PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT
FORMER FCX AND SOUTHERN STATES COOPERATIVE FACILITY
6601 WARD BOULEVARD
WILSON, WILSON COUNTY, NORTH CAROLINA
EPA BROWNFIELDS COOPERATIVE GRANT NUMBER BF-00D02312-0

Prepared for:

Mr. Brian Kvam
CARDNO TBE
1233 Washington Street, Suite 1000
Columbia, South Carolina 29201

Prepared by:

Mid-Atlantic Associates, Inc.
409 Rogers View Court
Raleigh, North Carolina
919-250-9918
www.MAAonline.com

September 24, 2013

Mid Atlantic
Engineering & Environmental Solutions

Mid Atlantic
Engineering & Environmental Solutions

409 Rogers View Court
Raleigh, NC 27610
office 919.250.9918
facsimile 919.250.9950
MAAONLINE.COM

PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT
FORMER FCX AND SOUTHERN STATES COOPERATIVE FACILITY
6601 WARD BOULEVARD
WILSON, WILSON COUNTY, NORTH CAROLINA
EPA BROWNFIELDS COOPERATIVE GRANT NUMBER BF-00D02312-0

September 24, 2013

Prepared for:

Mr. Brian Kvam
CARDNO TBE
1233 Washington Street, Suite 1000
Columbia, South Carolina 29201

Prepared by:

MID-ATLANTIC ASSOCIATES, INC.

Charles B. Hoffman, P.G.
Project Geologist

Darin M. McClure, P.E.
Principal Engineer

TABLE OF CONTENTS

I. DISTRIBUTION LIST i
II. REPORT LIMITATIONS ii

1.0 INTRODUCATION 1
1.1 Site Location and Description 1
1.2 Background Information 2
1.3 Areas of Concern 3

2.0 SOIL SAMPLING METHODOLOGY & RESULTS 3
2.1 Soil Boring Advancement 4
2.2 Soil Sample Collection 4
2.3 Soil Laboratory Analytical Results 6

3.0 GROUNDWATER SAMPLING METHODOLOGY & RESULTS 9
3.1 Groundwater Monitoring Well Installation 9
3.2 Groundwater Elevations 9
3.3 Groundwater Sample Collection 10
3.4 Groundwater Laboratory Results 11
3.5 Investigation-Derived Wastes 12

4.0 SOIL GAS SAMPLING METHODOLOGY & RESULTS 13
4.1 Soil Gas Sample Collection 13
4.2 Laboratory Analytical Results 13

5.0 RECEPTOR EVALUATION 14
5.1 Potential Pathways for Contaminant Transport 14
5.2 Potential Exposure Pathways 14
5.2.1 Soil Exposure 14
5.2.2 Groundwater Exposure 15
5.2.3 Vapor Exposure 15

6.0 DATA QUALITY 16
6.1 Property-Specific Corrective Actions 16
6.2 Quality Control Parameters 16
6.2.1 Precision and Accuracy 16
6.2.2 Representativeness 17
6.2.3 Completeness 18
6.2.4 Comparability 18
6.2.5 Sensitivity 18
6.3 Laboratory Data Evaluation 18
6.3.1 Qualitative Data – Level A 19
6.3.2 Quantitative Data – Level B 19

7.0 ASSESSMENT SUMMARY 20

8.0 REFERENCES 22

TABLE OF CONTENTS (CONTINUED)

DRAWINGS

Drawing 1.1 Topographic Site Map
Drawing 1.2 Site Map and Areas of Concern
Drawing 2.1 Soil Boring and Monitoring Well Location Map
Drawing 2.2 Soil Laboratory Results – Contaminants of Concern Map
Drawing 3.1 Estimated Water Table Contour Map – June 27, 2013

TABLES

Table 2.1 Summary of Constituents Detected in Soil Samples – Volatile Organic Compounds
Table 2.2 Summary of Constituents Detected in Soil Samples – Semi-Volatile Organic Compounds, Pesticides, Metals, Nitrate and Phosphorus
Table 3.1 Monitoring Well Construction Information
Table 3.2 Groundwater Elevation Data
Table 3.3 Summary of Constituents Detected in Groundwater
Table 4.1 Summary of Constituents Detected in Soil Gas
Table 6.1 Sample/Sample Duplicate Comparison: Grab Soil Samples SB-6D and Duplicate #1
Table 6.2 Sample/Sample Duplicate Comparison: Composite Soil Samples AOC-6 and Duplicate #2
Table 6.3 Sample/Sample Duplicate Comparison: Groundwater Samples MW-6 and Duplicate

APPENDICES

Appendix A Previous Environmental Reports (UST and AST Petroleum Releases)
Appendix B Laboratory Analytical Report and Chain-of-Custody Record for Soil Samples
Appendix C Soil Boring Logs and Well Construction Records
Appendix D Field Sampling Sheets
Appendix E Laboratory Analytical Report and Chain-of-Custody Record for Groundwater Samples
Appendix F Laboratory Analytical Report and Chain-of-Custody Record for Soil Gas Samples

I. DISTRIBUTION LIST

This Phase II Environmental Site Assessment (ESA) for the former FCX and Southern States Cooperative facility located in Wilson, North Carolina will be distributed to the following representatives:

Distribution List
David Egetter, Brownfields Project Officer United States Environmental Protection Agency (EPA) Region 4, Atlanta Federal Building Waste Management Division 61 Forsyth Street SW Atlanta, GA 30303
EPA Designated Approving Official (DAO) EPA - Region 4, Atlanta Federal Building 61 Forsyth Street Southwest Atlanta, GA 30303
Sharon Eckard, P.G., Brownfields Project Manager North Carolina Brownfields Program Division of Waste Management 1646 Mail Service Center Raleigh, NC 27699-1646
Rodger Lentz, City of Wilson Brownfields Project Director City of Wilson Post Office Box 10 Wilson, NC 27894
Brian J. Kvam, Project Manager CARDNO TBE 1233 Washington Street, Suite 1000 Columbia, SC 29201
M. Shane Dixon, QA/QC Manager CARDNO TBE 1233 Washington Street, Suite 1000 Columbia, SC 29201
Daniel H. Nielsen, Project Manager Charles B. Hoffman, Quality Assurance/Quality Control (QA/QC) Officer Mid-Atlantic Associates, Inc. 409 Rogers View Court Raleigh, NC 27610

II. REPORT LIMITATIONS

All work performed by Mid-Atlantic Associates, Inc. (Mid-Atlantic) was completed in accordance with generally accepted professional practices related to the nature of the work accomplished, in the same or similar localities, and at the time the services were performed. This report is for the specific application to the referenced project and for the exclusive use by the City of Wilson, North Carolina and CARDNO TBE (formerly CTC Public Benefit Corporation). Mid-Atlantic completed this work under contract to CTC Public Benefit Corporation in Columbia, South Carolina.

1.0 INTRODUCTION

This Phase II Environmental Site Assessment (ESA) report details the assessment activities conducted in accordance with the Generic Quality Assurance Project Plan (QAPP) and the Site-Specific QAPP Addendum prepared for the property located at 6601 Ward Boulevard (hereinafter referred to as the "subject property") in Wilson, Wilson County, North Carolina **(Drawing 1.1)**. The assessment presented herein was conducted under the Brownfields Assessment Grant between the USEPA and the City of Wilson, North Carolina (Grantee), USEPA Brownfields Cooperative Grant No. BF-00D02312-0. The Grantee requested the assessment be conducted in order to assess areas of environmental concern identified on the subject property during previous investigations.

The QAPP was prepared to outline broad data quality goals for all projects conducted under the Brownfields Grant received by the City of Wilson. The Site-Specific QAPP Addendum was prepared to identify the current site conditions, site-specific methods of assessment, data quality assurance measures to be employed, program reporting requirements, and certified analytical laboratories to be utilized. The Site-Specific QAPP Addendum was considered supplementary to the QAPP and was submitted under separate cover. The QAPP and the Site-Specific QAPP Addendum were amended to reflect comments by USEPA technical reviewers. Signed, executed copies of each document are on file with the Grantee and each agency for public review.

1.1 Site Location and Description

The subject site is located in the southeast portion of Wilson, North Carolina in a generally commercial/industrial setting. The site consists of one rectangular-shaped parcel of land totaling approximately 2.07 acres and recorded as Parcel ID Number 3721-34-9130 by the Wilson County Tax Administrator's Office. The parcel is zoned I-2 (Industrial II - Heavy) by the City of Wilson Planning and Development Department. The site is bounded to the northeast by the Norfolk-Southern Railroad; to the northwest by Ward Boulevard (US Highway 301); to the southeast by commercial property (Ihrie Supply Company); and to the southwest by Cargill Avenue.

The site is improved with one 11,250 square foot commercial/industrial facility, which historically operated as an office, showroom and storage warehouse (feed, seed, etc.) for FCX and Southern States Cooperative. The main facility is constructed of brick/concrete block exterior walls with a concrete slab on grade foundation. The site is also improved with three wood-framed storage buildings, several of which were previously used to store raw materials (potash, nitrates, etc) associated with the former site operations. Additional site improvements include a sub-grade molasses pit, two truck weigh scales, chain-link fencing, asphalt-paved parking areas and concrete secondary containment areas, loading docks and sidewalks. The layout of the subject site is shown on **Drawing 1.2**.

1.2 Background Information

The subject site has been developed with the present-day commercial/industrial structures since approximately 1956. The site was reportedly occupied by FCX, Inc. and Southern States Cooperative, Inc. from the time of its development until approximately 2006, when the facility was vacated. The site is currently owned and operated by Sirius Metal Recycling, Inc. The current property owner plans to continue to use the existing on-site structures for the operation of a scrap metal recycling facility.

A Phase I ESA conducted at the subject site (*Phase I Environmental Site Assessment Report* prepared by Mid-Atlantic and dated July 25, 2012) identified the following Recognized Environmental Conditions (RECs) in connection with the subject property:

- The historical on-site manufacturing, storage and/or distribution of pesticides and fertilizers, including the bulk storage of these materials in aboveground storage tanks (ASTs);
- The historical use of the subject site as a bulk petroleum storage and distribution facility, including the storage of petroleum in ASTs and the documented release(s) from these activities;
- The documented release from a 550-gallon heating oil underground storage tank (UST) on the northeast portion of the site;
- The former operation of three petroleum USTs at unknown locations on the subject site;
- The potential operation of a service station to the north and topographically upgradient of the subject site, across Ward Boulevard (US Highway 301); and
- The historical industrial operations, chemical mixing and use of bulk chemical ASTs on the north adjacent site, across Ward Boulevard (US Highway 301).

The site operated as a storage and distribution facility for pesticides and fertilizers from approximately 1956 until 2006 (FCX, Inc. from approximately 1956 until 1986 and Southern States Cooperative from approximately 1986 until 2006). During this time, site operations may have also included pesticide/fertilizer mixing and/or manufacturing activities; however, based on review of historical documents and interview information, no definitive information was available to discern whether or not these activities were historically conducted at the site. Based on this information, a proposed scope of work for the Phase II ESA activities was developed in conjunction with the NC Brownfields Program (the current owner has entered the site into this program). The scope of work was approved by the EPA and incorporated into the Site-Specific QAPP Addendum. The objective of the scope of work was to determine whether the historical storage, distribution, mixing and/or potential manufacturing of pesticides and fertilizers have resulted in adverse environmental impact to the site.

Prior to the 1990's, the site was also used for the bulk storage and distribution of petroleum. During the performance of the Phase I ESA, Mid-Atlantic conducted a regulatory review of the incident files in connection with two historical on-site petroleum releases. The releases were associated with the operation of a former AST fueling system and a former 550-gallon heating oil UST at the site. Using the available information, it was determined that the degree and extent of petroleum contamination associated with these releases had been previously evaluated and remediated to applicable standards, with the associated incident files closed out in their respective regulatory databases. Previous environmental reports detailing the assessment and remediation of these releases is provided for reference in **Appendix A**.

1.3 Areas of Concern

The Phase II scope of work and Site-Specific QAPP Addendum were prepared to address RECs identified during the Phase I ESA, as discussed in **Section 1.2**. The principal objectives of this Phase II ESA were to evaluate the potential for on-site areas of concern (AOCs) to impact the subject site, as well as provide the Brownfields Program with the necessary data required to draft a Brownfields Agreement for the property. A total of nine (9) AOCs were identified in connection with the historical site operations, which are identified as follows:

AOC 1 – Former bulk ASTs of unknown contents on southern portion of the site;
AOC 2 – Former silos of unknown contents on central portion of the site;
AOC 3 – Former bulk ASTs of unknown contents on northern portion of the site;
AOC 4 – Railcar loading/unloading areas and warehouse loading docks;
AOC 5 – Truck loading/unloading area and warehouse loading dock;
AOC 6 – Covered storage bay building along northeast property boundary;
AOC 7 – Covered storage bay building along southeast property boundary;
AOC 8 – Potential off-site sources of contamination; and
AOC 9 – Potential vapor intrusion into the on-site building.

The above-referenced AOCs are also identified on the site map provided as **Drawing 1.2**. Further details associated with the assessment of these AOCs are provided in the following sections of this report.

2.0 SOIL SAMPLING METHODOLOGY & RESULTS

Soil boring advancement, equipment decontamination, and sample collection activities were conducted in accordance with the USEPA Region 4 Science and Ecosystem Support Division (SESD) Field Branches Quality System and Technical Procedures. Any field variances, including appropriate response actions, are noted in each subsequent section as appropriate.

2.1 Soil Boring Advancement

On June 24, 2013, a total of 26 borings were advanced at the site for the collection of surface soil samples. The borings were advanced at predetermined locations throughout AOCs 1 through 7 in order to evaluate the current soil conditions in these areas. The locations of the soil borings are shown on **Drawing 2.1**.

Drilling activities were performed by Quantex, Inc. of Raleigh, North Carolina under Mid-Atlantic's supervision. With the exception of soil borings SB-7A through SB-7E, the borings were advanced using Geoprobe® direct push technology (DPT) and macrocore sampling techniques. Soil borings SB-7A through SB-7E were advanced using a hand auger due to overhead clearance issues within the covered storage bays for AOC 7. Each of the site borings were advanced to a minimum depth of approximately 2.5 feet below ground surface (bgs). In general, fine to medium-grained sands with varying amounts of clay and gravel were encountered to a depth of approximately 2.5 feet bgs (Note: five of these borings were also advanced to depths of 17 and 18 feet bgs for the installation of groundwater monitoring wells and characterization of subsurface lithology, as discussed in **Section 3.1**).

2.2 Soil Sample Collection

During the Phase II ESA, a total of seven (7) composite soil samples (including one duplicate sample) and ten (10) "grab" soil samples (including one duplicate sample and one background sample) were collected and submitted for laboratory analysis. The samples from each boring were collected at a depth of approximately six inches to one foot bgs.

In an effort to reduce laboratory costs (and approved by the EPA in the Site-Specific QAPP Addendum), the composite soil samples were collected from designated AOCs for analysis of semi-volatile organic compounds (SVOCs) using EPA Method 8270, pesticides using EPA Method 8081, nitrate using EPA Method 9056, phosphorus using Standard Method 4500 and the thirteen priority pollutant metals (silver, arsenic, beryllium, cadmium, chromium, copper, mercury, nickel, lead, antimony, selenium, thallium and zinc) using EPA Methods 6010 and 7471 (mercury only). Each composite sample was generated in the field using a series of "grab" soil samples, which were collected from designated boring locations within each specified AOC. This approach was utilized based on similarities between the potential contaminant sources within each AOC and the relatively close proximity between sampling locations. The boring locations and AOCs associated with each composite sample are identified on the following table:

COMPOSITE SAMPLE ID	AOC DESCRIPTION	BORINGS USED FOR COMPOSITE SAMPLE COLLECTION (DRAWING 2.1)
AOC-1	Former bulk liquid nitrogen ASTs and bulk ASTs of unknown contents on southern portion of the site	SB-1A, SB-1B, SB-1C, SB-1D (4 total borings)
AOC-2	Former silos of unknown contents on central portion of the site	SB-2A, SB-2B (2 total borings)
AOC-3	Former bulk ASTs of unknown contents on northern portion of the site	SB-3A, SB-3B (2 total borings)
AOC-4	Former railcar loading/ unloading areas and warehouse loading docks	SB-4A, SB-4B, SB-4C (3 total borings)
AOC-6	Covered storage bay building along northeast property boundary of the site	SB-6A, SB-6B, SB-6C, SB-6D, SB-6E, SB-6F, SB-6G (7 total borings)
AOC-7	Covered storage bay building along southeast property boundary of the site	SB-7A, SB-7B, SB-7C, SB-7D, SB-7E (5 total borings)

In addition, two “grab” soil samples were also collected from the former truck loading/ unloading area on the northern portion of the site (SB-5) and the area beneath the two former plastic 1,000-gallon ASTs on the southern portion of the site (SB-1E) for analysis of SVOCs, pesticides, nitrate, phosphorus and the thirteen priority-pollutant metals using the previously-identified analytical methods. These “grab” samples (SB-1E and SB-5) were also analyzed in the laboratory for volatile organic compounds (VOCs) using EPA Method 8260.

During the collection of each composite sample, selected portions of the soil cores from each “grab” sample were also collected into Ziploc bags and screened for evidence of VOCs using a Toxic Vapor Analyzer (TVA). The samples were screened with the TVA to assist in determining which soil samples would be submitted to the laboratory for analysis of VOCs. The “grab” samples collected from AOC-1 through AOC-4, AOC-6 and AOC-7 which exhibited the highest TVA readings were then submitted to the laboratory for analysis of VOCs using EPA Method 8260. The “grab” samples exhibiting the highest TVA readings from each of these AOCs are summarized in the following table:

COMPOSITE SAMPLE ID	BORINGS USED FOR COMPOSITE SAMPLE COLLECTION (DRAWING 2.1)	"GRAB" SAMPLE EXHIBITING HIGHEST TVA READING (SUBMITTED FOR ANALYSIS OF VOCs)	TVA READING IN PARTS PER MILLION (PPM)
AOC-1	SB-1A, SB-1B, SB-1C, SB-1D	SB-1B	296 ppm
AOC-2	SB-2A, SB-2B	SB-2B	1.97 ppm
AOC-3	SB-3A, SB-3B	SB-3A	5.17 ppm
AOC-4	SB-4A, SB-4B, SB-4C	SB-4B	2.27 ppm
AOC-6	SB-6A, SB-6B, SB-6C, SB-6D, SB-6E, SB-6F, SB-6G	SB-6D	4.20 ppm
AOC-7	SB-7A, SB-7B, SB-7C, SB-7D, SB-7E	SB-7A	6.94 ppm

During the Phase II ESA soil sampling activities, one "background" soil sample was also collected from the westernmost corner of the site and submitted to the laboratory for analysis of nitrate, phosphorus and the thirteen priority pollutant metals. Careful handling of samples and equipment was observed throughout the sampling procedures to avoid cross contamination. Samples were kept between four and six degrees centigrade through fieldwork operations and during shipment to Prism Laboratories, Inc. (Prism) for analysis.

2.3 Soil Laboratory Analytical Results

Laboratory analytical results for the June 2013 soil sampling activities are provided in **Appendix B** and summarized in **Tables 2.1 and 2.2**. The results were compared to the most recent version of the North Carolina Inactive Hazardous Sites Branch (IHSB) Preliminary Soil Remediation Goals (SRGs). The contaminants of concern detected at or above the SRGs for each boring/sampling location are shown on **Drawing 2.2**.

A total of eight "grab" soil samples (SB-1B, SB-1E, SB-2B, SB-3A, SB-4B, SB-5, SB-6D and SB-7A) were collected and submitted to the laboratory for analysis of VOCs, with the corresponding analytical results summarized in **Table 2.1** and discussed below.

- **VOCs**: One of the eight above-referenced soil samples (SB-1B) exhibited VOCs at concentrations exceeding their respective Protection of Groundwater (PGW) SRGs. Soil sample SB-1B exhibited a total of five petroleum-related VOCs (benzene, ethylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene and naphthalene) at concentrations above their respective PGW SRGs. The sample was collected from AOC-1, which is associated with the former bulk AST storage area on the southern portion of the site. The sample also exhibited an elevated TVA reading of 296 parts per million (ppm) and a petroleum-like odor in the field during sample collection. None of the samples exhibited VOCs at concentrations exceeding their respective Residential or Industrial SRGs.

A total of six composite soil samples (AOC-1 through AOC-4, AOC-6 and AOC-7) and two "grab" soil samples (SB-1E and SB-5) were collected and submitted to the laboratory for analysis of SVOCs and pesticides, with the corresponding analytical results summarized in **Table 2.2** and discussed below.

- **SVOCs**: One of the eight above-referenced soil samples (AOC-1) exhibited SVOCs (1-methylnaphthalene and 2-methylnaphthalene) at concentrations exceeding their respective PGW SRGs. The sample was composited in the field using a collection of four "grab" samples (SB-1A, SB-1B, SB-1C and SB-1D), as shown on **Drawing 2.2**. The "grab" samples were collected from AOC-1, which is associated with the former bulk AST storage area on the southern portion of the site. Samples SB-1A and SB-1B also exhibited elevated TVA readings (180 ppm and 296 ppm, respectively) and petroleum-like odors in the field during sample collection. None of the samples exhibited SVOCs at concentrations above their respective Residential or Industrial SRGs.

- **Pesticides:** Two of the eight above-referenced soil samples (AOC-1 and AOC-3) exhibited pesticides at concentrations above their respective PGW SRGs. One of the eight samples (AOC-1) exhibited pesticides at concentrations exceeding their respective Residential and Industrial SRGs. Composite sample AOC-1 exhibited 4,4'-DDD at a concentration of 9.400 milligrams per kilogram (mg/Kg), exceeding the PGW, Residential and Industrial SRGs for 4,4'-DDD (0.24 mg/Kg, 2.0 mg/Kg and 7.2 mg/Kg, respectively). Aldrin was also detected in the sample at a concentration of 0.035 mg/Kg, exceeding both the PGW and Residential SRGs (0.0033 mg/Kg and 0.029 mg/Kg, respectively), but beneath the Industrial SRG of 0.10 mg/Kg. Composite sample AOC-1 also exhibited 4,4'-DDE at a concentration above its PGW SRG but below the Residential and Industrial SRGs.

  Composite soil sample AOC-3 exhibited Dieldrin at concentrations above its PGW SRG but beneath the Residential and Industrial SRGs. The sample was composited in the field using a collection of two "grab" soil samples (SB-3A and

SB-3B), as shown on **Drawing 2.2**. The "grab" samples were collected from AOC-3, which is associated with the former bulk AST storage area on the northern portion of the site. No elevated TVA readings or unusual odors were observed in the field during sample collection.

A total of six composite soil samples (AOC-1 through AOC-4, AOC-6 and AOC-7), two "grab" soil samples (SB-1E and SB-5) and one background soil sample were collected and submitted to the laboratory for analysis of nitrate, phosphorus and the thirteen priority pollutant metals, with the corresponding analytical results also summarized in **Table 2.2** and discussed below.

- **Metals:** Each of the nine above-referenced samples, including the background sample, exhibited arsenic at concentrations exceeding the Residential and Industrial SRGs. The concentrations ranged from 1.8 mg/Kg to 4.6 mg/Kg, which are beneath the PGW SRG for arsenic (5.8 mg/Kg) and appear to be consistent with the average concentrations of arsenic detected in soils across the state of North Carolina (4.5 mg/Kg, North Carolina Department of Agriculture and Consumer Sources, Heavy Metals in North Carolina Soils, September 2008).

