2,3,6,7,8-HxCDF	0.135			J
2,3,4,6,7,8-HxCDF	0.161			J
1,2,3,7,8,9-HxCDF	0.144			J
1,2,3,4,6,7,8-HpCDF	0.312			J
1,2,3,4,7,8,9-HpCDF	0.221			J
OCDF	0.544			J

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-2,3,7,8-TCDD	92.6	25 - 164	
	13C-1,2,3,7,8-PeCDD	89.9	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	81.6	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	90.4	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	84.1	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	79.6	23 - 140	
	13C-OCDD	89.7	17 - 157	
	13C-2,3,7,8-TCDF	87.8	24 - 169	
	13C-1,2,3,7,8-PeCDF	88.6	24 - 185	
	13C-2,3,4,7,8-PeCDF	89.9	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	89.3	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	93.9	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	88.1	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	84.4	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	95.3	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	84.6	26 - 138	
	13C-OCDF	92.1	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	100	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	0.140

TOTALS

Total TCDD	ND	0.0485	
Total PeCDD	ND		0.0769
Total HxCDD	0.547		0.684
Total HpCDD	1.12		2.65
Total TCDF	0.336		
Total PeCDF	0.133		0.197
Total HxCDF	0.578		0.627
Total HpCDF	0.533		

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: Andrews Pit

EPA Method 1613B

Client Data
Name: FTS
Project: Gainsville Borrows Pit
Date Collected: 23-Oct-2013 10:50

Sample Data
Matrix: Soil
Sample Size: 10.3 g
% Solids: 97.4

Laboratory Data
Lab Sample: 1300728-02 Date Received: 24-Oct-2013 8:40
QC Batch: B3J0110 Date Extracted: 24-Oct-2013 13:32
Date Analyzed : 28-Oct-13 10:33 Column: ZB-5MS Analyst: FEB

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
2,3,7,8-TCDD	ND	0.0520		
1,2,3,7,8-PeCDD	ND	0.0896		
1,2,3,4,7,8-HxCDD	0.114			J
1,2,3,6,7,8-HxCDD	0.191			J
1,2,3,7,8,9-HxCDD	ND	0.187		
1,2,3,4,6,7,8-HpCDD	4.73			
OCDD	176			
2,3,7,8-TCDF	ND	0.0491		
1,2,3,7,8-PeCDF	ND	0.0607		
2,3,4,7,8-PeCDF	ND	0.0557		
1,2,3,4,7,8-HxCDF	ND	0.0788		
1,2,3,6,7,8-HxCDF	0.0668			J
2,3,4,6,7,8-HxCDF	ND	0.0866		
1,2,3,7,8,9-HxCDF	ND	0.121		
1,2,3,4,6,7,8-HpCDF	0.466			J
1,2,3,4,7,8,9-HpCDF	ND	0.211		
OCDF	0.611			J

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-2,3,7,8-TCDD	90.3	25 - 164	
	13C-1,2,3,7,8-PeCDD	87.6	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	83.0	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	87.1	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	81.6	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	77.7	23 - 140	
	13C-OCDD	82.7	17 - 157	
	13C-2,3,7,8-TCDF	88.4	24 - 169	
	13C-1,2,3,7,8-PeCDF	86.5	24 - 185	
	13C-2,3,4,7,8-PeCDF	87.1	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	88.4	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	92.4	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	89.4	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	83.7	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	89.6	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	81.4	26 - 138	
	13C-OCDF	85.3	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	92.4	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	0.142

TOTALS

Total TCDD	ND	0.0520
Total PeCDD	ND	0.0896
Total HxCDD	1.71	
Total HpCDD	12.5	
Total TCDF	0.256	
Total PeCDF	ND	0.0607
Total HxCDF	0.489	
Total HpCDF	0.766	

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

DATA QUALIFIERS & ABBREVIATIONS

B	**This compound was also detected in the method blank.**
D	**Dilution**
E	**The amount detected is above the High Calibration Limit.**
H	**Recovery was outside laboratory acceptance limits.**
I	**Chemical Interference**
J	**The amount detected is below the Low Calibration Limit.**
P	**The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.**
*****	**See Cover Letter**
Conc.	**Concentration**
DL	**Sample-specific estimated detection limit**
MDL	**Method Detection Limit as determined by 40 CFR 136, Appendix B.**
EMPC	**Estimated Maximum Possible Concentration**
NA	**Not applicable**
RL	**Reporting Limit – concentrations that correspond to low calibration point**
ND	**Not Detected**
TEQ	**Toxic Equivalency**