  With the exception of silver, no additional metals were detected in the samples at concentrations above their respective PGW, Residential or Industrial SRGs. Silver was detected in composite sample AOC-7 at a concentration exceeding its PGW SRG but beneath the Residential and Industrial SRGs. Soil sample AOC-7 was composited in the field using a collection of five "grab" samples (SB-7A, SB-7B, SB-7C, SB-7D and SB-7E), as shown on **Drawing 2.2**. The "grab" samples were collected from AOC-7, which is associated with the covered storage bays along the southeast property boundary of the site. No elevated TVA readings or unusual odors were observed in the field during sample collection.

- **Nitrate and Phosphorus:** None of the above-referenced samples exhibited nitrate at concentrations exceeding its Residential or Industrial SRGs. Nitrate does not currently have a PGW SRGs and no PGW, Residential or Industrial SRGs have been established for phosphorus. Phosphorus concentrations detected in the samples ranged from 28 mg/Kg for the background sample to 1,300 mg/Kg detected in "grab" sample SB-1E.

In accordance with the Site-Specific QAPP Addendum, one duplicate "grab" sample was also collected from soil boring SB-1E for analysis of VOCs and one duplicate composite sample was collected from AOC-6 for analysis of SVOCs, pesticides, metals, nitrate and phosphorus. Contaminant concentrations detected in the duplicate samples appeared similar to those of the primary sample. An evaluation of the QC parameter "precision" was conducted on all sample/sample duplicate pairs collected during the Phase II ESA activities, as discussed in **Section 6.2.1**.

3.0 GROUNDWATER SAMPLING METHODOLOGY & RESULTS

Five shallow, Type II groundwater monitoring wells (MW-1 through MW-5) and one deep, Type III monitoring well (MW-1D) were installed at the site during previous assessment activities associated with the historical on-site petroleum releases (refer to **Section 1.3** and **Appendix A**). Upon completion of previous assessment activities, the monitoring wells were abandoned, and the former well locations are shown on **Drawing 2.1**.

3.1 Groundwater Monitoring Well Installation

During the Phase II ESA, a total of five shallow, Type II groundwater monitoring wells (MW-6 through MW-10) were installed at the site in accordance with the Site-Specific QAPP Addendum. Drilling services were provided by Quantex, Inc. of Raleigh, North Carolina under the direct supervision of Mid-Atlantic. The monitoring wells were installed using a Geoprobe® 7822DT rig capable of turning hollow-stem augers. Well installation activities were conducted on June 25 and 26, 2013. Prior to the installation of each well, continuous soil sampling was conducted using DPT and macrocore sampling techniques. Soil boring logs for each well location are provided in **Appendix C**.

The wells were constructed using 2-inch diameter, Schedule 40, polyvinyl chloride (PVC) casing with ten feet of 0.010-inch mechanically slotted screen placed in the bottom of each well. The wells were constructed such that the well screen intersected the water table at the time of construction. Upon completion, each well was equipped with a locking cap and fitted with a flush-mounted, locking manhole cover. The wells were then developed using a peristaltic pump in order to remove sediment and increase the hydraulic connection between the well and the surrounding aquifer. The monitoring well construction records are provided in **Appendix C** and summarized in **Table 3.1**, with the locations of the on-site monitoring wells shown on **Drawings 2.1 and 3.1**.

3.2 Groundwater Elevations

Groundwater levels and flow directions are typically site specific. Site-specific groundwater flow can be influenced by impermeable surfaces, the proximity of nearby drainage features, sinkholes, creeks, swamps, and pumped groundwater wells. Fractures, joints, bedding planes and other discontinuities in the underlying rock can affect the groundwater conditions. In this setting, the surface of the groundwater table is expected to be a subdued replica of the local topography. Based on local topography of the area **(Drawing 1.1)**, the regional groundwater flow direction is interpreted to be to the southwest towards the Hominy Swamp. However, we could not accurately predict the direction of regional groundwater flow based solely on topographic observations and several local components of groundwater flow may exist.

Prior to sample collection, the vertical elevations of the new well casings for monitoring wells MW-6 through MW-10 were surveyed relative to a designated site benchmark and assumed datum of 100 feet (Note: elevations were determined to the nearest hundredth of a foot). Upon completion of surveying activities, water level measurements were collected from each of the site monitoring wells using an electronic water level indicator and the data was recorded on corresponding groundwater sampling field data sheets, copies of which are provided in **Appendix D**. The measured depths to groundwater were then subtracted from the casing elevations in order to determine water level elevations relative to the site benchmark, as shown in **Table 3.2**.

Groundwater flow direction in the surficial aquifer was determined by development of a water table contour map **(Drawing 3.1)** based on groundwater elevation data obtained from the site monitoring wells on June 27, 2013. Interpretation of the water level data suggests the general groundwater flow at the site is to the south/southeast. However, groundwater flow appears to vary across the site flowing towards the south on the northern portion of the site; towards the east on the central portion of the site; and towards the northeast on the southern portion of the site. Please note limited groundwater elevation data was obtained during this assessment and appears based on a series of sublinear sampling points, which generally trend north-south across the site. Therefore, we are unable to accurately determine groundwater flow across the entire site based solely on this information.

3.3 Groundwater Sample Collection

Groundwater samples were collected from monitoring wells MW-6 through MW-10 on June 27, 2013. Prior to sample collection, the wells were purged a minimum of three well volumes using a peristaltic pump. During purging, the groundwater field parameters temperature, pH, conductivity, dissolved oxygen (D.O.), oxidation-reduction potential (ORP) and turbidity were measured and recorded on the groundwater sampling field data sheets provided in **Appendix D**. Purging and sampling of each well were conducted using new, dedicated polyethylene tubing and low-flow sampling methods.

Upon completion of purging and stabilization of field parameters, groundwater samples were collected into pre-labeled, laboratory-supplied containers, placed on ice and transported under chain-of-custody to Prism in Charlotte, North Carolina for analysis. Groundwater samples were analyzed for VOCs using EPA Method 8260, SVOCs using EPA Method 8270, pesticides using EPA Method 8081, nitrate using EPA Method 9056, phosphorus using Standard Method 4500 and the thirteen priority-pollutant metals (silver, arsenic, beryllium, cadmium, chromium, copper, mercury, nickel, lead, antimony, selenium, thallium and zinc) using EPA Methods 6010 and 7470 (mercury only).

Careful handling of the sampling equipment and containers was observed throughout the procedure to avoid cross contamination. During sample collection, steps were taken to limit the agitation of the groundwater samples and to prevent aeration and turbidity.

Samples were kept between approximately four and six degrees centigrade throughout the fieldwork operations and during shipment to Prism. The groundwater samples were analyzed by the methods shown on the chain-of-custody record (as discussed above), a copy of which is included with the laboratory analytical report in **Appendix E.**

In addition to groundwater samples collected from each of the five site monitoring wells, the following QA/QC samples were also collected and submitted to Prism for analysis:

- One duplicate sample collected from monitoring well MW-6. This sample was collected at the same time as the primary groundwater sample and was analyzed for VOCs using EPA Method 8260, SVOCs using EPA Method 8270, pesticides using EPA Method 8081, nitrate using EPA Method 9056, phosphorus using Standard Method 4500 and the thirteen priority-pollutant metals using EPA Methods 6010 and 7470 (mercury only);

- One equipment rinse blank collected prior to initiating sampling procedures at the monitoring wells on June 27, 2013. Prism provided laboratory grade de-ionized water in an unpreserved, dark brown glass container for the equipment blank. This sample was analyzed for VOCs using EPA Method 8260; and

- One trip blank provided by Prism and shipped with the cooler containing the sample bottles for the VOC analyses. The trip blank accompanied the samples collected on June 27, 2013 and was analyzed in the laboratory for VOCs using EPA Method 8260.

3.4 Groundwater Laboratory Results

A laboratory report and chain-of-custody record for groundwater samples are included in **Appendix E** and summarized in **Table 3.3**. The analytical results were compared to the applicable North Carolina Groundwater Quality Standards (NCGQS) and IHSB Industrial/Commercial Vapor Intrusion Screening Levels (VISLs) for groundwater. A total of six groundwater samples (including one duplicate sample) were collected from the five site monitoring wells and submitted for laboratory analysis, with the corresponding analytical results summarized in **Table 3.3** and discussed below.

- **VOCs**: Two of the five primary groundwater samples collected from the site monitoring wells exhibited VOCs at concentrations exceeding the NCGQS. The groundwater samples collected from monitoring wells MW-6 and MW-9 exhibited 1,2-dichloropropane at respective concentrations of 1.0 ug/L and 1.6 ug/L, exceeding the established NCGQS of 0.60 ug/L but beneath the IHSB Industrial/ Commercial VISL of 30 ug/L for 1,2-dichloropropane. No other VOCs were detected in these samples at concentrations exceeding the respective NCGQS or IHSB Industrial/Commercial VISL. In addition, VOCs were not detected in the

remaining samples at concentrations above their respective laboratory method detection limit (MDL), NCGQS or IHSB Industrial/Commercial VISL.

- **SVOCs:** Di-n-butyl phathalate was detected in the primary groundwater sample collected from well MW-6 at an estimated concentration of 6.3 ug/L, beneath the established NCGQS of 700 ug/L for di-n-butyl phathalate (Note: an IHSB VISL has not been established for this compound). SVOCs were not detected in the remaining samples at concentrations above their respective laboratory MDL, NCGQS or IHSB Industrial/Commercial VISL.

- **Pesticides:** None of the groundwater samples collected during this assessment exhibited pesticides at concentrations exceeding their respective laboratory MDL, NCGQS or IHSB Industrial/Commercial VISL.

- **Metals:** Beryllium, nickel and zinc were detected in the groundwater sample collected from monitoring well MW-7 at concentrations above their respective laboratory MDL but below their respective NCGQS (Note: IHSB VISLs have not been established for these compounds). Metals were not detected in the remaining samples at concentrations exceeding their respective laboratory MDL, NCGQS or IHSB Industrial/Commercial VISL.

- **Nitrate:** The groundwater samples collected from monitoring wells MW-6 and MW-8 exhibited nitrate at respective concentrations of 1,200 ug/L and 830 ug/L, beneath the established NCGQS of 10,000 ug/L for nitrate (Note: an IHSB VISL has not been established for this compound). Nitrate was not detected in the remaining samples at concentrations above their respective MDL or NCGQS.

- **Phosphorus:** The groundwater sample collected from monitoring well MW-10 exhibited phosphorus at a concentration of 110 ug/L. Phosphorus does not currently have an established NCGQS or IHSB VISL. Phosphorus was not detected in the remaining samples at concentrations above the laboratory MDLs.

Contaminant concentrations detected in the duplicate groundwater sample collected from well MW-6 appeared similar to those of the primary sample. An evaluation of the QC parameter “precision” was conducted on all sample/sample duplicate pairs collected during the Phase II ESA activities, as discussed in **Section 6.2.1**.

3.5 Investigation-Derived Wastes

Soil cuttings from drilling of the borings were placed within 5 new, 55-gallon drums and stored on the northern portion of the site. Purge water from development/sampling of the permanent monitoring wells and decontamination water from cleaning of down-hole equipment were containerized into 3 new, 55-gallon drums and are also stored on-site.

Mid-Atlantic has completed non-hazardous waste profiles for the soil and water drums, and the profiles have been submitted to GARCO Inc. (GARCO) along with the laboratory analytical reports. Upon receipt of authorization from CARDNO TBE, the drums will be picked up and transported off-site by GARCO to their Asheboro, North Carolina facility. Following removal of the drums from the site, the associated certificates of disposal, non-hazardous waste manifests and non-hazardous waste profiles will be kept with the project file.

4.0 SOIL GAS SAMPLING METHODOLOGY & RESULTS

4.1 Soil Gas Sample Collection

On June 26, 2013, one soil gas sample (SG-1) was collected from the vicinity of the former 550-gallon heating oil UST, previously located along the northwest exterior of the former office/showroom facility. The sample was collected in general accordance with IHSB guidelines. Using the post-run sampling method, 1.5 inch outside diameter threaded steel rod sections equipped with a hardened drop off steel tip were driven into the subsurface using Geoprobe® DPT. The rods were advanced to an approximate depth of 5 feet bgs and, once inserted to the desired depth, the rods were retracted slightly to expose the vapor sampling port. Inert ¼" OD nylon tubing was inserted down the center of the threaded steel rods into a gas-tight fitting just above the tip to allow the collection of a soil gas sample at a discrete depth. The probe rods were also sealed at the ground surface using hydrated bentonite.

Prior to sample collection, a syringe was used to purge a minimum of three volumes of the probe tubing. The vacuum resistance on the plunger for the syringe was used to evaluate the effectiveness of the seal. A laboratory supplied summa canister was then attached to the tubing to collect a soil gas sample. A flow regulator choke was placed on the canister to ensure that the flow rate was no more than 200 milliliters (mL) per minute into the summa canister. The soil gas sample was then submitted to Con-Test Analytical Laboratories in East Longmeadow, Massachusetts for analysis of VOCs using EPA Method TO-15.

4.2 Laboratory Analytical Results

Laboratory analytical results for the June 2013 soil gas sampling activities are provided in **Appendix F** and summarized in **Table 4.1**. The laboratory results were compared to the most recent IHSB Industrial/Commercial VISLs for soil gas. The results indicate the presence of several VOCs, including a number of common petroleum-based constituents and chlorinated compounds; however, only one constituent, 1,3-butadiene, was detected in excess of its IHSB Commercial/Industrial VISL. This compound is commonly used in the production of synthetic rubber and plastics and no other contaminants were detected in the soil gas sample at concentrations exceeding the IHSB VISLs. Based on the historical use of

the site and results from the aforementioned soil gas sampling event, the presence of 1,3-butadiene does not appear to be the result of previous site operations and may have been introduced during use of field equipment (i.e. plastic gloves, purging syringes, etc.).

5.0 RECEPTOR EVALUATION

Mid-Atlantic conducted a receptor survey in accordance with the Brownfields Program receptor survey guidelines to identify potential receptors within the site vicinity and its half-mile search radius. This receptor survey included the identification of water-supply wells, availability of public or private water supplies, and the identification of surface water bodies and other receptors within one-half mile of the subject site. Based upon the survey, the majority of structures within the half-mile radius are connected to the municipal water and sewer systems and no water-supply wells or surface water bodies were identified within a half-mile radius of the site. A copy of the results will be submitted to the Brownfields Program under separate cover.

5.1 Potential Pathways for Contaminant Transport

As previously indicated, several VOCs, SVOCs and pesticides were detected in surface soils at the site at concentrations exceeding the PGW SRGs. Groundwater at the site was measured at depths ranging from approximately 8 feet bgs at MW-6 (AOC-1 on the southern portion of the site) to approximately 12 feet bgs at MW-8 (AOC-2 on the central portion of the site). Based on the results of the most recent groundwater sampling activities, contaminants are not currently present in groundwater at concentrations exceeding the NCGQS, with the exception of 1,2-dichloropropane detected in two of the five on-site monitoring wells (MW-6 and MW-9).

There is a potential for contaminant migration from soil into groundwater driven by precipitation in areas of the site not covered by concrete or asphalt. Since several areas across the site consist of grass and/or gravel surfaces, precipitation may infiltrate the shallow soils (vadose zone) on these portions of the site causing contaminants to migrate vertically.

5.2 Potential Exposure Pathways

The exposure pathways most applicable to the subject site are the potential for direct human contact with, or ingestion of, contaminated soils or groundwater, in addition to the threat of vapor intrusion into the on-site structures.

5.2.1 Soil Exposure

As discussed in **Section 2.3**, several contaminants were detected in surface soils at the site at concentrations exceeding the health-based SRGs. Therefore, shallow soils should

be considered a potential exposure point in the areas of the site where soils are exposed at the surface, particularly in the vicinity of AOC-1 on the southern portion of the site. Excavation and/or engineering controls are potential options for mitigating soil exposure.

5.2.2 Groundwater Exposure

As discussed in **Section 3.4**, contaminants were not detected in groundwater at the site at concentrations exceeding the NCGQS, with the exception of 1,2-dichloropropane in site monitoring wells MW-6 and MW-9. In addition, the site and surrounding area are served by the City of Wilson public water supply, and there are no known water supply wells or surface water bodies (groundwater discharge points) within a half-mile radius of the site. Therefore, this exposure pathway does not appear to pose a significant exposure threat.

5.2.3 Vapor Exposure

Vapors released from contaminated media may migrate through subsurface utility trenches (e.g. preferential pathways), and enter enclosed spaces through the annular space, voids, or other components of the utility. Vapors may also be released from source material or contaminated media and directly enter structures through cracks or other penetrations of the foundation.

As discussed in **Section 4.1**, one soil gas sample (SG-1) was collected at the site in the vicinity of the former on-site heating oil UST release (AOC-9). Contaminants were not detected in the sample at concentrations exceeding the IHSB VISLs, with the exception of 1,3-Butadiene. This compound is commonly used in the production of synthetic rubber and plastics and does not appear to be the result of historical site operations.

As the current VISLs for soil gas are based on a conservative slab attenuation factor of 0.1 and NCDENR's proposed guidance will be adopting an attenuation factor of 0.03 (April 2013 draft, under review), use of the new attenuation factor would indicate there are no exceedances of screening levels by a considerable margin. In addition, groundwater contaminants were not detected at the site at concentrations exceeding the IHSB Industrial/Commercial VISLs, as discussed in **Section 3.4**. Therefore, based on the results of the recent soil gas and groundwater sampling activities, there appears to be a low exposure risk to this contaminant from vapor migrating into the indoor air within the existing site structures (Note: at this time, there are no current plans to construct new facilities).

6.0 DATA QUALITY

The QAPP and Site-Specific QAPP Addendum set forth the procedures and methods for the collection of soil and groundwater data and define the specific procedures and adjustments necessary to maintain data quality to support the project decision. The Phase II ESA required both field and laboratory checks to monitor conformance to project quality limits.

6.1 Property-Specific Corrective Actions

A field methods audit was not conducted during the fieldwork for this site. During fieldwork operations, field practices were generally conducted in a method consistent with the methodology of the QAPP and relevant standard operating procedures. A data verification audit was completed by Mid-Atlantic before this report was prepared, which also noted no deficiencies between the data collection procedures and the methodology outlined in the QAPP and relevant standard operating procedures.

6.2 Quality Control Parameters

To assess whether quality assurance objectives for this project have been achieved, the following QC parameters for soil and groundwater sampling activities were considered: precision, accuracy, representativeness, comparability, completeness, and sensitivity.

6.2.1 Precision and Accuracy

As described in the QAPP, precision is evaluated using the relative percent difference (RPD) between an actual sample and a duplicate sample. In accordance with the Site-Specific QAPP Addendum, one duplicate "grab" sample (Duplicate #1) and one duplicate composite sample (Duplicate #2) were collected for soil, along with one duplicate groundwater sample, during the Phase II sampling activities. A comparison of the sample duplicates and their corresponding sample results was then made to evaluate the reproducibility of the sample results based on the laboratory analysis and sample collection and transportation procedures. The comparisons are presented in **Tables 6.1 through 6.3**.

The following degrees of variability were used for comparison of primary and duplicate sample pairings:

- Where the duplicate sample or primary sample result was less than five times the higher of the two reporting limits, the comparison was made by the absolute difference between the results (sample - duplicate).

(a) For groundwater samples, if this difference was less than the magnitude of the (higher) reporting limit, the precision was considered "acceptable." Anything beyond the magnitude of the (higher) reporting limit was considered "high."
(b) For soil samples, if the difference was less than twice the magnitude of the (higher) reporting limit, then precision was considered "acceptable." If these differences were within two times the acceptable limits, they were considered "slightly high" and anything beyond two times the acceptable limit was considered "high."

- Where both the sample and duplicate results were greater than five times the higher of the two reporting limits, then the precision was assessed by calculating the %RPD (difference in results divided by the average of the two results times 100).

(a) A %RPD <35% was considered "good/acceptable."
(b) A %RPD >35% but <50% indicated that the variability was "slightly high."
(c) A %RPD >50% indicated a "high" degree of variability.

As shown in **Table 6.2**, nitrate concentrations detected in composite soil sample AOC-1 and its duplicate sample (identified as Duplicate #2) exhibited a high degree of variability (51.6% RPD). In addition, the degree of variability could not be calculated for the metals antimony and mercury between these samples due to detection of these metals in the duplicate sample but not the primary sample (i.e. no value for the primary sample to use for comparison). The precision and degree of variability of additional analytes detected in this sample and the remaining sample pairings were determined to be acceptable, as illustrated in **Tables 6.1 through 6.3**.

Accuracy is evaluated using a percent recovery measured in spiked and unspiked samples. Accuracy is a function of the laboratory method, and parameters regarding accuracy are included in the lab report provided by the laboratory.

6.2.2 Representativeness

Mid-Atlantic has evaluated the representativeness of the Phase II sampling activities to document the degree to which the sample data accurately and precisely represents a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Review of field methods and procedures indicated that sample collection, handling and transportation were conducted in accordance with the QAPP and Site-Specific QAPP Addendum. A Prism courier picked up the samples following sample collection; therefore, cooler chain-of-custody seals were not required. Review of analytical results indicates that the analytical data is generally uniform and consistent between sampling points.

6.2.3 Completeness

During this assessment, the following soil and groundwater samples were collected and submitted for laboratory analysis:

- Ten (10) "grab" soil samples, including one background sample (BG-1) and one duplicate sample collected from boring SB-6D (identified as Duplicate #1);
- Seven (7) composite soil samples, including one duplicate sample collected from AOC-6 (identified as Duplicate #2); and
- Six (6) groundwater samples, including one duplicate sample collected from monitoring well MW-6.

Soil and groundwater samples were analyzed for VOCs, SVOCs, pesticides, nitrate, phosphorus and/or the thirteen priority-pollutant metals (silver, arsenic, beryllium, cadmium, chromium, copper, mercury, nickel, lead, antimony, selenium, thallium and zinc). Each of the samples collected in the field were analyzed in the laboratory using the methods specified in the Site-Specific QAPP Addendum. Therefore, sampling activities associated with the Phase II ESA are considered 100% complete.

6.2.4 Comparability

To produce comparable data, the units specified for analytical results obtained during the field activities are consistent throughout this project and standardized analytical methods have been used for each parameter.

6.2.5 Sensitivity

Laboratory quantitation limits (reporting limit and MDL) for soil and groundwater samples were sufficient to report concentrations below the regulatory standards for the requested contaminants. Therefore, laboratory quantitation limits did not affect the project objectives.

6.3 Laboratory Data Evaluation

The laboratory completed validation and verification of laboratory processes and data, and delivered a laboratory report to the Mid-Atlantic Project Manager. The laboratory report and the QC information contained therein documents compliance with the QAPP.

The following qualifiers were used by the contract laboratory in this report when presenting data for soil and groundwater samples collected by Mid-Atlantic:

- "A" – Recovery of ending CCV 2.0 mg/L for Nitrate (83%) is outside the control limits (90-100%). Result might have a low bias.

- "AB" – Sample was reanalyzed due to high CCV recovery of this compound. CCV recovery high on reanalysis.
- "BRL" - Below reporting limit.
- "J" – Detected, but below the reporting limit; therefore the result is an estimated concentration (CLP J-Flag)
- "MDL" – Method Detection Limit.
- "RL" – Reporting Limit.

Data usability determination is also a part of data evaluation. After data validity has been assessed, that is, the analytical data has been reviewed and qualifier codes have been applied, these data were individually identified and assessed for usability. Sample data (both with and without qualifier codes) may be generally spoken of as either qualitative (Level A), quantitative (Level B), or unusable. Obviously, within any matrix it is likely certain samples may have parameters that require qualifier codes. A discussion of these qualifier codes for each level is provided below.

6.3.1 Qualitative Data – Level A

Qualitative data are often referred to as Level A data. All screening data is considered Level A data. Screening data may not be considered as Level B data, and cannot be used to make site management decisions. Data in this level also include "J" coded data. These data are considered to be an estimated quantity, i.e., a presence or absence value. Any sample data receiving an "R" qualifier code, "N" code, "NJ" qualifier, or an unexplained "B" qualifier code was not classified as Level A data and was considered unusable for making site decisions (none of these codes were identified). Data having been given a "J" code were not automatically classified as qualitative data only; these data were considered as Level B (quantitative) data depending on bias, and were evaluated on a case by case basis. Data reported with a "BRL" code can also be classified as Level B data provided the detection limit was not above an applicable regulatory action level for that analyte. All field-screening and field-instrument-derived data was accepted as Level A. These data were not considered for inclusion as Level B data and will not be used to make site decisions. These data include TVA data collected during soil core screening. All analytical data received as part of the analytical package for this site were accepted as Level A data.

6.3.2 Quantitative Data – Level B

Data at this level are referred to as Level B data. Only data meeting all field and analytical data usability requirements may be classified as Level B data. This means all quality assurance parameters have been satisfied, including quality control and quality assessment. Only data that were found to be analytically valid and passed all criteria for Level A were considered for classification at Level B. These data are considered definitive and may be used for any purpose.

In reviewing the laboratory results, several analytes are reported as detections with "J" data qualifiers, indicating the reported value is an estimate reported within the 95% confidence interval. These compounds were detected above the MDL, but below the reporting limit or "RL". The MDL is the lowest concentration at which an analyte can be detected in a sample by the particular laboratory method used. "Detected" indicates that the analyte can be distinguished from the blank with reasonable certainty. The reporting limit (also called practical quantitation limit, or PQL) is approximately five times the MDL or the lower calibration standard, whichever is higher. Results above the report limit can be distinguished from the blank and fall within applicable standard curves. For the purposes of this assessment, all "J" qualified data are considered acceptable for making site management decisions as these data are not the sole determinant of "clean." These data are accepted as Level B data, and such qualified data has been considered against applicable action levels in evaluating extent of impacts.

7.0 ASSESSMENT SUMMARY

This assessment was performed to address environmental concerns associated with the subject property, specifically those associated with historical operation of the former FCX and Southern States Cooperative facility. Mid-Atlantic provides the following conclusions based upon the findings from our Phase II ESA:

- **Soils:** The environmental medium predominantly affected by past site operations appear to be the surface soils in the vicinity of AOC-1 on the southern portion of the site. This portion of the site historically contained various petroleum ASTs, liquid-nitrogen ASTs and ASTs of unknown contents. The "grab" soil sample collected from this area exhibited elevated TVA readings, petroleum-like odors and several VOCs (1,2,4-trimethylbrenzene, 1,3,5-trimethylbenzene, benzene, ethylbenzene and naphthalene) at concentrations exceeding their respective PGW SRGs. Although the VOCs were not detected at concentrations exceeding the Residential or Industrial SRGs, the composite soil sample collected from this AOC exhibited several constituents at concentrations exceeding their respective PGW, Residential and/or Industrial SRGs. The primary contaminants of concern identified in composite sample AOC-1 appear to be the pesticides 4,4'-DDD (detected at a concentration exceeding its Industrial SRG) and Aldrin (detected at a concentration exceeding its Residential SRG but beneath the Industrial SRG). Excavation and/or engineering controls are potential options for mitigating the soil exposure in this area.

  Each of the nine composite soil samples collected from the site (including the background sample) exhibited arsenic at concentrations exceeding its Residential and Industrial SRGs. These concentrations ranged from 1.8 mg/Kg to 4.6 mg/Kg, which are beneath the PGW SRG for arsenic (5.8 mg/Kg) and appear to be

consistent with average concentrations of arsenic detected in soils across the state of North Carolina (4.5 mg/Kg, North Carolina Department of Agriculture and Consumer Sources, Heavy Metals in North Carolina Soils, September 2008). Given this information, the detection of arsenic in soil samples at relatively low concentrations across the site appears to be on the same order of magnitude of naturally occurring metals and does not appear to warrant additional assessment.

- **Groundwater:** Groundwater samples collected from two of the five on-site monitoring wells exhibited VOCs at concentrations exceeding the NCGQS. The samples collected from wells MW-6 and MW-9 exhibited 1,2-dichloropropane at respective concentrations of 1.0 ug/L and 1.6 ug/L, exceeding the NCGQS of 0.60 ug/L but beneath the IHSB Industrial/Commercial VISL of 30 ug/L. No other groundwater contaminants were detected at the site at concentrations exceeding the NCGQS or IHSB Industrial/Commercial VISL. Considering these relatively low groundwater contaminant concentrations and the absence of groundwater for use as a water-supply in the vicinity of the site, additional groundwater assessment activities do not appear to be warranted at this time.

- **Vapor Intrusion:** The soil gas sample collected in the vicinity of the former on-site heating oil UST release (AOC-9) exhibited 1,3-butadiene at a concentration exceeding the IHSB VISL. This compound is commonly used in plastics and does not appear to be the result of historical site operations. No additional contaminants were detected in the soil gas sample at concentrations exceeding the IHSB VISL and, as indicated above, contaminants of concern were not detected in the site's groundwater at concentrations above the IHSB Industrial/ Commercial VISL. As the current VISLs for soil gas are based on a conservative slab attenuation factor of 0.1 and NCDENR's proposed guidance will be adopting an attenuation factor of 0.03 (April 2013 draft, under review), use of the new attenuation factor would indicate there are no exceedances of screening levels by a considerable margin. Based on the results of the recent soil gas and groundwater sampling activities, there appears to be a low exposure risk to this contaminant from vapor migrating into the indoor air within the existing site structures (Note: at this time, there are no current plans to construct new facilities). Therefore, additional assessment of potential vapor intrusion conditions (pVICs) does not appear to be warranted at this time.

It is our understanding that the site will be used as a scrap metal recycling facility with no current plans to construct any additional structures. Based on these understandings and our evaluation of the data obtained during this assessment, it does not appear that the degree of impacts identified warrant additional assessment or clean up to render the site safe for its proposed use, with the exception of impacted surface soils on the southern portion of the site in the vicinity of AOC-1. If the proposed use of the site changes, the need for additional activities should be evaluated.

The decision rule outlined in the Data Quality Objectives for this brownfields project, as presented in the Site-Specific QAPP Addendum, indicates that an Analysis of Brownfields Cleanup Alternatives (ABCA) should be prepared to evaluate remedial action and/or institutional controls in the event that analytes are observed in site media at concentrations exceeding regulatory limits. The findings of this assessment indicate that surface soils on the southern portion of the subject site have been impacted to a degree exceeding the IHSB Industrial SRGs. Therefore, Mid-Atlantic believes that a potential exposure risk from constituents associated with historical use of the property exists and that the preparation of an ABCA appears warranted at this time.

8.0 REFERENCES

Classifications and Water Quality Standards Applicable to the Groundwaters of North Carolina. Subchapter 2L, Section .0200, North Carolina Administrative Code, Title 15A, Department of Environment and Natural Resources, Division of Water Quality and Division of Waste Management, Last Amended on April 1, 2013.

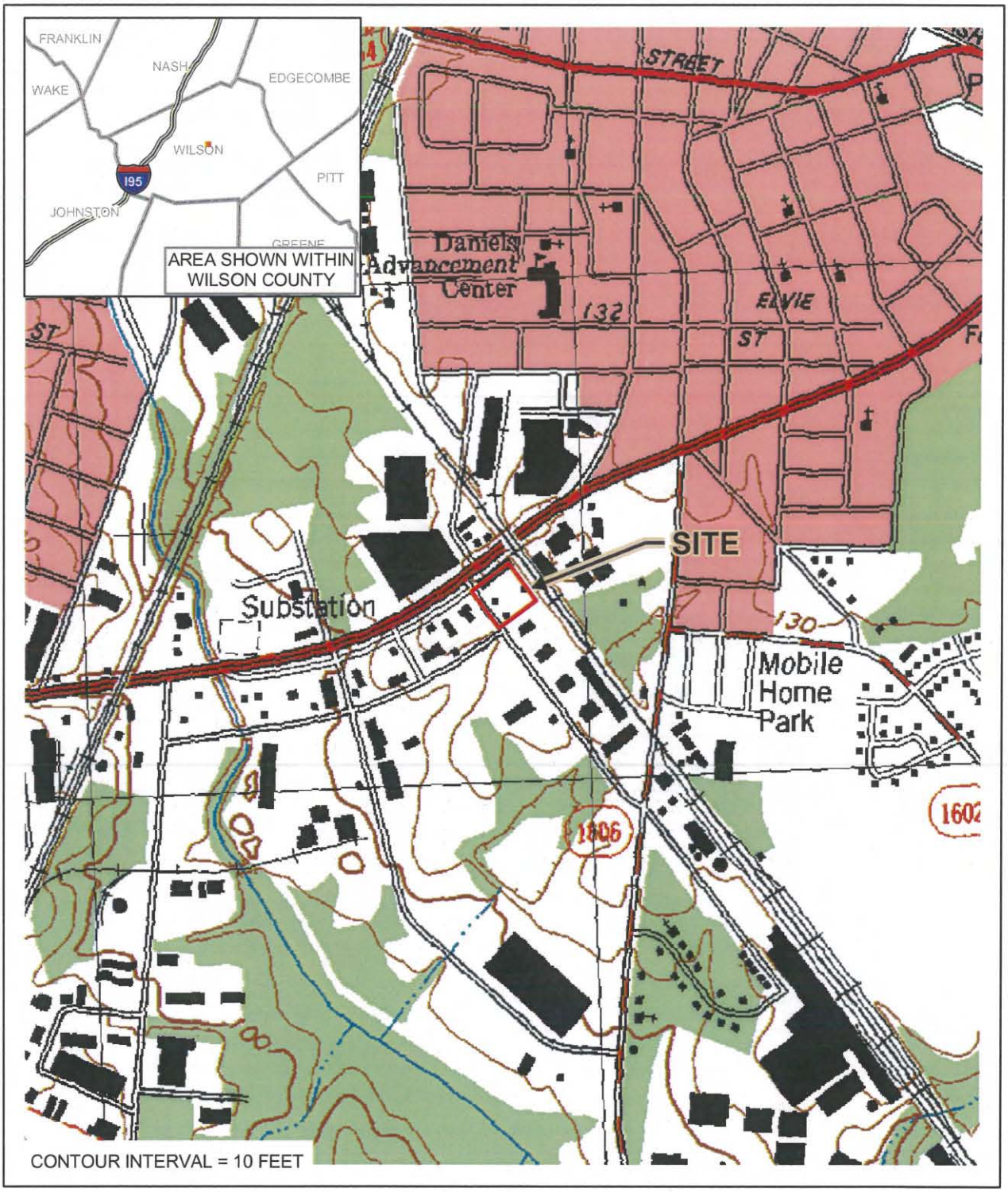
Hardy, David, Jeana Myers and Catherine Stokes, 2008. *Heavy Metals in North Carolina Soils. Occurrence and Significance*, North Carolina Department of Agriculture and Consumer Services, Agronomic Division, September 2008 (revision) [original publication data not specified], 2 page brochure.

Site-Specific Quality Assurance Project Plan, Addendum 1-A, for 6601 Ward Boulevard Wilson, North Carolina, EPA Brownfields Cooperative Grant Number BF-00D02312-0, May 22, 2013.

U.S. EPA Region 4, SESD, Field Branches Quality System and Technical Procedures, Sections updated on various dates. http://www.epa.gov/region4/sesd/fbqstp/index.html

DRAWINGS

Mid Atlantic
Engineering & Environmental Solutions



REFERENCES:

1. WILSON, NC DIGITAL RASTER GRAPHIC, USGS. SCANNED FROM 1:24,000 SCALE WILSON, NC TOPOGRAPHIC MAP, PUBLISHED 1998.
2. INSET MAP DIGITAL DATA FROM 2002 NATIONAL TRANSPORTATION ATLAS, BUREAU OF TRANSPORTATION STATISTICS, WASHINGTON, D.C.

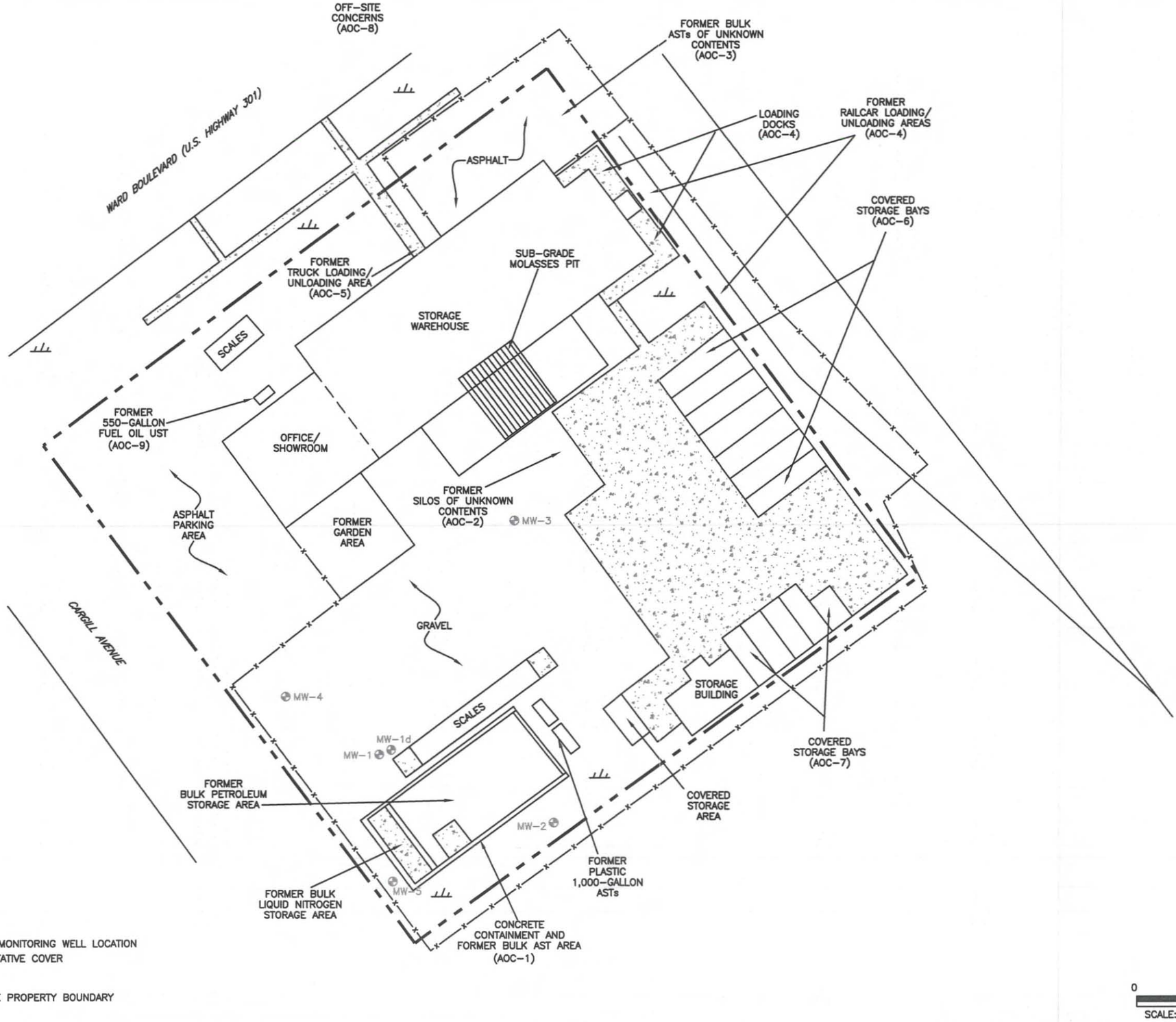
SCALE: 1:12,000

0 500 1,000 2,000 Feet

Mid Atlantic
Engineering & Environmental Solutions

TOPOGRAPHIC SITE MAP
FORMER FCX AND SOUTHERN STATES COOPERATIVE FACILITY
6601 WARD BOULEVARD (U.S. HWY 301)
WILSON, NORTH CAROLINA

DRAWN BY: ZCB	DATE: MAY 2013
DRAFT CHECK: CH	JOB NO: 000R2377.01
ENG. CHECK: CH	GIS NO: 01G-R2377.01-1
APPROVAL: OMM	DWG NO: 1.1



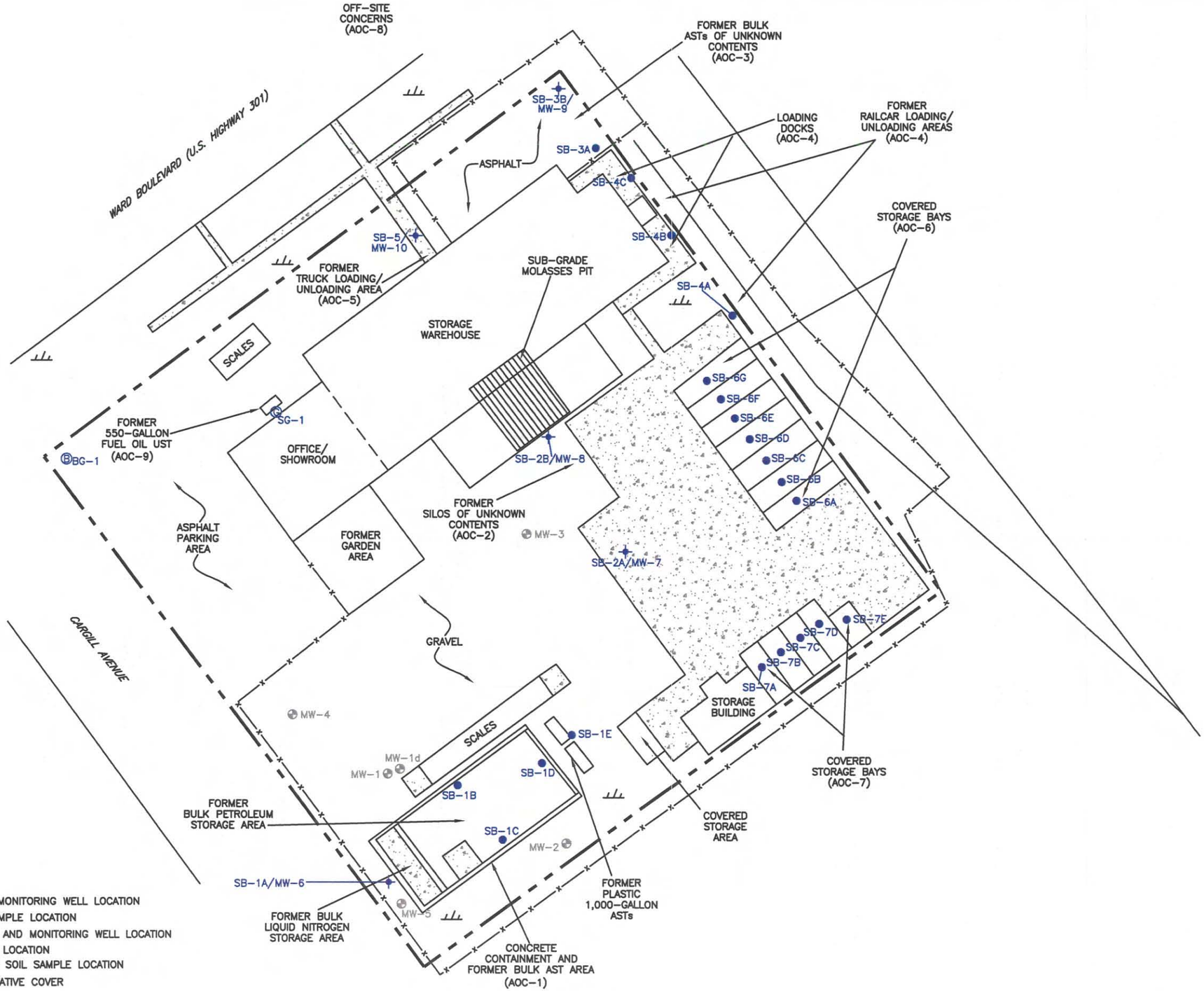
SITE MAP AND
AREAS OF CONCERN
FORMER FCX AND SOUTHERN
STATES COOPERATIVE FACILITY
6601 WARD BOULEVARD
WILSON, NORTH CAROLINA

DRAWN BY:
DRAFTING CHECK BY: CH
ENGINEER CHECK BY: CH
APPROVED BY: DMM

DATE: SEPTEMBER 2013
JOB NO: 000R2377.01
CAD # 01-237703-01
DWG NO: 1.2

Mid Atlantic
Engineering & Environmental Solutions

REFERENCE: MID-ATLANTIC FIELD NOTES.



DRAWN BY:

DRAFTING CHECK BY: CH

ENGINEER CHECK BY: CH

APPROVED BY: DMM

DATE: SEPTEMBER 2013

JOB NO: 000R2377.01

CAD # 01-237704-01

DWG NO: 2.1

SOIL BORING AND MONITORING WELL LOCATION MAP
FORMER FCX AND SOUTHERN STATES COOPERATIVE FACILITY
6601 WARD BOULEVARD
WILSON, NORTH CAROLINA

MidAtlantic
Engineering & Environmental Solutions

REFERENCE: MID-ATLANTIC FIELD NOTES.