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
Alabama Dept of Environmental Management	41610
Alaska Department of Environmental Conservation	CA00413
Arkansas Dept of Environmental Quality	13-017-0
California Dept of Health – NELAP	02102CA
Colorado Dept of Public Health & Environment	N/A
Connecticut Dept of Public Health	PH-0182
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777
Hawaii Department of Health	N/A
Indiana Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Louisiana Department of Health and Hospitals	LA120020
Maine Department of Health	2012010
Michigan Department of Natural Resources	9932
Mississippi Department of Health	N/A
Nevada Division of Environmental Protection	CA004132013-2
New Jersey Dept of Environmental Protection	CA003
New York Department of Health	11411
North Carolina Dept of Health & Human Services	06700
North Dakota Dept of Health	R-078
Oregon Laboratory Accreditation Program	CA200001-011
Pennsylvania Dept of Environmental Protection	010
South Carolina Dept of Health	87002001
Tennessee Dept of Environment and Conservation	TN02996
Texas Commission on Environmental Quality	T104704189-13-4
Utah Dept of Health	CA164002012-2
Virginia Dept of General Services	2358
Washington Department of Ecology	C584
Wisconsin Dept of Natural Resources	998036160

CHAIN OF CUSTODY

FOR LABORATORY USE ONLY

Laboratory Project ID: 1300728

Storage ID: WR-2

Storage Secured: Yes ☑ No ☐

Temp: 0.3 °C

TAT: (Check One):

Standard: ○ 21 Days

Rush (surcharge may apply):

○ 14 days ○ 7 days Specify:

Project I.D.: Gainesville Borrow Pit P.O.#: Sampler: M. Toundas

Invoice to: (Name)	Company	Address	City	State	Zip	Ph#	Fax#
A. Gatchie	FTS	200 Third Ave	Carnegie	PA	15106		

Relinquished by: (Signature and Printed Name) M. Toundas Date: 10/23/13 Time: 1500

Received by: (Signature and Printed Name) Deborah Benedict Date: 10/24/13 Time: 0852

Relinquished by: (Signature and Printed Name) Date: Time:

Received by: (Signature and Printed Name) Date: Time:

See "Sample Log-in Checklist" for additional sample information

SHIP TO: Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
(916) 673-1520 • Fax (916) 673-0106

ATTN:

Method of Shipment: Fed Ex

Tracking No.: 8675 5015 7079

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	EPA1613 2378-TCDD	EPA1613 2378-TCDD/TCDF	EPA1613 PCDD/PCDF	EPA8290 2378-TCDD	EPA8290 2378-TCDD/TCDF	EPA8290 PCDD/PCDF	EPA8280 2378-TCDD	EPA8280 2378-TCDD/TCDF	EPA8280 PCDD/PCDF	EPA1668 TOTALS	EPA1668 COPLANAR PCB's	EPA1668 209 CONGENERS	EPA1668 PBDE	EPA1614 PAH	CARB429 WHO-29	CARB429 D10X IN
Johnson Soil	10/23/13	0930		2	G	So															✓	
Andrews Pit	10/23/13	1050		2	G	So															✓	

10/23/13

10/23/13

Special Instructions/Comments:

SEND DOCUMENTATION AND RESULTS TO:

Name: A. Gatchie
Company: FTS
Address: 200 Third Ave
City: Carnegie State: PA Zip: 15106
Phone: 412-479-2694 Fax: 412-279-9512
Email: agatchie.2006@f-ts.com

Container Types: A = 1 Liter Amber, G = Glass Jar
P = PUF, T = MM5 Train, O= Other

*Bottle Preservative Type: T = Thiosulfate,
O = Other

Matrix Types: DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum AQ = Aqueous, O = Other

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 1300728 **TAT** 7

Samples Arrival:	**Date/Time** 10/24/13 0840	**Initials:** VBSB	**Location:** WR-2 **Shelf/Rack:** N/A
Logged In:	**Date/Time** 10/24/13 0951	**Initials:** VBSB	**Location:** WR-2 **Shelf/Rack:** F 2

Delivered By:	(FedEx)	UPS	On Trac	DHL	Hand Delivered	Other
Preservation:	(Ice)	Blue Ice	Dry Ice	None		
Temp °C 0.3	**Time:** 0852	**Thermometer ID:** IR-1				

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill — Trk # 8675 5015 7074	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	

If Chlorinated or Drinking Water Samples, Acceptable Preservation?					✓
$Na_2S_2O_3$ Preservation Documented? N/A	COC	Sample Container	None		
Shipping Container	(Vista)	Client	(Retain)	Return	Dispose

Comments:

Sample Login 3/2007 rmh