N

AOC–3 COMPOSITE		
PESTICIDES	DIELDRIN	0.0047
METALS	ARSENIC	3.8

SB–5 GRAB		
METALS	ARSENIC	3.8

BACKGROUND GRAB		
METALS	ARSENIC	1.8

AOC–4 COMPOSITE		
METALS	ARSENIC	3.8

AOC–6 COMPOSITE		
METALS	ARSENIC	2.5

SB–1E GRAB		
METALS	ARSENIC	4.6

AOC–7 COMPOSITE		
METALS	ARSENIC	3.5
	SILVER	17

AOC–2 COMPOSITE		
METALS	ARSENIC	2.7

SB–1B GRAB		
VOCs	1,2,4–TRIMETHYLBENZENE	5.9
	1,3,5–TRIMETHYLBENZENE	2.2
	BENZENE	0.085J
	ETHYLBENZENE	1.0
	NAPHTHALENE	1.6

AOC–1 COMPOSITE		
SVOC'S	1–METHYLNAPHTHALENE	4.2
	2–METHYLNAPHTHALENE	4.3
PESTICIDES	4,4'–DDD	9,400
	4,4'–DDE	0.260
	ALDRIN	0.035
METALS	ARSENIC	3.2

WARD BOULEVARD (U.S. HIGHWAY 301)

CARGILL AVENUE

ASPHALT

SCALES

STORAGE WAREHOUSE

SUB–GRADE MOLASSES PIT

OFFICE/ SHOWROOM

FORMER 550–GALLON FUEL OIL UST

ASPHALT PARKING AREA

FORMER GARDEN AREA

FORMER SILOS OF UNKNOWN CONTENTS (AOC–2)

GRAVEL

STORAGE BUILDING

SCALES

FORMER BULK PETROLEUM STORAGE AREA

COVERED STORAGE AREA

FORMER PLASTIC 1,000–GALLON ASTs

SB–3B, SB–3A, SB–4C, SB–4B, SB–4A, SB–5, SB–6G, SB–6F, SB–6E, SB–6D, SB–6C, SB–6B, SB–6A, SB–2B, SB–2A, SB–7E, SB–7D, SB–7C, SB–7B, SB–7A, SB–1E, SB–1D, SB–1B, SB–1C, SB–1A

BG–1

MW–1, MW–1d, MW–2, MW–3, MW–4, MW–5

SAMPLE ID/TYPE

AOC–3 COMPOSITE		
PESTICIDES	DIELDRIN	0.047
METALS	ARSENIC	3.8

CONTAMINANT

CONCENTRATION (mg/kg)

J=ESTIMATED VALUE

HIGHLIGHTED VALUES INDICATE CONCENTRATION EXCEEDS INDUSTRIAL SRG

LEGEND

- MW–1 — ABANDONED MONITORING WELL LOCATION
- SB–1 — SOIL BORING LOCATION
- GRASS/VEGETATIVE COVER
- FENCE
- RAILROADS
- SUBJECT SITE PROPERTY BOUNDARY
- CONCRETE

0 50'

SCALE: 1"= 50'

DRAWN BY:

DRAFTING CHECK BY: CA

ENGINEER CHECK BY: CA

APPROVED BY: OMM

DATE: SEPTEMBER 2013

JOB NO: 000R2377.01

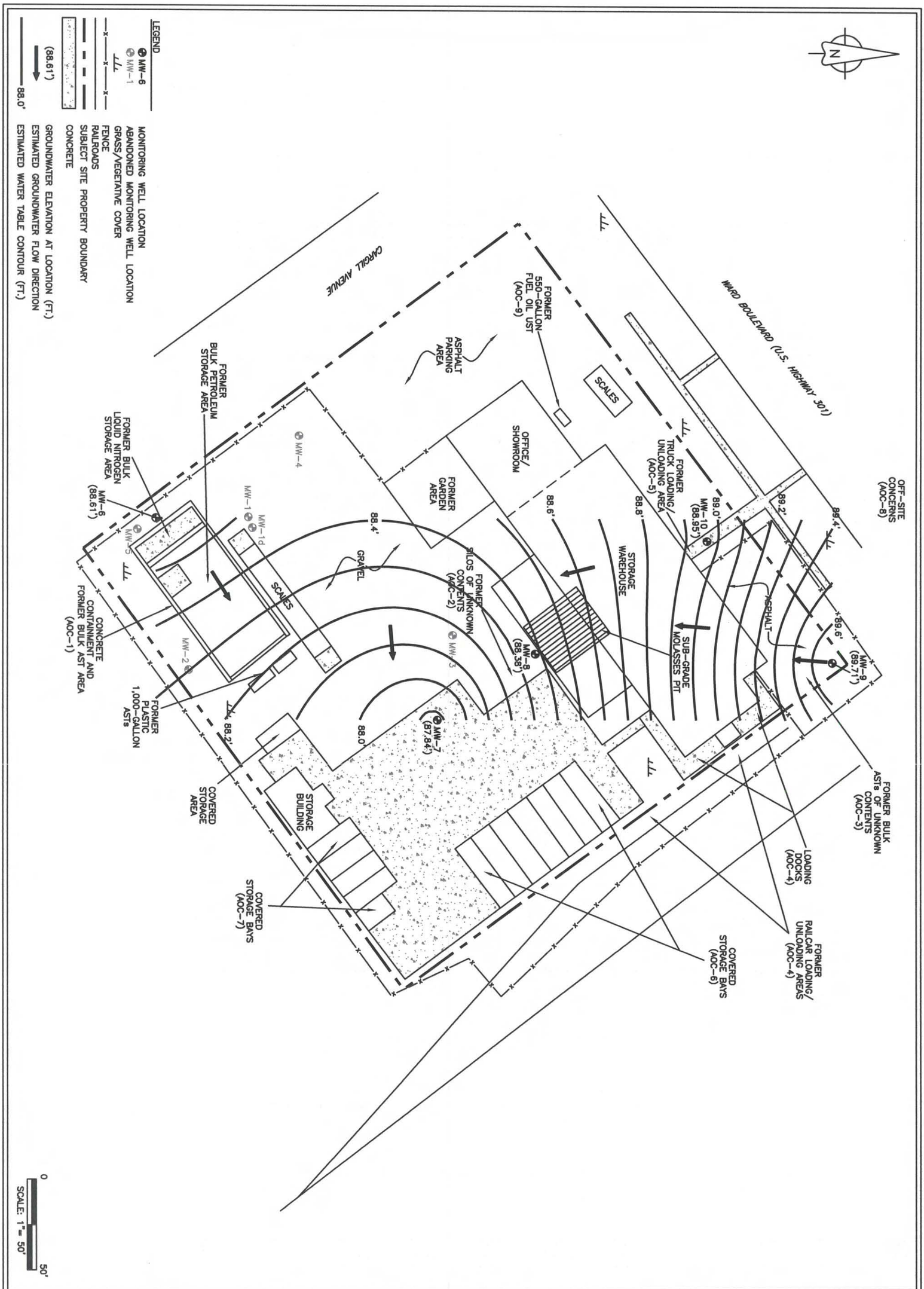
CAD # 01–237706–01

DWG NO: 2.2

SOIL LABORATORY RESULTS–
CONTAMINANTS OF CONCERN MAP
FORMER FCX AND SOUTHERN
STATES COOPERATIVE FACILITY
6601 WARD BOULEVARD
WILSON, NORTH CAROLINA

MidAtlantic
Engineering & Environmental Solutions

REFERENCE: MID–ATLANTIC FIELD NOTES.



Mid Atlantic
Engineering & Environmental Solutions

ESTIMATED WATER TABLE CONTOUR MAP
JUNE 27, 2013
FORMER FCX AND SOUTHERN STATES COOPERATIVE FACILITY
6601 WARD BOULEVARD
WILSON, NORTH CAROLINA

DRAWN BY:	DATE: SEPTEMBER 2013
DRAFTING CHECK BY: cm	JOB NO: 000R2377.01
ENGINEER CHECK BY: cm	CAD # 01-237705-01
APPROVED BY: DMM	DWG NO: 3.1

REFERENCE: MID-ATLANTIC FIELD NOTES.

TABLES

TABLE 2.1
SUMMARY OF CONSTITUENTS DETECTED IN SOIL SAMPLES - VOLATILE ORGANIC COMPOUNDS (VOCs)
FORMER FCX AND SOUTHERN STATES COOPERATIVE FACILITY
6601 WARD BOULEVARD, WILSON, NORTH CAROLINA
EPA BROWNFIELDS COOPERATIVE GRANT NUMBER BF-00D02312-0
MID-ATLANTIC JOB NO: 000R2377.01

CHEMICAL CONSTITUENT	CONCENTRATIONS (mg/Kg)									INACTIVE HAZARDOUS SITES BRANCH PRELIMINARY SOIL REMEDIATION GOALS (mg/Kg)		
	SB-1B 6/24/13	SB-1E 6/24/13	SB-2B 6/24/13	SB-3A 6/24/13	SB-4B 6/24/13	SB-5 6/24/13	SB-6D 6/24/13	DUPLICATE 6/24/13	SB-7A 6/24/13	Protection of Groundwater	Residential	Industrial
Acetone	--	0.022 J	0.090	0.079	0.075	0.058 J	0.044	0.071	0.025 J	2.4	61,000	630,000
1,2,4-Trimethylbenzene	**5.9**	--	--	--	--	--	--	--	--	0.021	62	260
1,3,5-Trimethylbenzene	**2.2**	--	--	--	--	--	--	--	--	0.12	780	10,000
4-Isopropyltoluene	0.18	--	--	--	--	--	--	--	--	0.68	NE	NE
Benzene	**0.085 J**	--	--	--	--	--	--	--	--	0.0073	1.1	5.4
Ethylbenzene	**1.0**	--	--	--	--	--	--	--	--	0.78	5.4	27
Isopropylbenzene (Cumene)	0.16	--	--	--	--	--	--	--	--	1.3	270	270
Napththalene	**1.6**	--	--	--	--	--	--	--	--	0.21	3.6	18
n-Butylbenzene	0.78	--	--	--	--	--	--	--	--	2.4	110	110
n-Propylbenzene	0.59	--	--	--	--	--	--	--	--	1.5	260	260
sec-Butylbenzene	0.15 J	--	--	--	--	--	--	--	--	2.2	1,600	20,000
Xylenes	5.2	--	--	0.0017 J	--	--	--	--	--	5.8	130	260
AREA OF CONCERN (AOC) FOR SAMPLE COLLECTION	**AOC-1**	**AOC-1**	**AOC-2**	**AOC-3**	**AOC-4**	**AOC-5**	**AOC-6**	**AOC-6**	**AOC-7**			

Notes:

All soil samples were collected from one boring location ("grab" samples) at six inches to one foot below ground surface (bgs)
Soil Remediation Goal (SRG) values obtained from July 2013 Table published by the Inactive Hazardous Sites Branch (IHSB)
Bold values exceed Protection of Groundwater SRG
Shaded values exceed Industrial SRG
[a] = Analyte exceeds Residential SRG but below the Industrial SRG
-- = Analyte not detected at or above laboratoratory Method Detection Limit (MDL)
AOC - Area of Concern
mg/Kg - Milligrams per kilogram
J - Estimated concentration above the laboratory MDL but below the Reporting Limit

TABLE 2.2 (PAGE 1 OF 2)
SUMMARY OF CONSTITUENTS DETECTED IN SOIL SAMPLES
SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs), PESTICIDES, METALS, NITRATE AND PHOSPHORUS
FORMER FCX AND SOUTHERN STATES COOPERATIVE FACILITY
6601 WARD BOULEVARD, WILSON, NORTH CAROLINA
EPA BROWNFIELDS COOPERATIVE GRANT NUMBER BF-00D02312-0
MID-ATLANTIC JOB NO: 000R2377.01

CHEMICAL CONSTITUENT		CONCENTRATIONS (mg/Kg)					INACTIVE HAZARDOUS SITES BRANCH PRELIMINARY SOIL REMEDIATION GOALS (mg/Kg)		
		BACKGROUND GRAB 6/24/13	AOC-1 COMPOSITE 6/24/13	SB-1E GRAB 6/24/13	AOC-2 COMPOSITE 6/24/13	AOC-3 COMPOSITE 6/24/13	Protection of Groundwater	Residential	Industrial
SVOCs	1-Methylnaphthalene	NR	**4.2**	--	--	--	0.055	16	53
	2-Methylnaphthalene	NR	**4.3**	--	--	--	1.6	46	370
	Di-n-butyl phthalate	NR	--	--	--	--	19	1,200	12,000
PESTICIDES	4,4'-DDD	NR	**9.400**	--	0.0043 AB	0.013 AB	0.24	2.0	7.2
	4,4'-DDE	NR	**0.260**	--	0.0059	0.0043	0.24	1.4	5.1
	4,4'-DDT	NR	--	--	0.013	0.0020 J	0.34	1.7	7.0
	Aldrin	NR	**0.035**[a]	--	--	--	0.0033	0.029	0.10
	Dieldrin	NR	--	--	--	**0.0047**	0.00081	0.030	0.11
METALS	Antimony	--	--	0.52	--	0.41	0.90	6.2	82
	Arsenic	1.8	3.2	4.6	2.7	3.8	5.8	0.39	1.6
	Beryllium	--	--	0.35	--	--	63	32	400
	Cadmium	--	0.41	--	--	--	3.0	14	160
	Chromium	7.0	7.8	27	12	18	360,000	24,000	100,000
	Copper	--	7.2	3.9	39	1.9	700	620	8,200
	Lead	6.0	30	13	13	13	270	400	800
	Mercury	--	--	0.027	--	--	1.0	2.0	3.1
	Nickel	--	2.7	3.5	2.0	5.1	130 (sol. salts)	300 (sol. salts)	4,000 (sol. salts)
	Silver	--	--	--	--	--	3.4	78	1,000
	Zinc	--	140	38	35	18	1,200	4,600	62,000
Nitrate		17	18	41	11	--	NE	26,000	100,000
Phosphorus		28	770	1,300	130	100	NE	NE	NE
AREA OF SAMPLE COLLECTION		**NA**	**AOC-1**	**AOC-1**	**AOC-2**	**AOC-3**			

Notes:

All soil samples were collected from six inches to one foot below ground surface (bgs)
Soil Remediation Goal (SRG) values obtained from July 2013 Table published by the Inactive Hazardous Sites Branch (IHSB)
Bold values exceed Protection of Groundwater SRG
Shaded values exceed Industrial SRG
[a] = Analyte exceeds Residential SRG but below the Industrial SRG
-- = Analyzte not detected at or above laboratoratory Method Detection Limit (MDL)
AOC - Area of Concern
SVOCs - Semi-Volatile Organic Compounds
Grab - Soil sample collected from one boring location for laboratory analysis
Composite - Soil sample collected from more than one boring locations and composited for laboratory analysis
NR - Analysis Not Requested
NA - Not Applicable
mg/Kg - Milligrams per kilogram
J - Estimated concentration above the laboratory MDL but below the Reporting Limit
AB - Sample re-analyzed due to high CCV recovery of this compound. CCV recovery high on reanalysis
NE - Soil Remediation Goal Not Established

TABLE 2.2 (PAGE 2 OF 2)
SUMMARY OF CONSTITUENTS DETECTED IN SOIL SAMPLES
SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs), PESTICIDES, METALS, NITRATE AND PHOSPHORUS
FORMER FCX AND SOUTHERN STATES COOPERATIVE FACILITY
6601 WARD BOULEVARD, WILSON, NORTH CAROLINA
EPA BROWNFIELDS COOPERATIVE GRANT NUMBER BF-00D02312-0
MID-ATLANTIC JOB NO: 000R2377.01

CHEMICAL CONSTITUENT		CONCENTRATIONS (mg/Kg)					INACTIVE HAZARDOUS SITES BRANCH PRELIMINARY SOIL REMEDIATION GOALS (mg/Kg)		
		AOC-4 COMPOSITE 6/24/13	SB-5 GRAB 6/24/13	AOC-6 COMPOSITE 6/24/13	DUPLICATE #2 COMPOSITE 6/24/13	AOC-7 COMPOSITE 6/24/13	Protection of Groundwater	Residential	Industrial
SVOCs	1-Methylnaphthalene	--	--	--	--	--	0.055	16	53
	2-Methylnaphthalene	--	--	--	--	--	1.6	46	370
	Di-n-butyl phthalate	--	--	--	--	0.098 J	19	1,200	12,000
PESTICIDES	4,4'-DDD	--	--	--	--	--	0.24	2.0	7.2
	4,4'-DDE	--	--	--	--	--	0.24	1.4	5.1
	4,4'-DDT	--	--	--	--	--	0.34	1.7	7.0
	Aldrin	--	--	--	--	--	0.0033	0.029	0.10
	Dieldrin	--	--	--	--	--	0.00081	0.030	0.11
METALS	Antimony	0.42	0.51	--	0.33	--	0.90	6.2	82
	Arsenic	3.8	3.8	2.5	2.7	3.5	5.8	0.39	1.6
	Beryllium	--	--	--	--	--	63	62	400
	Cadmium	--	--	--	--	--	3.0	14	160
	Chromium	19	25	15	16	16	360,000	24,000	100,000
	Copper	0.86	0.94	--	--	9.7	700	620	8,200
	Lead	9.5	15	8.5	9.2	8.0	270	400	800
	Mercury	0.030	0.030	--	0.023	--	1.0	2.0	3.1
	Nickel	4.1	1.8	2.7	2.2	5.8	130 (sol. salts)	300 (sol. salts)	4,000 (sol. salts)
	Silver	--	--	--	--	**17**	3.4	78	1,000
	Zinc	7.7	4.7	12	9.5	24	1,200	4,600	62,000
Nitrate		11	--	1,000	590	870	NE	26,000	100,000
Phosphorus		1,100	47	64	62	820	NE	NE	NE
AREA OF SAMPLE COLLECTION		**AOC-4**	**AOC-5**	**AOC-6**	**AOC-6**	**AOC-7**			

Notes:
All soil samples were collected from six inches to one foot below ground surface (bgs)
Soil Remediation Goal (SRG) values obtained from July 2013 Table published by the Inactive Hazardous Sites Branch (IHSB)
Bold values exceed Protection of Groundwater SRG
Shaded values exceed Industrial SRG
[a] = Analyte exceeds Residential SRG but below the Industrial SRG
-- = Analyzte not detected at or above laboratoratory Method Detection Limit (MDL)
AOC - Area of Concern
SVOCs - Semi-Volatile Organic Compounds
Grab - Soil sample collected from one boring location for laboratory analysis
Composite - Soil sample collected from more than one boring locations and composited for laboratory analysis
NR - Analysis Not Requested
NA - Not Applicable
mg/Kg - Milligrams per kilogram
J - Estimated concentration above the laboratory MDL but below the Reporting Limit
AB - Sample re-analyzed due to high CCV recovery of this compound. CCV recovery high on reanalysis
NE - Soil Remediation Goal Not Established

TABLE 3.1
MONITORING WELL CONSTRUCTION INFORMATION
FORMER FCX AND SOUTHERN STATES COOPERATIVE FACILITY
6601 WARD BOULEVARD, WILSON, NORTH CAROLINA
EPA BROWNFIELDS COOPERATIVE GRANT NUMBER BF-00D02312-0
MID-ATLANTIC ASSOCIATES JOB NO. 000R2377.01

MONITORING WELL ID	DATE INSTALLED	AREA OF CONCERN (AOC)	TOTALWELL DEPTH (FEET)	SCREEN DEPTH (FEET)	GRAVEL PACK INTERVAL (FEET)	BENTONITE, GROUT INTERVALS (FEET)
MW-6	6/26/2013	AOC-1	17	7 - 17	6 - 17	0 - 4 (grout) 4 - 6 (bent.)
MW-7	6/26/2013	AOC-2	18	8 - 18	6 - 18	0 - 4 (grout) 4 - 6 (bent.)
MW-8	6/26/2013	AOC-2	18	8 - 18	6 - 18	0 - 4 (grout) 4 - 6 (bent.)
MW-9	6/25/2013	AOC-3 / AOC-8	18	8 - 18	6 - 18	0 - 4 (grout) 4 - 6 (bent.)
MW-10	6/25/2013	AOC-5 / AOC-8	18	8 - 18	6 - 18	0 - 4 (grout) 4 - 6 (bent.)

Notes:

Wells were constructed within 7 inch diameter boreholes drilled with hollow stem augers.
Wells installed by Stephen Keener of Quantex, Inc. (Certified Well Driller No. 3468-A).

Wells finished with locking caps and flushmounted manhole covers

TABLE 3.2
GROUNDWATER ELEVATION DATA
FORMER FCX AND SOUTHERN STATES COOPERATIVE FACILITY
6601 WARD BOULEVARD, WILSON, NORTH CAROLINA
EPA BROWNFIELDS COOPERATIVE GRANT NUMBER BF-00D02312-0
MID-ATLANTIC ASSOCIATES JOB NO. 000R2377.01

WELL NUMBER	DATE	TOC (ft)	DTP (ft)	FP THICKNESS (ft)	DTW (ft), BTOC	SWLE (ft)
MW-6	06/27/13	97.05	--	0.00	8.44	88.61
MW-7	06/27/13	99.58	--	0.00	11.74	87.84
MW-8	06/27/13	100.61	--	0.00	12.23	88.38
MW-9	06/27/13	101.24	--	0.00	11.53	89.71
MW-10	06/27/13	99.30	--	0.00	10.35	88.95

Notes and Abbreviations:

1. All elevations shown relative to site benchmark (light pole on western side of property) - Assumed datum 100.00 feet.

2. Measuring point is top of well (TOC) casing unless otherwise noted.

BTOC - Below Top of Casing (TOC)
DTP - Depth-to-Free Product (FP) in feet
DTW - Depth-to-Water in feet
SWLE - Static Water Elevation in feet

TABLE 3.3
SUMMARY OF CONSTITUENTS DETECTED IN GROUNDWATER
FORMER FCX AND SOUTHERN STATES COOPERATIVE FACILITY
6601 WARD BOULEVARD, WILSON, NORTH CAROLINA
EPA BROWNFIELDS COOPERATIVE GRANT NUMBER BF-00D02312-0
MID-ATLANTIC JOB NO: 000R2377.01

CHEMICAL CONSTITUENT		MONITORING WELL SAMPLES (ug/L)					QA/QC SAMPLES (ug/L)			IHSB INDUSTRIAL/ COMMERCIAL VAPOR INTRUSION SCREENING LEVELS (ug/L)	NORTH CAROLINA GROUNDWATER QUALITY STANDARDS (ug/L)
		MW-6 06/27/13	MW-7 6/27/13	MW-8 06/27/13	MW-9 06/27/13	MW-10 06/27/13	MW-6 DUPLICATE 6/27/13	FIELD BLANK	TRIP BLANK		
VOCs	Acetone	ND	ND	ND	ND	ND	ND	5.5	6.9	20,000,000	6,000
	2-Butanone	ND	ND	ND	ND	ND	ND	4.3 J	4.6 J	1,900,000	4,000
	1,2-Dichloropropane	**1.0**	ND	ND	**1.6**	ND	**0.95**	ND	ND	30	0.6
	Methyl tert-butyl ether (MTBE)	6.8	ND	ND	ND	ND	7.0	ND	ND	20,000	20
	sec-Butylbenzene	2.2	ND	ND	ND	ND	2.2	ND	ND	NE	70
METALS	Beryllium	ND	2.7	ND	ND	ND	ND	NR	NR	NE	4*
	Nickel	ND	20	ND	ND	ND	ND	NR	NR	NE	100
	Zinc	ND	44	ND	ND	ND	ND	NR	NR	NE	1,000
SVOCs	Di-n-butyl phathalate	6.3 J	ND	ND	ND	ND	6.5 J	NR	NR	NE	700
Nitrate		1,200 A	ND	830	ND	ND	960 A	NR	NR	NE	10,000
Phosphorus		ND	ND	ND	ND	110	ND	NR	NR	NE	NE

Notes:

ug/L - Milligrams per liter (parts per billion)
VOCs - Volatile Organic Compounds
SVOCs - Semi-Volatile Organic Compounds
NR - Analysis Not Requested
NE - Not Established
* - Interim Maximum Allowable Concentration (IMAC) used in place of North Carolina Groundwater Quality Standard (NCGQS) for Beryllium
Bold values in excess of NCGQS
IHSB - Inactive Hazardous Sites Branch
J - Estimated concentration above the laboratory method detection limit but below the reporting limit
A - Recovery of ending CCV 2.0 mg/L for Nitrate (83%) is outside the control limits (90-110%). Result might have a low bias

TABLE 4.1
SUMMARY OF CONSTITUENTS DETECTED IN SOIL GAS
FORMER FCX AND SOUTHERN STATES COOPERATIVE FACILITY
6601 WARD BOULEVARD, WILSON, NORTH CAROLINA
EPA BROWNFIELDS COOPERATIVE GRANT NUMBER BF-00D02312-0
MID-ATLANTIC JOB NO: 000R2377.01

CHEMICAL CONSTITUENT	CONCENTRATIONS (ug/m^3)	IHSB PRELIMINARY ACCEPTABLE SOIL GAS CONCENTRATIONS (ug/m^3)	
	SG-1	Residential	Commercial/ Industrial
Acetone	130	64,000	280,000
Benzene	15	31	160
1,3-Butadiene	**23**	4.2	17.6
Methyl Ethyl Ketone; 2-Butanone	17	10,400	44,000
Carbon Disulfide	4.7	1,460	6,200
Carbon Tetrachloride	0.23 J	41	200
Chloroethane; Ethyl Chloride	1.2	NE	NE
Chloroform; Trichloromethane	0.34 J	11	53
Methyl Chloride; Chloromethane	6.7	188	780
Cyclohexane	1.5	NE	NE
Dichlorodifluoromethane	2.2	200	880
Ethanol	15 L-03	NE	NE
Ethyl Acetate	3.0	NE	NE
Ethylbenzene	3.3	97	490
4-Ethyltoluene	1.1	NE	NE
Heptane	21	NE	NE
Hexane (n-hexane)	55	1,460	6,200
Isopropanol	12	NE	NE
Methylene Chloride	4.9	1,300	5,300
Methyl Isobutyl Ketone (4-methyl-2-pentanone)	50	6,200	26,000
Naphthalene	3.5	6.2	26
Propene	130	NE	NE
Styrene	2.6	2,000	8,800
Tetrachloroethylene	0.61 J	83.4	350
Toluene	17	10,400	44,000
1,2,4-Trichlorobenzene	6.1	4.2	17.6
Trichlorofluoromethane	2.5	1,460	6,200
1,1,2-Trichloro-1,2,2-trifluoroethane	0.61 J	62,000	260,000
1,2,4-Trimethylbenzene	3.9	14.6	62
1,3,5-Trimethylbenzene	1.1	NE	NE
Vinyl Chloride; Chloroethene	2.2	16	280
Xylene, m&p	7.6	200	880
Xylene, o-	3.6	200	880

Notes:

ug/m^3 - micrograms per cubic meter air
IHSB - Inactive Hazardous Sites Branch
Bold values in excess of IHSB Residential Preliminary Acceptable Soil Gas Concentrations
Shaded values in excess of IHSB Commercial/Industrial Preliminary Acceptable Soil Gas Concentrations
J - Estimated concentration above the laboratory method detection limit but below the reporting limit

TABLE 6.1
SAMPLE/SAMPLE DUPLICATE COMPARISON: GRAB SOIL SAMPLES SB-6D AND DUPLICATE #1
FORMER FCX AND SOUTHERN STATES COOPERATIVE FACILITY
6601 WARD BOULEVARD, WILSON, NORTH CAROLINA
EPA BROWNFIELDS COOPERATIVE GRANT NUMBER BF-00D02312-0
MID-ATLANTIC ASSOCIATES JOB NO. 000R2377.01

PRIMARY SAMPLE:			SB-6D			DUPLICATE SAMPLE:			DUPLICATE #1			AVG. of Results for RPD Calc.	Results > or < 5x the Reporting Limit	Difference, Sample and Duplicate Values or % RPD*	2x Reporting Limit (Acceptable)	2x Acceptable Limit	Result (Variability)
Parameter	Method	Units	Result	Qualif	RL	Parameter	Method	Units	Result	Qualif	RL						
Ethylbenzene	8260B	mg/kg dry	BRL		0.004	Ethylbenzene	8260B	mg/kg dry	BRL		0.0056						
Styrene	8260B	mg/kg dry	BRL		0.004	Styrene	8260B	mg/kg dry	BRL		0.0056						
cis-1,3-Dichloropropylene	8260B	mg/kg dry	BRL		0.004	cis-1,3-Dichloropropylene	8260B	mg/kg dry	BRL		0.0056						
trans-1,3-Dichloropropylene	8260B	mg/kg dry	BRL		0.004	trans-1,3-Dichloropropylene	8260B	mg/kg dry	BRL		0.0056						
n-Propylbenzene	8260B	mg/kg dry	BRL		0.004	n-Propylbenzene	8260B	mg/kg dry	BRL		0.0056						
n-Butylbenzene	8260B	mg/kg dry	BRL		0.004	n-Butylbenzene	8260B	mg/kg dry	BRL		0.0056						
4-Chlorotoluene	8260B	mg/kg dry	BRL		0.004	4-Chlorotoluene	8260B	mg/kg dry	BRL		0.0056						
1,4-Dichlorobenzene	8260B	mg/kg dry	BRL		0.004	1,4-Dichlorobenzene	8260B	mg/kg dry	BRL		0.0056						
1,2-Dibromoethane	8260B	mg/kg dry	BRL		0.004	1,2-Dibromoethane	8260B	mg/kg dry	BRL		0.0056						
1,2-Dichloroethane	8260B	mg/kg dry	BRL		0.004	1,2-Dichloroethane	8260B	mg/kg dry	BRL		0.0056						
Vinyl acetate	8260B	mg/kg dry	BRL		0.02	Vinyl acetate	8260B	mg/kg dry	BRL		0.0056						
Methyl Isobutyl Ketone	8260B	mg/kg dry	BRL		0.04	Methyl Isobutyl Ketone	8260B	mg/kg dry	BRL		0.028						
Isopropyl Ether	8260B	mg/kg dry	BRL		0.004	Isopropyl Ether	8260B	mg/kg dry	BRL		0.056						
m,p-Xylenes	8260B	mg/kg dry	BRL		0.008	m,p-Xylenes	8260B	mg/kg dry	BRL		0.0056						
1,3,5-Trimethylbenzene	8260B	mg/kg dry	BRL		0.004	1,3,5-Trimethylbenzene	8260B	mg/kg dry	BRL		0.011						
Bromobenzene	8260B	mg/kg dry	BRL		0.004	Bromobenzene	8260B	mg/kg dry	BRL		0.0056						
Toluene	8260B	mg/kg dry	BRL		0.004	Toluene	8260B	mg/kg dry	BRL		0.0056						
Chlorobenzene	8260B	mg/kg dry	BRL		0.004	Chlorobenzene	8260B	mg/kg dry	BRL		0.0056						
1,2,4-Trichlorobenzene	8260B	mg/kg dry	BRL		0.004	1,2,4-Trichlorobenzene	8260B	mg/kg dry	BRL		0.0056						
Dibromochloromethane	8260B	mg/kg dry	BRL		0.004	Dibromochloromethane	8260B	mg/kg dry	BRL		0.0056						
Tetrachloroethylene	8260B	mg/kg dry	BRL		0.004	Tetrachloroethylene	8260B	mg/kg dry	BRL		0.0056						
Xylenes, total	8260B	mg/kg dry	BRL		0.012	Xylenes, total	8260B	mg/kg dry	BRL		0.0056						
sec-Butylbenzene	8260B	mg/kg dry	BRL		0.004	sec-Butylbenzene	8260B	mg/kg dry	BRL		0.017						
1,3-Dichloropropane	8260B	mg/kg dry	BRL		0.004	1,3-Dichloropropane	8260B	mg/kg dry	BRL		0.0056						
cis-1,2-Dichloroethylene	8260B	mg/kg dry	BRL		0.004	cis-1,2-Dichloroethylene	8260B	mg/kg dry	BRL		0.0056						
trans-1,2-Dichloroethylene	8260B	mg/kg dry	BRL		0.004	trans-1,2-Dichloroethylene	8260B	mg/kg dry	BRL		0.0056						
Methyl-tert-Butyl Ether	8260B	mg/kg dry	BRL		0.008	Methyl-tert-Butyl Ether	8260B	mg/kg dry	BRL		0.011						
1,3-Dichlorobenzene	8260B	mg/kg dry	BRL		0.004	1,3-Dichlorobenzene	8260B	mg/kg dry	BRL		0.0056						
Carbon Tetrachloride	8260B	mg/kg dry	BRL		0.004	Carbon Tetrachloride	8260B	mg/kg dry	BRL		0.0056						
1,1-Dichloropropylene	8260B	mg/kg dry	BRL		0.004	1,1-Dichloropropylene	8260B	mg/kg dry	BRL		0.0056						
Methyl Butyl Ketone (2-Hexanone)	8260B	mg/kg dry	BRL		0.04	Methyl Butyl Ketone (2-Hexanone)	8260B	mg/kg dry	BRL		0.056						
2,2-Dichloropropane	8260B	mg/kg dry	BRL		0.004	2,2-Dichloropropane	8260B	mg/kg dry	BRL		0.0056						
Acetone	8260B	mg/kg dry	0.044		0.04	Acetone	8260B	mg/kg dry	0.071		0.056	<5X		0.027	0.112	0.224	Acceptable
Chloroform	8260B	mg/kg dry	BRL		0.004	Chloroform	8260B	mg/kg dry	BRL		0.0056						
Benzene	8260B	mg/kg dry	BRL		0.0024	Benzene	8260B	mg/kg dry	BRL		0.0034						
1,1,1-Trichloroethane	8260B	mg/kg dry	BRL		0.004	1,1,1-Trichloroethane	8260B	mg/kg dry	BRL		0.0056						
Bromomethane	8260B	mg/kg dry	BRL		0.008	Bromomethane	8260B	mg/kg dry	BRL		0.011						
Chloromethane	8260B	mg/kg dry	BRL		0.004	Chloromethane	8260B	mg/kg dry	BRL		0.0056						
Bromochloromethane	8260B	mg/kg dry	BRL		0.004	Bromochloromethane	8260B	mg/kg dry	BRL		0.0056						
Chloroethane	8260B	mg/kg dry	BRL		0.008	Chloroethane	8260B	mg/kg dry	BRL		0.011						
Vinyl chloride	8260B	mg/kg dry	BRL		0.004	Vinyl chloride	8260B	mg/kg dry	BRL		0.0056						
Methyl Chloride	8260B	mg/kg dry	BRL		0.004	Methyl Chloride	8260B	mg/kg dry	BRL		0.0056						
Bromoform	8260B	mg/kg dry	BRL		0.004	Bromoform	8260B	mg/kg dry	BRL		0.0056						
Bromodichloromethane	8260B	mg/kg dry	BRL		0.004	Bromodichloromethane	8260B	mg/kg dry	BRL		0.0056						
1,1-Dichloroethane	8260B	mg/kg dry	BRL		0.004	1,1-Dichloroethane	8260B	mg/kg dry	BRL		0.0056						
1,1-Dichloroethylene	8260B	mg/kg dry	BRL		0.004	1,1-Dichloroethylene	8260B	mg/kg dry	BRL		0.0056						
Trichlorofluoromethane	8260B	mg/kg dry	BRL		0.004	Trichlorofluoromethane	8260B	mg/kg dry	BRL		0.0056						
Dichlorodifluoromethane	8260B	mg/kg dry	BRL		0.004	Dichlorodifluoromethane	8260B	mg/kg dry	BRL		0.0056						
1,2-Dichloropropane	8260B	mg/kg dry	BRL		0.004	1,2-Dichloropropane	8260B	mg/kg dry	BRL		0.0056						
Methyl Ethyl Ketone (2-Butanone)	8260B	mg/kg dry	BRL		0.08	Methyl Ethyl Ketone (2-Butanone)	8260B	mg/kg dry	BRL		0.11						
1,1,2-Trichloroethane	8260B	mg/kg dry	BRL		0.004	1,1,2-Trichloroethane	8260B	mg/kg dry	BRL		0.0056						
Trichloroethylene	8260B	mg/kg dry	BRL		0.004	Trichloroethylene	8260B	mg/kg dry	BRL		0.0056						
1,1,2,2-Tetrachloroethane	8260B	mg/kg dry	BRL		0.004	1,1,2,2-Tetrachloroethane	8260B	mg/kg dry	BRL		0.0056						
1,2,3-Trichlorobenzene	8260B	mg/kg dry	BRL		0.004	1,2,3-Trichlorobenzene	8260B	mg/kg dry	BRL		0.0056						
Napthalene	8260B	mg/kg dry	BRL		0.008	Napthalene	8260B	mg/kg dry	BRL		0.011						
o-Xylene	8260B	mg/kg dry	BRL		0.004	o-Xylene	8260B	mg/kg dry	BRL		0.0056						

TABLE 6.1
SAMPLE/SAMPLE DUPLICATE COMPARISON: GRAB SOIL SAMPLES SB-6D AND DUPLICATE #1
FORMER FCX AND SOUTHERN STATES COOPERATIVE FACILITY
6601 WARD BOULEVARD, WILSON, NORTH CAROLINA
EPA BROWNFIELDS COOPERATIVE GRANT NUMBER BF-00D02312-0
MID-ATLANTIC ASSOCIATES JOB NO. 000R2377.01

PRIMARY SAMPLE:			SB-6D			DUPLICATE SAMPLE:			DUPLICATE #1			AVG. of Results for RPD Calc.	Results > or < 5x the Reporting Limit	Difference, Sample and Duplicate Values or % RPD*	2x Reporting Limit (Acceptable)	2x Acceptable Limit	Result (Variability)
Parameter	Method	Units	Result	Qualif	RL	Parameter	Method	Units	Result	Qualif	RL						
2-Chlorotoluene	8260B	mg/kg dry	BRL		0.004	2-Chlorotoluene	8260B	mg/kg dry	BRL		0.0056						
1,2-Dichlorobenzene	8260B	mg/kg dry	BRL		0.004	1,2-Dichlorobenzene	8260B	mg/kg dry	BRL		0.0056						
1,2,4-Trimethylbenzene	8260B	mg/kg dry	BRL		0.004	1,2,4-Trimethylbenzene	8260B	mg/kg dry	BRL		0.0056						
1,2,3-Trichloropropane	8260B	mg/kg dry	BRL		0.004	1,2,3-Trichloropropane	8260B	mg/kg dry	BRL		0.0056						
tert-Butylbenzene	8260B	mg/kg dry	BRL		0.004	tert-Butylbenzene	8260B	mg/kg dry	BRL		0.0056						
Isopropylbenzene (Cumene)	8260B	mg/kg dry	BRL		0.004	Isopropylbenzene (Cumene)	8260B	mg/kg dry	BRL		0.0056						
4-Isopropyltoluene	8260B	mg/kg dry	BRL		0.004	4-Isopropyltoluene	8260B	mg/kg dry	BRL		0.0056						

For sample/duplicate results < 5 times the reporting limit (RL), the absolute difference between the results (sample-duplicate) is used for comparison to the RL. A difference < 2x the RL is considered "acceptable", a difference between the 2x RL value and 2x the “acceptable” limits is considered “slightly high”. A difference > 2x the "acceptable" limit is high.
For sample/duplicate results > 5 times the reporting limit (RL), the percentage of the Relative Percent Difference (RPD) is calculated. A percent RPD <35% = good/acceptable, a percent RPD >35% but < 50% = slightly high variability, and a percent RPD > 50% = high variability.

BRL = Below Reporting Limits or Non-detect
J = Detected, but below the Reporting Limit; therefore, result is an estimated concentration

TABLE 6.2
SAMPLE/SAMPLE DUPLICATE COMPARISON: SOIL SAMPLES AOC-6 AND DUPLICATE #2
FORMER FCX AND SOUTHERN STATES COOPERATIVE FACILITY
6601 WARD BOULEVARD, WILSON, NORTH CAROLINA
EPA BROWNFIELDS COOPERATIVE GRANT NUMBER BF-00D02312-0
MID-ATLANTIC ASSOCIATES JOB NO. 000R2377.01

PRIMARY SAMPLE:			AOC-6			DUPLICATE SAMPLE:			DUPLICATE #2			AVG. of Results for RPD Calc.	Results > or < 5x the Reporting Limit	Difference, Sample and Duplicate Values or % RPD*	2x Reporting Limit (Acceptable)	2x Acceptable Limit	Result (Variability)
Parameter	Method	Units	Result	Qualif	RL	Parameter	Method	Units	Result	Qualif	RL						
4-Nitrophenol	8270D	mg/kg dry	BRL		0.37	4-Nitrophenol	8270D	mg/kg dry	BRL		0.38						
Benzyl alcohol	8270D	mg/kg dry	BRL		0.37	Benzyl alcohol	8270D	mg/kg dry	BRL		0.38						
4-Bromophenyl phenyl ether	8270D	mg/kg dry	BRL		0.37	4-Bromophenyl phenyl ether	8270D	mg/kg dry	BRL		0.38						
Azobenzene	8270D	mg/kg dry	BRL		0.37	Azobenzene	8270D	mg/kg dry	BRL		0.38						
2,4-Dimethylphenol	8270D	mg/kg dry	BRL		0.37	2,4-Dimethylphenol	8270D	mg/kg dry	BRL		0.38						
1,4-Dichlorobenzene	8270D	mg/kg dry	BRL		0.37	1,4-Dichlorobenzene	8270D	mg/kg dry	BRL		0.38						
4-Chloroaniline	8270D	mg/kg dry	BRL		0.37	4-Chloroaniline	8270D	mg/kg dry	BRL		0.38						
3/4-Methylphenol	8270D	mg/kg dry	BRL		0.37	3/4-Methylphenol	8270D	mg/kg dry	BRL		0.38						
Phenol	8270D	mg/kg dry	BRL		0.37	Phenol	8270D	mg/kg dry	BRL		0.38						
Bis(2-Chloroethyl)ether	8270D	mg/kg dry	BRL		0.37	Bis(2-Chloroethyl)ether	8270D	mg/kg dry	BRL		0.38						
bis(2-Chloroethoxy)methane	8270D	mg/kg dry	BRL		0.37	bis(2-Chloroethoxy)methane	8270D	mg/kg dry	BRL		0.38						
Bis(2-Ethylhexyl)phthalate	8270D	mg/kg dry	BRL		0.37	Bis(2-Ethylhexyl)phthalate	8270D	mg/kg dry	BRL		0.38						
Di-n-octyl phthalate	8270D	mg/kg dry	BRL		0.37	Di-n-octyl phthalate	8270D	mg/kg dry	BRL		0.38						
Hexachlorobenzene	8270D	mg/kg dry	BRL		0.37	Hexachlorobenzene	8270D	mg/kg dry	BRL		0.38						
Anthracene	8270D	mg/kg dry	BRL		0.37	Anthracene	8270D	mg/kg dry	BRL		0.38						
1,2,4-Trichlorobenzene	8270D	mg/kg dry	BRL		0.37	1,2,4-Trichlorobenzene	8270D	mg/kg dry	BRL		0.38						
2,4-Dichlorophenol	8270D	mg/kg dry	BRL		0.37	2,4-Dichlorophenol	8270D	mg/kg dry	BRL		0.38						
2,4-Dinitrotoluene	8270D	mg/kg dry	BRL		0.37	2,4-Dinitrotoluene	8270D	mg/kg dry	BRL		0.38						
Pyrene	8270D	mg/kg dry	BRL		0.37	Pyrene	8270D	mg/kg dry	BRL		0.38						
Dimethyl phthalate	8270D	mg/kg dry	BRL		0.37	Dimethyl phthalate	8270D	mg/kg dry	BRL		0.38						
Dibenzofuran	8270D	mg/kg dry	BRL		0.37	Dibenzofuran	8270D	mg/kg dry	BRL		0.38						
Benzo(g,h,i)perylene	8270D	mg/kg dry	BRL		0.37	Benzo(g,h,i)perylene	8270D	mg/kg dry	BRL		0.38						
Indeno(1,2,3-cd)pyrene	8270D	mg/kg dry	BRL		0.37	Indeno(1,2,3-cd)pyrene	8270D	mg/kg dry	BRL		0.38						
Benzo(b)fluoranthene	8270D	mg/kg dry	BRL		0.37	Benzo(b)fluoranthene	8270D	mg/kg dry	BRL		0.38						
Fluoranthene	8270D	mg/kg dry	BRL		0.37	Fluoranthene	8270D	mg/kg dry	BRL		0.38						
Benzo(k)fluoranthene	8270D	mg/kg dry	BRL		0.37	Benzo(k)fluoranthene	8270D	mg/kg dry	BRL		0.38						
Acenaphthylene	8270D	mg/kg dry	BRL		0.37	Acenaphthylene	8270D	mg/kg dry	BRL		0.38						
Chrysene	8270D	mg/kg dry	BRL		0.37	Chrysene	8270D	mg/kg dry	BRL		0.38						
Bis(2-chloroisopropyl)ether	8270D	mg/kg dry	BRL		0.37	Bis(2-chloroisopropyl)ether	8270D	mg/kg dry	BRL		0.38						
Benzo(a)pyrene	8270D	mg/kg dry	BRL		0.37	Benzo(a)pyrene	8270D	mg/kg dry	BRL		0.38						
2,4-Dinitrophenol	8270D	mg/kg dry	BRL		0.37	2,4-Dinitrophenol	8270D	mg/kg dry	BRL		0.38						
4,6-Dinitro-2-methylphenol	8270D	mg/kg dry	BRL		0.37	4,6-Dinitro-2-methylphenol	8270D	mg/kg dry	BRL		0.38						
Dibenzo(a,h)anthracene	8270D	mg/kg dry	BRL		0.37	Dibenzo(a,h)anthracene	8270D	mg/kg dry	BRL		0.38						
1,3-Dichlorobenzene	8270D	mg/kg dry	BRL		0.37	1,3-Dichlorobenzene	8270D	mg/kg dry	BRL		0.38						
Benzo(a)anthracene	8270D	mg/kg dry	BRL		0.37	Benzo(a)anthracene	8270D	mg/kg dry	BRL		0.38						
4-Chloro-3-methylphenol	8270D	mg/kg dry	BRL		0.37	4-Chloro-3-methylphenol	8270D	mg/kg dry	BRL		0.38						
2,6-Dinitrotoluene	8270D	mg/kg dry	BRL		0.37	2,6-Dinitrotoluene	8270D	mg/kg dry	BRL		0.38						
N-Nitroso-di-n-propylamine	8270D	mg/kg dry	BRL		0.37	N-Nitroso-di-n-propylamine	8270D	mg/kg dry	BRL		0.38						
Benzoic Acid	8270D	mg/kg dry	BRL		0.37	Benzoic Acid	8270D	mg/kg dry	BRL		0.38						
Hexachloroethane	8270D	mg/kg dry	BRL		0.37	Hexachloroethane	8270D	mg/kg dry	BRL		0.38						
4-Chlorophenyl phenyl ether	8270D	mg/kg dry	BRL		0.37	4-Chlorophenyl phenyl ether	8270D	mg/kg dry	BRL		0.38						
Hexachlorocyclopentadiene	8270D	mg/kg dry	BRL		0.37	Hexachlorocyclopentadiene	8270D	mg/kg dry	BRL		0.38						
Isophorone	8270D	mg/kg dry	BRL		0.37	Isophorone	8270D	mg/kg dry	BRL		0.38						
Acenaphthene	8270D	mg/kg dry	BRL		0.37	Acenaphthene	8270D	mg/kg dry	BRL		0.38						
Diethyl phthalate	8270D	mg/kg dry	BRL		0.37	Diethyl phthalate	8270D	mg/kg dry	BRL		0.38						
Di-n-butyl phthalate	8270D	mg/kg dry	BRL		0.37	Di-n-butyl phthalate	8270D	mg/kg dry	BRL		0.38						
Phenanthrene	8270D	mg/kg dry	BRL		0.37	Phenanthrene	8270D	mg/kg dry	BRL		0.38						
Butyl benzyl phthalate	8270D	mg/kg dry	BRL		0.37	Butyl benzyl phthalate	8270D	mg/kg dry	BRL		0.38						
N-Nitrosodiphenylamine	8270D	mg/kg dry	BRL		0.37	N-Nitrosodiphenylamine	8270D	mg/kg dry	BRL		0.38						
Fluorene	8270D	mg/kg dry	BRL		0.37	Fluorene	8270D	mg/kg dry	BRL		0.38						
Hexachlorobutadiene	8270D	mg/kg dry	BRL		0.37	Hexachlorobutadiene	8270D	mg/kg dry	BRL		0.38						
Pentachlorophenol	8270D	mg/kg dry	BRL		0.37	Pentachlorophenol	8270D	mg/kg dry	BRL		0.38						
2,4,6-Trichlorophenol	8270D	mg/kg dry	BRL		0.37	2,4,6-Trichlorophenol	8270D	mg/kg dry	BRL		0.38						
2-Nitrophenol	8270D	mg/kg dry	BRL		0.37	2-Nitrophenol	8270D	mg/kg dry	BRL		0.38						
1-Methylnaphthalene	8270D	mg/kg dry	BRL		0.37	1-Methylnaphthalene	8270D	mg/kg dry	BRL		0.38						
Naphthalene	8270D	mg/kg dry	BRL		0.37	Naphthalene	8270D	mg/kg dry	BRL		0.38						

TABLE 6.2
SAMPLE/SAMPLE DUPLICATE COMPARISON: SOIL SAMPLES AOC-6 AND DUPLICATE #2
FORMER FCX AND SOUTHERN STATES COOPERATIVE FACILITY
6601 WARD BOULEVARD, WILSON, NORTH CAROLINA
EPA BROWNFIELDS COOPERATIVE GRANT NUMBER BF-00D02312-0
MID-ATLANTIC ASSOCIATES JOB NO. 000R2377.01

PRIMARY SAMPLE:			AOC-6			DUPLICATE SAMPLE:			DUPLICATE #2			AVG. of Results for RPD Calc.	Results > or < 5x the Reporting Limit	Difference, Sample and Duplicate Values or % RPD*	2x Reporting Limit (Acceptable)	2x Acceptable Limit	Result (Variability)
Parameter	Method	Units	Result	Qualif	RL	Parameter	Method	Units	Result	Qualif	RL						
2-Methylnaphthalene	8270D	mg/kg dry	BRL			2-Methylnaphthalene	8270D	mg/kg dry	BRL		0.38						
2-Chloronaphthalene	8270D	mg/kg dry	BRL			2-Chloronaphthalene	8270D	mg/kg dry	BRL		0.38						
3,3'-Dichlorobenzidine	8270D	mg/kg dry	BRL			3,3'-Dichlorobenzidine	8270D	mg/kg dry	BRL		0.38						
2-Methylphenol	8270D	mg/kg dry	BRL			2-Methylphenol	8270D	mg/kg dry	BRL		0.38						
1,2-Dichlorobenzene	8270D	mg/kg dry	BRL			1,2-Dichlorobenzene	8270D	mg/kg dry	BRL		0.38						
2-Chlorophenol	8270D	mg/kg dry	BRL			2-Chlorophenol	8270D	mg/kg dry	BRL		0.38						
Nitrobenzene	8270D	mg/kg dry	BRL			Nitrobenzene	8270D	mg/kg dry	BRL		0.38						
Mercury	7471B	mg/kg dry	BRL		0.023	Mercury	7471B	mg/kg dry	0.023		0.023		<5X	NA	0.046	0.092	NA
Phosphorus-Total	SM4500-P F	mg/kg dry	64		2.8	Phosphorus-Total	SM4500-P F	mg/kg dry	62		2.9	63	>5X	3.2%			Good/Acceptable
Nitrate as N	9056A	mg/kg dry	1000		22	Nitrate as N	9056A	mg/kg dry	590		23	795	>5X	51.6%			High
Silver	6010C	mg/kg dry	BRL		0.29	Silver	6010C	mg/kg dry	BRL		0.29						
Beryllium	6010C	mg/kg dry	BRL		0.29	Beryllium	6010C	mg/kg dry	BRL		0.29						
Copper	6010C	mg/kg dry	BRL		0.58	Copper	6010C	mg/kg dry	BRL		0.57						
Lead	6010C	mg/kg dry	8.5		0.29	Lead	6010C	mg/kg dry	9.2		0.29	8.85	>5X	7.9%			Good/Acceptable
Nickel	6010C	mg/kg dry	2.7		1.2	Nickel	6010C	mg/kg dry	2.2		1.1		<5X	0.5	2.4	4.8	Acceptable
Thallium	6010C	mg/kg dry	BRL		0.58	Thallium	6010C	mg/kg dry	BRL		0.57						
Antimony	6010C	mg/kg dry	BRL		0.29	Antimony	6010C	mg/kg dry	0.33		0.29		<5X	NA	0.58	1.16	NA
Arsenic	6010C	mg/kg dry	2.5		0.29	Arsenic	6010C	mg/kg dry	2.7		0.29	2.6	>5X	7.7%			Good/Acceptable
Cadmium	6010C	mg/kg dry	BRL		0.29	Cadmium	6010C	mg/kg dry	BRL		0.29						
Chromium	6010C	mg/kg dry	15		0.29	Chromium	6010C	mg/kg dry	16		0.29	15.5	>5X	6.5%			Good/Acceptable
Zinc	6010C	mg/kg dry	12		2.9	Zinc	6010C	mg/kg dry	9.5		2.9		<5X	2.5	5.8	11.6	Acceptable
Selenium	6010C	mg/kg dry	BRL		0.58	Selenium	6010C	mg/kg dry	BRL		0.57						
Heptachlor Epoxide	8081B	mg/kg dry	BRL		0.0023	Heptachlor Epoxide	8081B	mg/kg dry	BRL		0.058						
Endosulfan Sulfate	8081B	mg/kg dry	BRL		0.0023	Endosulfan Sulfate	8081B	mg/kg dry	BRL		0.058						
Aldrin	8081B	mg/kg dry	BRL		0.0023	Aldrin	8081B	mg/kg dry	BRL		0.0023						
alpha-BHC	8081B	mg/kg dry	BRL		0.0023	alpha-BHC	8081B	mg/kg dry	BRL		0.0023						
beta-BHC	8081B	mg/kg dry	BRL		0.0023	beta-BHC	8081B	mg/kg dry	BRL		0.0023						
delta-BHC	8081B	mg/kg dry	BRL		0.0023	delta-BHC	8081B	mg/kg dry	BRL		0.0023						
Endosulfan II	8081B	mg/kg dry	BRL		0.0023	Endosulfan II	8081B	mg/kg dry	BRL		0.0023						
4,4'-DDT	8081B	mg/kg dry	BRL		0.0034	4,4'-DDT	8081B	mg/kg dry	BRL		0.0023						
cis-Chlordane	8081B	mg/kg dry	BRL		0.0023	cis-Chlordane	8081B	mg/kg dry	BRL		0.0023						
trans-Chlordane	8081B	mg/kg dry	BRL		0.0023	trans-Chlordane	8081B	mg/kg dry	BRL		0.0023						
Endrin Ketone	8081B	mg/kg dry	BRL		0.0023	Endrin Ketone	8081B	mg/kg dry	BRL		0.0023						
Chlordane	8081B	mg/kg dry	BRL		0.056	Chlordane	8081B	mg/kg dry	BRL		0.0023						
gamma-BHC	8081B	mg/kg dry	BRL		0.0023	gamma-BHC	8081B	mg/kg dry	BRL		0.0023						
Dieldrin	8081B	mg/kg dry	BRL		0.0023	Dieldrin	8081B	mg/kg dry	BRL		0.0023						
Endrin	8081B	mg/kg dry	BRL		0.0023	Endrin	8081B	mg/kg dry	BRL		0.0023						
Methoxychlor	8081B	mg/kg dry	BRL		0.0023	Methoxychlor	8081B	mg/kg dry	BRL		0.0023						
4,4'-DDD	8081B	mg/kg dry	BRL		0.0023	4,4'-DDD	8081B	mg/kg dry	BRL		0.0023						
4,4'-DDE	8081B	mg/kg dry	BRL		0.0023	4,4'-DDE	8081B	mg/kg dry	BRL		0.0023						
Endrin Aldehyde	8081B	mg/kg dry	BRL		0.0023	Endrin Aldehyde	8081B	mg/kg dry	BRL		0.0023						
Heptachlor	8081B	mg/kg dry	BRL		0.0023	Heptachlor	8081B	mg/kg dry	BRL		0.0023						
Toxaphene	8081B	mg/kg dry	BRL		0.056	Toxaphene	8081B	mg/kg dry	BRL		0.0023						
Endosulfan I	8081B	mg/kg dry	BRL		0.0023	Endosulfan I	8081B	mg/kg dry	BRL		0.0023						

For sample/duplicate results < 5 times the reporting limit (RL), the absolute difference between the results (sample-duplicate) is used for comparison to the RL. A difference < 2x the RL is considered "acceptable", a difference between the 2x RL value and 2x the “acceptable” limits is considered “slightly high”. A difference > 2x the "acceptable" limit is high.
For sample/duplicate results > 5 times the reporting limit (RL), the percentage of the Relative Percent Difference (RPD) is calculated. A percent RPD <35% = good/acceptable, a percent RPD >35% but < 50% = slightly high variability, and a percent RPD > 50% = high variability.

BRL = Below Reporting Limits or Non-detect
J = Detected, but below the Reporting Limit; therefore, result is an estimated concentration

TABLE 6.3
SAMPLE/SAMPLE DUPLICATE COMPARISON: GROUNDWATER SAMPLES MW-6 AND DUPLICATE
FORMER FCX AND SOUTHERN STATES COOPERATIVE FACILITY
6601 WARD BOULEVARD, WILSON, NORTH CAROLINA
EPA BROWNFIELDS COOPERATIVE GRAND NUMBER BF-00D02312-0
MID-ATLANTIC ASSOCIATES JOB NO. 000R2377.01

PRIMARY SAMPLE:			MW-6			DUPLICATE SAMPLE:			MW-6 DUPLICATE			AVG. of Results for RPD Calc.	Results > or < 5x the Reporting Limit	Difference, Sample and Duplicate Values or % RPD*	Magnitude of Higher RL (Acceptable if Difference < Higher RL)	Result (Variability)
Parameter	Method	Units	Result	Qualif	RL	Parameter	Method	Units	Result	Qualif	RL					
Nitrate as N	9056A	mg/L	1.2	A	0.1	Nitrate as N	9056A	mg/L	0.96	A	0.1	1.08	> 5X	22.2%		Good/Acceptable
Lead	6010C	mg/L	BRL		0.005	Lead	6010C	mg/L	BRL		0.005					
Nickel	6010C	mg/L	BRL		0.01	Nickel	6010C	mg/L	BRL		0.01					
Silver	6010C	mg/L	BRL		0.005	Silver	6010C	mg/L	BRL		0.005					
Thallium	6010C	mg/L	BRL		0.01	Thallium	6010C	mg/L	BRL		0.01					
Antimony	6010C	mg/L	BRL		0.01	Antimony	6010C	mg/L	BRL		0.01					
Arsenic	6010C	mg/L	BRL		0.01	Arsenic	6010C	mg/L	BRL		0.01					
Beryllium	6010C	mg/L	BRL		0.002	Beryllium	6010C	mg/L	BRL		0.002					
Cadmium	6010C	mg/L	BRL		0.001	Cadmium	6010C	mg/L	BRL		0.001					
Chromium	6010C	mg/L	BRL		0.005	Chromium	6010C	mg/L	BRL		0.005					
Copper	6010C	mg/L	BRL		0.01	Copper	6010C	mg/L	BRL		0.01					
Zinc	6010C	mg/L	BRL		0.03	Zinc	6010C	mg/L	BRL		0.03					
Selenium	6010C	mg/L	BRL		0.02	Selenium	6010C	mg/L	BRL		0.02					
Ethylbenzene	8260B	ug/L	BRL		0.5	Ethylbenzene	8260B	ug/L	BRL		0.5					
Styrene	8260B	ug/L	BRL		0.5	Styrene	8260B	ug/L	BRL		0.5					
cis-1,3-Dichloropropylene	8260B	ug/L	BRL		0.5	cis-1,3-Dichloropropylene	8260B	ug/L	BRL		0.5					
trans-1,3-Dichloropropylene	8260B	ug/L	BRL		0.5	trans-1,3-Dichloropropylene	8260B	ug/L	BRL		0.5					
n-Propylbenzene	8260B	ug/L	BRL		0.5	n-Propylbenzene	8260B	ug/L	BRL		0.5					
n-Butylbenzene	8260B	ug/L	BRL		1	n-Butylbenzene	8260B	ug/L	BRL		1					
4-Chlorotoluene	8260B	ug/L	BRL		0.5	4-Chlorotoluene	8260B	ug/L	BRL		0.5					
1,4-Dichlorobenzene	8260B	ug/L	BRL		0.5	1,4-Dichlorobenzene	8260B	ug/L	BRL		0.5					
1,2-Dibromoethane	8260B	ug/L	BRL		0.5	1,2-Dibromoethane	8260B	ug/L	BRL		0.5					
Acrolein	8260B	ug/L	BRL		20	Acrolein	8260B	ug/L	BRL		20					
1,2-Dichloroethane	8260B	ug/L	BRL		0.5	1,2-Dichloroethane	8260B	ug/L	BRL		0.5					
Acrylonitrile	8260B	ug/L	BRL		20	Acrylonitrile	8260B	ug/L	BRL		20					
Vinyl acetate	8260B	ug/L	BRL		2	Vinyl acetate	8260B	ug/L	BRL		2					
Methyl Isobutyl Ketone	8260B	ug/L	BRL		5	Methyl Isobutyl Ketone	8260B	ug/L	BRL		5					
Isopropyl Ether	8260B	ug/L	BRL		0.5	Isopropyl Ether	8260B	ug/L	BRL		0.5					
m,p-Xylenes	8260B	ug/L	BRL		1	m,p-Xylenes	8260B	ug/L	BRL		1					
1,3,5-Trimethylbenzene	8260B	ug/L	BRL		0.5	1,3,5-Trimethylbenzene	8260B	ug/L	BRL		0.5					
Bromobenzene	8260B	ug/L	BRL		0.5	Bromobenzene	8260B	ug/L	BRL		0.5					
Toluene	8260B	ug/L	BRL		0.5	Toluene	8260B	ug/L	BRL		0.5					
Chlorobenzene	8260B	ug/L	BRL		0.5	Chlorobenzene	8260B	ug/L	BRL		0.5					
2-Chloroethyl Vinyl Ether	8260B	ug/L	BRL		2	2-Chloroethyl Vinyl Ether	8260B	ug/L	BRL		2					
1,2,4-Trichlorobenzene	8260B	ug/L	BRL		1	1,2,4-Trichlorobenzene	8260B	ug/L	BRL		1					
Dibromochloromethane	8260B	ug/L	BRL		0.5	Dibromochloromethane	8260B	ug/L	BRL		0.5					
Tetrachloroethylene	8260B	ug/L	BRL		0.5	Tetrachloroethylene	8260B	ug/L	BRL		0.5					
sec-Butylbenzene	8260B	ug/L	2.2		0.5	sec-Butylbenzene	8260B	ug/L	2.2		0.5		< 5X	0.00	0.5	Acceptable
1,3-Dichloropropane	8260B	ug/L	BRL		0.5	1,3-Dichloropropane	8260B	ug/L	BRL		0.5					
cis-1,2-Dichloroethylene	8260B	ug/L	BRL		0.5	cis-1,2-Dichloroethylene	8260B	ug/L	BRL		0.5					
trans-1,2-Dichloroethylene	8260B	ug/L	BRL		0.5	trans-1,2-Dichloroethylene	8260B	ug/L	BRL		0.5					
Methyl-tert-Butyl Ether	8260B	ug/L	6.8		0.5	Methyl-tert-Butyl Ether	8260B	ug/L	7		0.5	6.9	> 5X	2.9%		Good/Acceptable
1,3-Dichlorobenzene	8260B	ug/L	BRL		0.5	1,3-Dichlorobenzene	8260B	ug/L	BRL		0.5					
Carbon Tetrachloride	8260B	ug/L	BRL		0.5	Carbon Tetrachloride	8260B	ug/L	BRL		0.5					
1,1-Dichloropropylene	8260B	ug/L	BRL		0.5	1,1-Dichloropropylene	8260B	ug/L	BRL		0.5					
Hexanone)	8260B	ug/L	BRL		5	Hexanone)	8260B	ug/L	BRL		5					
2,2-Dichloropropane	8260B	ug/L	BRL		2	2,2-Dichloropropane	8260B	ug/L	BRL		2					
1,1,1,2-Tetrachloroethane	8260B	ug/L	BRL		0.5	1,1,1,2-Tetrachloroethane	8260B	ug/L	BRL		0.5					
Acetone	8260B	ug/L	BRL		5	Acetone	8260B	ug/L	BRL		5					
Chloroform	8260B	ug/L	BRL		0.5	Chloroform	8260B	ug/L	BRL		0.5					
Benzene	8260B	ug/L	BRL		0.5	Benzene	8260B	ug/L	BRL		0.5					

TABLE 6.3
SAMPLE/SAMPLE DUPLICATE COMPARISON: GROUNDWATER SAMPLES MW-6 AND DUPLICATE
FORMER FCX AND SOUTHERN STATES COOPERATIVE FACILITY
6601 WARD BOULEVARD, WILSON, NORTH CAROLINA
EPA BROWNFIELDS COOPERATIVE GRAND NUMBER BF-00D02312-0
MID-ATLANTIC ASSOCIATES JOB NO. 000R2377.01

PRIMARY SAMPLE:			MW-6			DUPLICATE SAMPLE:			MW-6 DUPLICATE			AVG. of Results for RPD Calc.	Results > or < 5x the Reporting Limit	Difference, Sample and Duplicate Values or % RPD*	Magnitude of Higher RL (Acceptable if Difference < Higher RL)	Result (Variability)
Parameter	Method	Units	Result	Qualif	RL	Parameter	Method	Units	Result	Qualif	RL					
1,1,1-Trichloroethane	8260B	ug/L	BRL		0.5	1,1,1-Trichloroethane	8260B	ug/L	BRL		0.5					
Bromomethane	8260B	ug/L	BRL		1	Bromomethane	8260B	ug/L	BRL		1					
Chloromethane	8260B	ug/L	BRL		0.5	Chloromethane	8260B	ug/L	BRL		0.5					
Dibromomethane	8260B	ug/L	BRL		0.5	Dibromomethane	8260B	ug/L	BRL		0.5					
Bromochloromethane	8260B	ug/L	BRL		0.5	Bromochloromethane	8260B	ug/L	BRL		0.5					
Chloroethane	8260B	ug/L	BRL		0.5	Chloroethane	8260B	ug/L	BRL		0.5					
Vinyl chloride	8260B	ug/L	BRL		0.5	Vinyl chloride	8260B	ug/L	BRL		0.5					
Methylene Chloride	8260B	ug/L	BRL		1	Methylene Chloride	8260B	ug/L	BRL		1					
Carbon disulfide	8260B	ug/L	BRL		5	Carbon disulfide	8260B	ug/L	BRL		5					
Bromoform	8260B	ug/L	BRL		1	Bromoform	8260B	ug/L	BRL		1					
Bromodichloromethane	8260B	ug/L	BRL		0.5	Bromodichloromethane	8260B	ug/L	BRL		0.5					
1,1-Dichloroethane	8260B	ug/L	BRL		0.5	1,1-Dichloroethane	8260B	ug/L	BRL		0.5					
1,1-Dichloroethylene	8260B	ug/L	BRL		0.5	1,1-Dichloroethylene	8260B	ug/L	BRL		0.5					
Trichlorofluoromethane	8260B	ug/L	BRL		0.5	Trichlorofluoromethane	8260B	ug/L	BRL		0.5					
Dichlorodifluoromethane	8260B	ug/L	BRL		1	Dichlorodifluoromethane	8260B	ug/L	BRL		1					
1,2-Dichloropropane	8260B	ug/L	1		0.5	1,2-Dichloropropane	8260B	ug/L	0.95		0.5		< 5X	0.05	0.5	Acceptable
Butanone)	8260B	ug/L	BRL		5	Butanone)	8260B	ug/L	BRL		5					
1,1,2-Trichloroethane	8260B	ug/L	BRL		0.5	1,1,2-Trichloroethane	8260B	ug/L	BRL		0.5					
Trichloroethylene	8260B	ug/L	BRL		0.5	Trichloroethylene	8260B	ug/L	BRL		0.5					
1,1,2,2-Tetrachloroethane	8260B	ug/L	BRL		0.5	1,1,2,2-Tetrachloroethane	8260B	ug/L	BRL		0.5					
1,2,3-Trichlorobenzene	8260B	ug/L	BRL		2	1,2,3-Trichlorobenzene	8260B	ug/L	BRL		2					
Hexachlorobutadiene	8260B	ug/L	BRL		2	Hexachlorobutadiene	8260B	ug/L	BRL		2					
Naphthalene	8260B	ug/L	BRL		1	Naphthalene	8260B	ug/L	BRL		1					
o-Xylene	8260B	ug/L	BRL		0.5	o-Xylene	8260B	ug/L	BRL		0.5					
2-Chlorotoluene	8260B	ug/L	BRL		0.5	2-Chlorotoluene	8260B	ug/L	BRL		0.5					
1,2-Dichlorobenzene	8260B	ug/L	BRL		0.5	1,2-Dichlorobenzene	8260B	ug/L	BRL		0.5					
1,2,4-Trimethylbenzene	8260B	ug/L	BRL		0.5	1,2,4-Trimethylbenzene	8260B	ug/L	BRL		0.5					
1,2-Dibromo-3-chloropropane	8260B	ug/L	BRL		2	1,2-Dibromo-3-chloropropane	8260B	ug/L	BRL		2					
1,2,3-Trichloropropane	8260B	ug/L	BRL		1	1,2,3-Trichloropropane	8260B	ug/L	BRL		1					
tert-Butylbenzene	8260B	ug/L	BRL		0.5	tert-Butylbenzene	8260B	ug/L	BRL		0.5					
Isopropylbenzene (Cumene)	8260B	ug/L	BRL		0.5	Isopropylbenzene (Cumene)	8260B	ug/L	BRL		0.5					
4-Isopropyltoluene	8260B	ug/L	BRL		0.5	4-Isopropyltoluene	8260B	ug/L	BRL		0.5					
Phosphorus-Total	SM4500-P F	mg/L	BRL		0.05	Phosphorus-Total	SM4500-P F	mg/L	BRL		0.05					
Mercury	7470A	mg/L	BRL		0.0002	Mercury	7470A	mg/L	BRL		0.0002					
4-Nitroaniline	8270D	ug/L	BRL		10	4-Nitroaniline	8270D	ug/L	BRL		10					
4-Nitrophenol	8270D	ug/L	BRL		10	4-Nitrophenol	8270D	ug/L	BRL		10					
Benzyl alcohol	8270D	ug/L	BRL		10	Benzyl alcohol	8270D	ug/L	BRL		10					
4-Bromophenyl phenyl ether	8270D	ug/L	BRL		10	4-Bromophenyl phenyl ether	8270D	ug/L	BRL		10					
Azobenzene	8270D	ug/L	BRL		10	Azobenzene	8270D	ug/L	BRL		10					
2,4-Dimethylphenol	8270D	ug/L	BRL		10	2,4-Dimethylphenol	8270D	ug/L	BRL		10					
1,4-Dichlorobenzene	8270D	ug/L	BRL		10	1,4-Dichlorobenzene	8270D	ug/L	BRL		10					
4-Chloroaniline	8270D	ug/L	BRL		10	4-Chloroaniline	8270D	ug/L	BRL		10					
3/4-Methylphenol	8270D	ug/L	BRL		10	3/4-Methylphenol	8270D	ug/L	BRL		10					
Phenol	8270D	ug/L	BRL		10	Phenol	8270D	ug/L	BRL		10					
Bis(2-Chloroethyl)ether	8270D	ug/L	BRL		10	Bis(2-Chloroethyl)ether	8270D	ug/L	BRL		10					
bis(2-Chloroethoxy)methane	8270D	ug/L	BRL		10	bis(2-Chloroethoxy)methane	8270D	ug/L	BRL		10					
Bis(2-Ethylhexyl)phthalate	8270D	ug/L	BRL		10	Bis(2-Ethylhexyl)phthalate	8270D	ug/L	BRL		10					
Di-n-octyl phthalate	8270D	ug/L	BRL		10	Di-n-octyl phthalate	8270D	ug/L	BRL		10					
Hexachlorobenzene	8270D	ug/L	BRL		10	Hexachlorobenzene	8270D	ug/L	BRL		10					
Anthracene	8270D	ug/L	BRL		10	Anthracene	8270D	ug/L	BRL		10					
1,2,4-Trichlorobenzene	8270D	ug/L	BRL		10	1,2,4-Trichlorobenzene	8270D	ug/L	BRL		10					

TABLE 6.3
SAMPLE/SAMPLE DUPLICATE COMPARISON: GROUNDWATER SAMPLES MW-6 AND DUPLICATE
FORMER FCX AND SOUTHERN STATES COOPERATIVE FACILITY
6601 WARD BOULEVARD, WILSON, NORTH CAROLINA
EPA BROWNFIELDS COOPERATIVE GRAND NUMBER BF-00D02312-0
MID-ATLANTIC ASSOCIATES JOB NO. 000R2377.01

PRIMARY SAMPLE:			MW-6			DUPLICATE SAMPLE:			MW-6 DUPLICATE			AVG. of Results for RPD Calc.	Results > or < 5x the Reporting Limit	Difference, Sample and Duplicate Values or % RPD*	Magnitude of Higher RL (Acceptable if Difference < Higher RL)	Result (Variability)
Parameter	Method	Units	Result	Qualif	RL	Parameter	Method	Units	Result	Qualif	RL					
2,4-Dichlorophenol	8270D	ug/L	BRL		10	2,4-Dichlorophenol	8270D	ug/L	BRL		10					
2,4-Dinitrotoluene	8270D	ug/L	BRL		10	2,4-Dinitrotoluene	8270D	ug/L	BRL		10					
Pyrene	8270D	ug/L	BRL		10	Pyrene	8270D	ug/L	BRL		10					
Dimethyl phthalate	8270D	ug/L	BRL		10	Dimethyl phthalate	8270D	ug/L	BRL		10					
Dibenzofuran	8270D	ug/L	BRL		10	Dibenzofuran	8270D	ug/L	BRL		10					
Benzo(g,h,i)perylene	8270D	ug/L	BRL		10	Benzo(g,h,i)perylene	8270D	ug/L	BRL		10					
Indeno(1,2,3-cd)pyrene	8270D	ug/L	BRL		10	Indeno(1,2,3-cd)pyrene	8270D	ug/L	BRL		10					
Benzo(b)fluoranthene	8270D	ug/L	BRL		10	Benzo(b)fluoranthene	8270D	ug/L	BRL		10					
Fluoranthene	8270D	ug/L	BRL		10	Fluoranthene	8270D	ug/L	BRL		10					
Benzo(k)fluoranthene	8270D	ug/L	BRL		10	Benzo(k)fluoranthene	8270D	ug/L	BRL		10					
Acenaphthylene	8270D	ug/L	BRL		10	Acenaphthylene	8270D	ug/L	BRL		10					
Chrysene	8270D	ug/L	BRL		10	Chrysene	8270D	ug/L	BRL		10					
Bis(2-chloroisopropyl)ether	8270D	ug/L	BRL		10	Bis(2-chloroisopropyl)ether	8270D	ug/L	BRL		10					
Benzo(a)pyrene	8270D	ug/L	BRL		10	Benzo(a)pyrene	8270D	ug/L	BRL		10					
2,4-Dinitrophenol	8270D	ug/L	BRL		10	2,4-Dinitrophenol	8270D	ug/L	BRL		10					
4,6-Dinitro-2-methylphenol	8270D	ug/L	BRL		10	4,6-Dinitro-2-methylphenol	8270D	ug/L	BRL		10					
Dibenzo(a,h)anthracene	8270D	ug/L	BRL		10	Dibenzo(a,h)anthracene	8270D	ug/L	BRL		10					
1,3-Dichlorobenzene	8270D	ug/L	BRL		10	1,3-Dichlorobenzene	8270D	ug/L	BRL		10					
Benzo(a)anthracene	8270D	ug/L	BRL		10	Benzo(a)anthracene	8270D	ug/L	BRL		10					
4-Chloro-3-methylphenol	8270D	ug/L	BRL		10	4-Chloro-3-methylphenol	8270D	ug/L	BRL		10					
2,6-Dinitrotoluene	8270D	ug/L	BRL		10	2,6-Dinitrotoluene	8270D	ug/L	BRL		10					
N-Nitroso-di-n-propylamine	8270D	ug/L	BRL		10	N-Nitroso-di-n-propylamine	8270D	ug/L	BRL		10					
Aniline	8270D	ug/L	BRL		10	Aniline	8270D	ug/L	BRL		10					
Benzoic Acid	8270D	ug/L	BRL		100	Benzoic Acid	8270D	ug/L	BRL		100					
Hexachloroethane	8270D	ug/L	BRL		10	Hexachloroethane	8270D	ug/L	BRL		10					
4-Chlorophenyl phenyl ether	8270D	ug/L	BRL		10	4-Chlorophenyl phenyl ether	8270D	ug/L	BRL		10					
Hexachlorocyclopentadiene	8270D	ug/L	BRL		10	Hexachlorocyclopentadiene	8270D	ug/L	BRL		10					
Isophorone	8270D	ug/L	BRL		10	Isophorone	8270D	ug/L	BRL		10					
Acenaphthene	8270D	ug/L	BRL		10	Acenaphthene	8270D	ug/L	BRL		10					
Diethyl phthalate	8270D	ug/L	BRL		10	Diethyl phthalate	8270D	ug/L	BRL		10					
Di-n-butyl phthalate	8270D	ug/L	6.3	J	10	Di-n-butyl phthalate	8270D	ug/L	6.5	J	10		< 5X	0.2	10	Acceptable
Phenanthrene	8270D	ug/L	BRL		10	Phenanthrene	8270D	ug/L	BRL		10					
Butyl benzyl phthalate	8270D	ug/L	BRL		10	Butyl benzyl phthalate	8270D	ug/L	BRL		10					
N-Nitrosodiphenylamine	8270D	ug/L	BRL		10	N-Nitrosodiphenylamine	8270D	ug/L	BRL		10					
Fluorene	8270D	ug/L	BRL		10	Fluorene	8270D	ug/L	BRL		10					
Hexachlorobutadiene	8270D	ug/L	BRL		10	Hexachlorobutadiene	8270D	ug/L	BRL		10					
Pentachlorophenol	8270D	ug/L	BRL		10	Pentachlorophenol	8270D	ug/L	BRL		10					
2,4,6-Trichlorophenol	8270D	ug/L	BRL		10	2,4,6-Trichlorophenol	8270D	ug/L	BRL		10					
2-Nitroaniline	8270D	ug/L	BRL		10	2-Nitroaniline	8270D	ug/L	BRL		10					
2-Nitrophenol	8270D	ug/L	BRL		10	2-Nitrophenol	8270D	ug/L	BRL		10					
1-Methylnaphthalene	8270D	ug/L	BRL		10	1-Methylnaphthalene	8270D	ug/L	BRL		10					
Naphthalene	8270D	ug/L	BRL		10	Naphthalene	8270D	ug/L	BRL		10					
2-Methylnaphthalene	8270D	ug/L	BRL		10	2-Methylnaphthalene	8270D	ug/L	BRL		10					
2-Chloronaphthalene	8270D	ug/L	BRL		10	2-Chloronaphthalene	8270D	ug/L	BRL		10					
3,3'-Dichlorobenzidine	8270D	ug/L	BRL		10	3,3'-Dichlorobenzidine	8270D	ug/L	BRL		10					
2-Methylphenol	8270D	ug/L	BRL		10	2-Methylphenol	8270D	ug/L	BRL		10					
1,2-Dichlorobenzene	8270D	ug/L	BRL		10	1,2-Dichlorobenzene	8270D	ug/L	BRL		10					
2-Chlorophenol	8270D	ug/L	BRL		10	2-Chlorophenol	8270D	ug/L	BRL		10					
2,4,5-Trichlorophenol	8270D	ug/L	BRL		10	2,4,5-Trichlorophenol	8270D	ug/L	BRL		10					
Nitrobenzene	8270D	ug/L	BRL		10	Nitrobenzene	8270D	ug/L	BRL		10					

TABLE 6.3
SAMPLE/SAMPLE DUPLICATE COMPARISON: GROUNDWATER SAMPLES MW-6 AND DUPLICATE
FORMER FCX AND SOUTHERN STATES COOPERATIVE FACILITY
6601 WARD BOULEVARD, WILSON, NORTH CAROLINA
EPA BROWNFIELDS COOPERATIVE GRAND NUMBER BF-00D02312-0
MID-ATLANTIC ASSOCIATES JOB NO. 000R2377.01

PRIMARY SAMPLE:			MW-6			DUPLICATE SAMPLE:			MW-6 DUPLICATE			AVG. of Results for RPD Calc.	Results > or < 5x the Reporting Limit	Difference, Sample and Duplicate Values or % RPD*	Magnitude of Higher RL (Acceptable if Difference < Higher RL)	Result (Variability)
Parameter	Method	Units	Result	Qualif	RL	Parameter	Method	Units	Result	Qualif	RL					
3-Nitroaniline	8270D	ug/L	BRL		10	3-Nitroaniline	8270D	ug/L	BRL		10					
Heptachlor Epoxide	8081B	ug/L	BRL		0.05	Heptachlor Epoxide	8081B	ug/L	BRL		0.05					
Endosulfan Sulfate	8081B	ug/L	BRL		0.05	Endosulfan Sulfate	8081B	ug/L	BRL		0.05					
Aldrin	8081B	ug/L	BRL		0.05	Aldrin	8081B	ug/L	BRL		0.05					
alpha-BHC	8081B	ug/L	BRL		0.05	alpha-BHC	8081B	ug/L	BRL		0.05					
beta-BHC	8081B	ug/L	BRL		0.05	beta-BHC	8081B	ug/L	BRL		0.05					
delta-BHC	8081B	ug/L	BRL		0.05	delta-BHC	8081B	ug/L	BRL		0.05					
Endosulfan II	8081B	ug/L	BRL		0.05	Endosulfan II	8081B	ug/L	BRL		0.05					
4,4'-DDT	8081B	ug/L	BRL		0.05	4,4'-DDT	8081B	ug/L	BRL		0.05					
cis-Chlordane	8081B	ug/L	BRL		0.05	cis-Chlordane	8081B	ug/L	BRL		0.05					
trans-Chlordane	8081B	ug/L	BRL		0.05	trans-Chlordane	8081B	ug/L	BRL		0.05					
Endrin Ketone	8081B	ug/L	BRL		0.05	Endrin Ketone	8081B	ug/L	BRL		0.05					
Chlordane	8081B	ug/L	BRL		0.5	Chlordane	8081B	ug/L	BRL		0.5					
gamma-BHC	8081B	ug/L	BRL		0.05	gamma-BHC	8081B	ug/L	BRL		0.05					
Dieldrin	8081B	ug/L	BRL		0.05	Dieldrin	8081B	ug/L	BRL		0.05					
Endrin	8081B	ug/L	BRL		0.05	Endrin	8081B	ug/L	BRL		0.05					
Methoxychlor	8081B	ug/L	BRL		0.05	Methoxychlor	8081B	ug/L	BRL		0.05					
4,4'-DDD	8081B	ug/L	BRL		0.05	4,4'-DDD	8081B	ug/L	BRL		0.05					
4,4'-DDE	8081B	ug/L	BRL		0.05	4,4'-DDE	8081B	ug/L	BRL		0.05					
Endrin Aldehyde	8081B	ug/L	BRL		0.05	Endrin Aldehyde	8081B	ug/L	BRL		0.05					
Heptachlor	8081B	ug/L	BRL		0.05	Heptachlor	8081B	ug/L	BRL		0.05					
Toxaphene	8081B	ug/L	BRL		0.5	Toxaphene	8081B	ug/L	BRL		0.5					
Endosulfan I	8081B	ug/L	BRL		0.05	Endosulfan I	8081B	ug/L	BRL		0.05					

For sample/duplicate results < 5 times the reporting limit (RL), the absolute difference between the results (sample-duplicate) is used for comparison to the RL. If the difference is less than the magnitude of the higher RL among the sample/duplicate pair, the presicion is considered "acceptable". If the difference is greater than the higher RL, the variability is considered "high".
For sample/duplicate results > 5 times the reporting limit (RL), the percentage of the Relative Percent Difference (RPD) is calculated. A percent RPD <35% = good/acceptable, a percent RPD >35% but < 50% = slightly high variability, and a percent RPD > 50% = high variability.

BRL = Below Reporting Limits or Non-detect
J = Estimated value above the laboratory Method Detection Limit (MDL) but below the Reporting Limit (RL)
A = Recovery of ending CCV 2.0 mg/L for Nitrate (83%) is outside the control limits (90-110%). Result might have a low bias

APPENDIX A

PREVIOUS ENVIRONMENTAL REPORTS
(UST AND AST PETROLEUM RELEASES)

Mid Atlantic
Engineering & Environmental Solutions

Southern States Cooperative, Inc.
6606 West Broad Street
Richmond, Virginia 23230-1717
Mail Address: P.O. Box 26234
Richmond, Virginia 23260-6234
Telephone (804) 281-1000

SOUTHERN STATES

CERTIFIED MAIL

RECEIVED
DEC 7 1998
DEHNR RALEIGH REGIONAL OFFICE

1 December 1998

State of North Carolina
DEHNR – Ground Water Section
3800 Barrett Drive, Suite 101
Raleigh, NC 27609

Attention: Mr. Jim Roush

RE: Southern States Wilson Service
Highway 301, Wilson, NC

Dear Mr. Roush:

I have enclosed two volumes of the "Soil Excavation Report" prepared by Duncklee and Dunham, P.C. dated 23 November 1998.

Approximately 1,364 tons of petroleum impacted soils above the NC DEHNR action level. This soil was discovered during the installation of a truck scale. The excavation was backfilled using compacted sand and crusher run gravel. Four samples taken from the excavation floor following soil excavation activities contained contaminant levels above the NCDEHNR action level. The highest sample (SS-13-11.5') containing TPH constituents detected in the gasoline fraction (method 5030) is 28 parts per million (ppm). The highest sample (SS-13-11.5') containing TPH constituents detected in the diesel/ #2 fuel oil fraction (method 3550) is 133 ppm. Based on the low levels of remaining hydrocarbons, and the availability of municipal water in the area, Southern States would like to request satisfactory site closure.

If there are any questions regarding the above referenced facility, please call me at 804.281.7756.

Sincerely,

Russell Vanness
Project Manager
Safety & Environmental

cc: George Kirkland - District Manager 1A
Gerald Jackson – Manager, Wilson Service
Hilton Withers – Senior Manager Environmental Affairs

Enclosure

RECEIVED
DEC 7
DEHNR RALEIGH REGIONAL OFFICE

Soil Excavation Report
Southern States Cooperative, Inc.
Wilson Service - Highway 301 South
Wilson, North Carolina

November 23, 1998

Prepared For

Southern States Cooperative, Inc.
Richmond, Virginia

Prepared By

Duncklee & Dunham, P.C.
Raleigh, North Carolina

Duncklee & Dunham, P.C.

Environmental Consultants

Post Office Box 33366
Raleigh, North Carolina 27636
Telephone: (919) 319-7758
Facsimile: (919) 319-7759

November 23, 1998

Mr. Rusty Vanness
Southern States Cooperative, Inc.
6606 West Broad Street
Richmond, Virginia 23230

Reference: Soil Excavation Report
Southern States Cooperative, Inc. – Wilson Service
Highway 301 South
Wilson, North Carolina
Duncklee & Dunham Job No. 82700

Dear Mr. Vanness:

As requested by Southern States Cooperative, Inc., Duncklee & Dunham, P.C. is pleased to submit this soil excavation report for the above referenced site. This report details the results of soil assessment and excavation activities beneath a former petroleum loading rack and dispenser island. A copy of this report should be submitted to the North Carolina Department of Environment and Natural Resources at the following address:

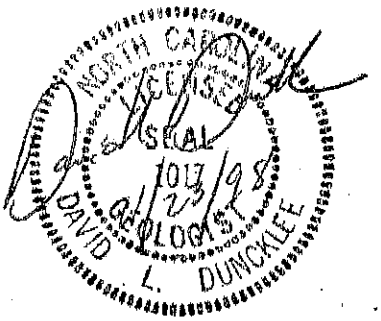
Mr. Jim Roush
NC DEHNR – Ground Water Section
3800 Barrett Drive, Suite 101
Raleigh, North Carolina 27609

Duncklee & Dunham appreciates the opportunity to be of service to Southern States Cooperative, Inc. If you have any questions or comments, please call us at (919) 319-7758.

Sincerely,

DUNCKLEE & DUNHAM, P.C.

David L. Duncklee, L.G.
Senior Hydrogeologist



Senior Peer Review:

Thomas S. Dunham, P.G.
Senior Geologist

98154/DLD/dld

Soil Excavation Report
Southern States Cooperative, Inc.
Wilson Service - Highway 301 South
Wilson, North Carolina
November 23, 1998

1 Background

The Southern States Wilson Service (Southern States) is located on Highway 301 South in Wilson, North Carolina (see Figure 1). The facility is a farm, home and garden retail supply business.

A bulk petroleum storage and distribution operation formerly operated on the eastern end of the property. Approximately 12 aboveground storage tanks (ASTs), a loading rack, and dispenser pumps were reportedly used to store and distribute fuels. Most of the tanks, the loading rack, and the fuel dispensers were removed several years ago.

Three of the ASTs and the dike wall structure were left intact to store liquid fertilizer solutions. Presently, three steel aboveground tanks are used to store and distribute liquid nitrogen. No petroleum is stored in the ASTs. Southern States is planning to install a truck weigh scale adjacent to the AST area (see Figure 2).

Southern States requested Duncklee & Dunham, P.C. mobilize to the site following a report of petroleum hydrocarbon odors in a footer excavation for a proposed truck scale. On September 10, 1998, a senior hydrogeologist performed two shallow hand auger borings (B-1 and B-2, see Figure 2) in one of the footer excavations and confirmed a suspected release of petroleum hydrocarbons.

A release of petroleum hydrocarbons was reported to the North Carolina Department of Environment and Natural Resources (DENR) Raleigh Regional Office by Mr. Hilton Withers of Southern States on September 10, 1998.

2 Soil Assessment

2.1 Boring Methodology

Southern States requested a soil assessment to determine the extent of impacted soils in the area of the proposed scale. On September 15, 1998, Duncklee & Dunham performed eight soil probes (B-3 through B-9, and B-11, see Figure 2) with a Geoprobe® rig and an additional hand auger boring (B-10).

The Geoprobe® hydraulic push equipment and hand auger collected continuous soil samples from each boring. The soils were logged using the Unified Soil Classification System (see Boring Logs in Appendix A). The borings were properly backfilled with bentonite and cement grout below the water table and with soil cuttings in the unsaturated zone.

2.2 Soil Classification

In general, the shallow soils encountered consisted of fill sands to approximately four feet below grade. A thin organic-rich layer with roots and topsoil was found between the fill and naturally emplaced soils. From four to ten feet, silty to clayey medium to fine sandy soils were encountered. Between 9 and 12 feet of depth, the soils were a gray silty medium to fine sandy clay.

Boring B-11 was advanced to a depth of 20 feet to gather additional hydrogeologic information in the vertical direction. An interbedded sand and clay unit was logged from 9 to 16 feet below grade. A saturated sand unit was present between 16 and 20 feet. The water level in the borehole approximately one hour after termination was 11.9 feet below grade. Further details regarding the collection of soil samples are included in the boring logs (see Appendix A).

2.3 Sample Collection

Soil samples were collected from the borings for screening with an organic vapor analyzer (OVA). The OVA was used to identify whether or not volatile organic compounds, which can be indicative of petroleum hydrocarbons, were evident in the headspace of the soil samples. Soil samples were also collected for laboratory testing. In total, 11 soil samples were collected during the soil assessment and transported to Paradigm Analytical Laboratories, Inc. of Wilmington, North Carolina in accordance with EPA accepted protocols.

Mr. Jim Roush of the DENR Ground Water Section – Raleigh Regional Office was contacted on September 11, 1998 concerning current applicable agency guidelines. Mr. Roush indicated that total petroleum hydrocarbon (TPH) methods could be used to assess a release of petroleum from an AST facility. Therefore, each soil sample was tested for TPH gasoline and diesel/#2 fuel oil fractions using the methods specified by DENR guidelines.

Table 1 includes a summary of the borings, the OVA measurements, and the laboratory testing results. OVA screening and soil collection procedures are included in Appendix B. A copy of the laboratory analytical report is attached in Appendix C.

2.4 Laboratory Results

Laboratory testing results (see Table 1 and Appendix C) confirmed that a release of TPH gasoline and diesel/#2 fuel oil was present. Samples analyzed from borings B-1, B-3, B-5, B-6, and B-9 (see Figure 2) contained TPH above DENR action levels of 10 mg/Kg (parts per million, ppm) gasoline fraction or 40 mg/Kg (ppm) diesel/#2 fuel oil fraction.

The results of the soil assessment indicated the release had affected soils beneath the proposed truck scale. The horizontal extent of impact also extended to the southwest in the area of B-9. The vertical extent of the release did not appear to extent past a depth of 10 feet from grade, based on laboratory results. However, OVA screening results from several borings indicated an increase of volatile organic compounds between a depth of 5 to 10 feet below ground surface.

Based on these results, Southern States authorized the excavation of petroleum affected soils before the installation of the proposed truck scale. Remedial goals were established to be the DENR action levels of 10 ppm gasoline and 40 ppm diesel/#2 fuel oil.

3 Soil Remediation

3.1 Excavation and Disposal

Soils near the proposed truck scale impacted above DENR action levels were excavated between September 30 and October 6, 1998. Earth Care Corporation of Lexington, Virginia was contracted by Southern States to excavate the impacted soils and transport them to an approved treatment and disposal facility.

The soils were excavated using the soil testing results from the preliminary assessment and OVA measurements. Approximately 1,364 tons of soil was excavated from the former loading rack and dispenser pump area.

The soils were excavated and directly loaded into dump trailers for transport to Carlisle Farms, Inc. of Autryville, North Carolina for land application treatment and disposal. The Carlisle Farms, Inc. facility (DENR Permit No. SR0600035) is located off Holland Road (State Road 1428) in Sampson County, North Carolina. Copies of the soil disposal manifests are included in Appendix D.

3.2 Closure Sampling and Backfilling

To document excavation closure conditions, seven wall samples, and eight floor samples were taken during and after the termination of the excavation. The samples were collected (see Figure 3) and transported to Paradigm Analytical Laboratories, Inc. of Wilmington, North Carolina in accordance with EPA accepted protocols. Table 2 presents the OVA screening and analytical testing results for the samples collected at the termination of the excavation.

Results from the excavation walls show that soils containing levels of petroleum hydrocarbons above DENR established action levels were removed (see Figure 3). However, three samples from the base of the excavation (SS-13-11.5', SS-14-12', and SS-15-12') contained TPH levels above the DENR action levels. The three pit floor samples above DENR action levels are located in the southern end of the excavation, below the former loading rack.

The excavation was backfilled with sand and crusher run gravel. Compaction testing was performed by CTL Engineering, Inc. of Durham, North Carolina. Proper compaction was achieved and Southern States plans to proceed with the installation of the truck scale.

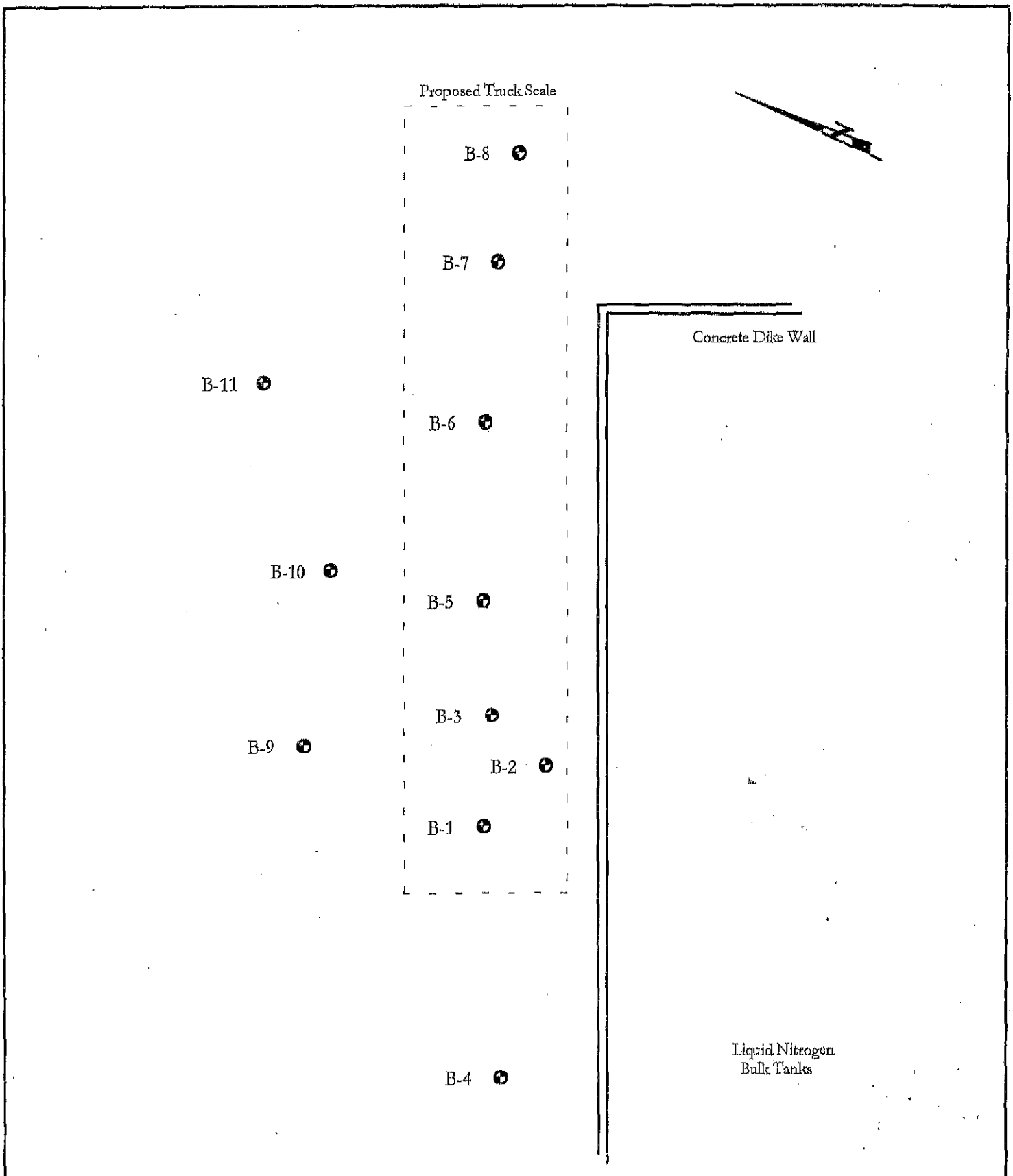
4 Conclusions

The excavated soils were removed from the site and taken to Carlisle Farms, Inc., Holland Road, Autryville, North Carolina for treatment and disposal. This facility is permitted by DENR for the land application of soils impacted by petroleum products. The excavation was backfilled with compacted sand and gravel for the construction of a new weigh scale.

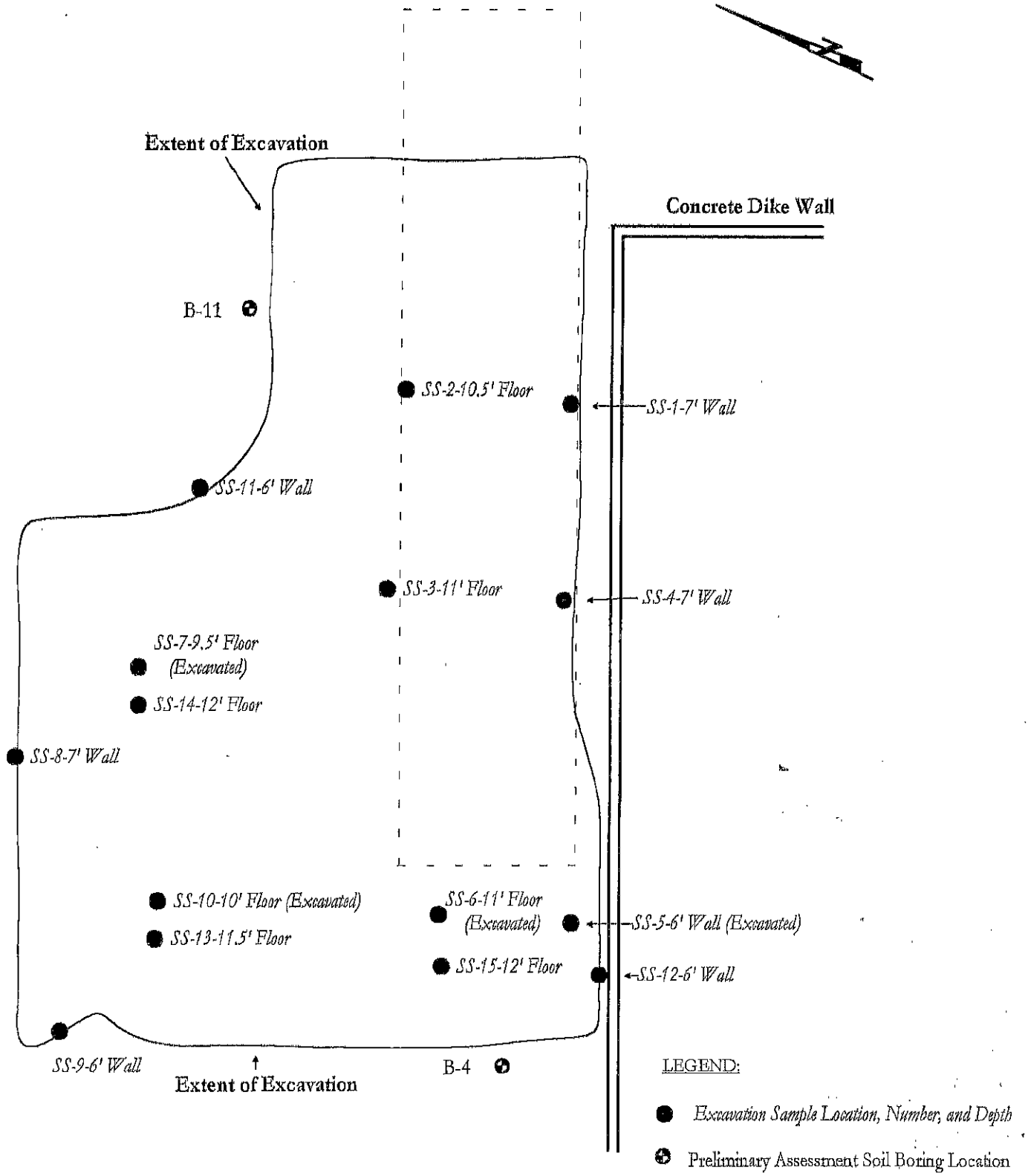
No soil samples from the pit walls contained TPH levels above DENR standards. Therefore, the lateral extent of soils affected by a release of petroleum hydrocarbons near the former loading rack has been remediated.

The vertical extent of petroleum affected soils was successfully removed in the northern end of the excavation. However, soils in the southern portion of the excavation base contain TPH levels above DENR cleanup standards. Affected soils were excavated in the southern end of the pit until the approximate level of the ground water table was reached. TPH concentrations contained within the remaining soils consisted of a maximum of 28 mg/kg (ppm) of 5030 range compounds, and 133 mg/kg (ppm) of 3550 range compounds (see Table 2).

Based on the low levels of TPH remaining in the soil and the availability of municipal water in the area, Southern States requests DENR grant satisfactory site closure.



Duncklee & Dunham, P.C. Environmental Consultants	*Author* dld	*Drawing* 82700-0	*Layer*	*Date* 10/31/98	*Title* Locations of Soil Borings and Proposed Truck Scale
	Job No. 82700	*Revision* 0	*Figure* 2	*Scale* Not to scale	*Project* Southern States Cooperative, Inc. Wilson, North Carolina



Duncklee & Dunham, P.C. Environmental Consultants	*Author* dld	*Drawing* 82700-2	*Layer*	*Date* 10/31/98	*Title* Extent of Excavation and Sampling Locations
	Job No. 82700	*Revision* 0	*Figure* 3	*Scale* Not to scale	*Project* Southern States Cooperative, Inc. Wilson, North Carolina

Table 1. **Summary of Preliminary Assessment Soil Testing Results, September 15, 1998 – Southern States Wilson Service.**

Sample ID and Depth	OVA Measurement in ppm	Total Petroleum Hydrocarbons in ppm	
		5030 Range	3550 Range
B-1-4'	NM	82	3,420
B-3-3.5'	500	BQL	901
B-3-10.5'	140	BQL	BQL
B-4-7'	190	BQL	BQL
B-5-4'	250	370	39
B-5-10'	580	BQL	12
B-6-3.5'	100	180	3,080
B-6-10'	1000+	BQL	BQL
B-7-6'	350	BQL	BQL
B-9-6'	1000	240	15
B-11-6'	250	BQL	BQL

NM : Not Measured
BQL = Below quantitation limit

Dunaklee & Dunham Job No. 82700
98154

Table 2. Summary of Final Excavation Soil Testing Results – Southern States Wilson Service.

Sample ID and Depth	Date	OVA Measurement in ppm	Total Petroleum Hydrocarbons in ppm 5030 Range	3550 Range
SS-1-7'	9-30-98	NM	BQL	BQL
SS-2-11'	9-30-98	NM	BQL	BQL
SS-3-11	9-30-98	NM	BQL	BQL
SS-4-7'	10-1-98	BAB	BQL	18
SS-8-7'	10-1-98	400	BQL	BQL
SS-9-6'	10-2-98	300	BQL	BQL
SS-11-6'	10-2-98	20	BQL	16
SS-12-6'	10-6-98	200	BQL	BQL
SS-13-11.5'	10-6-98	100	28	133
SS-14-12'	10-6-98	210	10	72
SS-15-12'	10-6-98	20	16	BQL

NM : Not Measured
BAB: Below Ambient Background
BQL = Below quantitation limit

Dunckles & Dunham Job No. 82700
98154

Boring Log

Duncklee & Dunham, P.C.

I. D. Number	*B-1*	**Purpose**	*Soil Sampling*
Project Name	*Southern States Wilson Service*	**Contractor**	
Project No.	*82700*	**Registration No.**	
Geologist	*Dave Duncklee*	**Driller**	*Dave Duncklee*
Start Date	*9/10/98* **Complete Date** *Same*	**Equipment**	*Hand Auger*

Drilling Method	*Hand Auger*
Comments	*Boring in base of footer excavation for new truck scale. Two-inch steel line visible in base of pit.*
	Footer excavation is two feet below grade.

Well Construction Information		**Depth From - To**	**Soil / Rock Description / Comments**	**FID / PID (ppm) @ Depth (ft.)**
Borehole Diameter	*3.5"*	*0 - 3'*	*Fill - Orange brown clayey medium to fine sandy SILT*	
Riser Type	*NA*		*(ML) to gray slightly clayey to clayey medium to fine*	
Diameter	*NA*		*SAND (SC)*	
Screen Type	*NA*		*- with gravel*	
Diameter	*NA*		*- with petroleum odor*	
Riser Interval	*NA*			
Screen Interval	*NA*	*3' - 5.5'*	*Gray slightly clayey silty medium to fine SAND (SM)*	
Slot Size	*NA*		*- sample B-1-4' collected*	
Grout Type	*NA*			
Interval	*NA*			
Bentonite Type	*NA*	*5.5' - 6.5'*	*Tan to gray clayey medium to fine sandy SILT (ML)*	
Interval	*NA*			
Filter Pack	*NA*	*6.5' - 9'*	*Gray medium to fine sandy silty CLAY (CL to CH) to*	
Interval	*NA*		*clayey SILT (ML to MH)*	
Total Depth	*NA*		*-soils saturated at 8.8' to 9'*	
R.P. Elevation				
Datum			*Boring terminated @ 9 foot depth*	
Water Level Information			*Water level at 8.7' one hour after termination of boring*	
Date	**W.L. Below R.P.**			

R.P. = Reference Point *W.L. = Water Level* *TBM = Temporary Benchmark* *MSL = Mean Sea Level*

Boring Log

Duncklee & Dunham, P.C.

I. D. Number	*B-2*	**Purpose**	*Soil sampling*
Project Name	*Southern States Wilson Service*	**Contractor**	
Project No.	*82700*	**Registration No.**	
Geologist	*Dave Duncklee*	**Driller**	*Dave Duncklee*
Start Date	*9/10/98* **Complete Date** *Same*	**Equipment**	*Hand Auger*

Drilling Method	*Hand Auger*
Comments	*Boring advanced in footer with base about one foot below grade.*

Well Construction Information		**Depth From - To**	**Soil / Rock Description / Comments**	**FID / PID (ppm) @ Depth (ft.)**
Borehole Diameter	*3.5"*	*0 - 1'*	*Fill - Orange tan clayey silty medium to fine SAND (SM)*	
Riser Type	*NA*		*-with petroleum odor*	
Diameter	*NA*			
Screen Type	*NA*		*Boring terminated @ 1 foot depth*	
Diameter	*NA*			
Riser Interval	*NA*			
Screen Interval	*NA*			
Slot Size	*NA*			
Grout Type	*NA*			
Interval	*NA*			
Bentonite Type	*NA*			
Interval	*NA*			
Filter Pack	*NA*			
Interval	*NA*			
Total Depth	*NA*			
R.P. Elevation				
Datum				
Water Level Information				
Date	**W.L. Below R.P.**			

R.P. = Reference Point *W.L. = Water Level* *TBM = Temporary Benchmark* *MSL = Mean Sea Level*

Boring Log

Duncklee & Dunham, P.C.

I. D. Number	*B-3*	**Purpose**	*Soil Sampling*
Project Name	*Southern States Wilson Service*	**Contractor**	*Troxler Geologic*
Project No.	*82700*	**Registration No.**	
Geologist	*Dave Duncklee*	**Driller**	*Ben Troxler*
Start Date	*9/15/98* **Complete Date** *Same*	**Equipment**	*Geoprobe*

Drilling Method	*Geoprobe*
Comments	

Well Construction Information		Depth From - To	Soil / Rock Description / Comments	FID / PID (ppm) @ Depth (ft.)
Borehole Diameter	*2"*	*0 - 4'*	*Fill - Orange tan silty to clayey medium to fine SAND*	
Riser Type	*NA*		*(SC)*	
Diameter	*NA*		*-sample B-3-3.5 collected*	*500 ppm at 3.5'*
Screen Type	*NA*		*- with gravel*	
Diameter	*NA*			
Riser Interval	*NA*	*4' - 9.5'*	*Orange tan silty to clayey medium to fine SAND (SC)*	*460 ppm at 8'*
Screen Interval	*NA*		*-moderate plasticity*	
Slot Size	*NA*			
Grout Type	*NA*	*9.5' - 11.8'*	*Gray silty medium to fine sandy CLAY (CH) to silty*	*140 ppm at 10'*
Interval	*NA*		*clayey medium to fine SAND (SC)*	
Bentonite Type	*NA*		*-saturated at 11'*	
Interval	*NA*		*-potential confining layer*	
Filter Pack	*NA*		*-sample B-3-10.5 collected*	
Interval	*NA*			
Total Depth	*NA*		*Boring terminated @ 11.8 foot depth*	
R.P. Elevation				
Datum				

Water Level Information	
Date	**W.L. Below R.P.**

R.P. = Reference Point *W.L. = Water Level* *TBM = Temporary Benchmark* *MSL = Mean Sea Level*

oring Log

Duncklee & Dunham, P.C.

. Number	*B-4*	**Purpose**	*Soil Sampling*
ject Name	*Southern States Wilson Service*	**Contractor**	*Troxler Geologic*
ject No.	*82700*	**Registration No.**	
ologist	*Dave Duncklee*	**Driller**	*Ben Troxler*
rt Date	*9/15/98* **Complete Date** *Same*	**Equipment**	*Geoprobe*

lling Method	*Geoprobe*
mments	

Well Construction Information		Depth From - To	Soil / Rock Description / Comments	FID / PID (ppm) @ Depth (ft.)
ehole Diameter	*2"*	*0 - 5'*	*Fill - Orange tan silty to clayey medium to fine SAND*	
r Type	*NA*		*(SC)*	
meter	*NA*		*-with petroleum odor at 2 feet*	*50 ppm @ 2.5'*
en Type	*NA*		*- with gravel*	
meter	*NA*			
r Interval	*NA*	*5' - 7.5'*	*Light to dark gray clayey to silty medium to fine SAND*	
en Interval	*NA*		*(SC)*	
Size	*NA*		*-with root traces/organics*	
ut Type	*NA*		*-sample B-4-7' collected*	*190 ppm @ 6'*
rval	*NA*			
tonite Type	*NA*	*7.5' to 9.5'*	*Brown gray silty clayey medium to fine SAND (SC)*	
rval	*NA*		*-with organics*	
r Pack	*NA*		*-moderate plasticity*	
rval	*NA*			
l Depth	*NA*	*9.5' - 12'*	*Gray medium to fine sandy silty CLAY (CH) to silty*	*340 ppm @ 9.5'*
Elevation			*clayey medium to fine SAND (SC)*	
m			*-moderate to high plasticity*	
Water Level Information				
Date	**W.L. Below R.P.**		*Boring terminated @ 12 foot depth*	

= Reference Point *W.L. = Water Level* *TBM = Temporary Benchmark* *MSL = Mean Sea Level*

Boring Log

Duncklee & Dunham, P.C.

I. D. Number	*B-5*	**Purpose**	*Soil Sampling*
Project Name	*Southern States Wilson Service*	**Contractor**	*Troxler Geologic*
Project No.	*82700*	**Registration No.**	
Geologist	*Dave Duncklee*	**Driller**	*Ben Troxler*
Start Date	*9/15/98* **Complete Date** *Same*	**Equipment**	*Geoprobe*

Drilling Method	*Geoprobe*
Comments	

Well Construction Information		Depth From - To	Soil / Rock Description / Comments	FID / PID (ppm) @ Depth (ft.)
Borehole Diameter	*2"*	*0 - 4'*	*Fill - Orange tan silty to clayey medium to fine SAND*	
Riser Type	*NA*		*(SC)*	*250 ppm @ 2'*
Diameter	*NA*		*- with gravel*	
Screen Type	*NA*		*-strong petroleum odor at 4'*	
Diameter	*NA*			
Riser Interval	*NA*	*4' - 9.5'*	*Orange tan silty to clayey medium to fine SAND (SC)*	*350 ppm @ 6'*
Screen Interval	*NA*		*- sample B-5-4' collected*	
Slot Size	*NA*			*580 ppm @ 9'*
Grout Type	*NA*	*9.5' - 12'*	*Gray silty medium to fine sandy CLAY (CH) to silty*	
Interval	*NA*		*clayey medium to fine SAND (SC)*	
Bentonite Type	*NA*		*-slight petroleum odor*	
Interval	*NA*		*-sample B-5-10 collected*	
Filter Pack	*NA*			
Interval	*NA*			
Total Depth	*NA*		*Boring terminated @ 12 foot depth*	
R.P. Elevation				
Datum				

Water Level Information

Date	W.L. Below R.P.

R.P. = Reference Point *W.L. = Water Level* *TBM = Temporary Benchmark* *MSL = Mean Sea Level*

Boring Log

Duncklee & Dunham, P.C.

I. D. Number	*B-6*	**Purpose**	*Soil Sampling*
Project Name	*Southern States Wilson Service*	**Contractor**	*Troxler Geologic*
Project No.	*82700*	**Registration No.**	
Geologist	*Dave Duncklee*	**Driller**	*Ben Troxler*
Start Date	*9/15/98* **Complete Date** *Same*	**Equipment**	*Geoprobe*

Drilling Method	*Geoprobe*
Comments	

Well Construction Information		Depth From - To	Soil / Rock Description / Comments	FID / PID (ppm) @ Depth (ft.)
Borehole Diameter	*2"*	*0 - 4'*	*Fill - Orange tan silty to clayey medium to fine SAND*	
Riser Type	*NA*		*(SC)*	*100 ppm @ 2.5'*
Diameter	*NA*		*- with gravel*	
Screen Type	*NA*		*-strong petroleum odor at 2 to 4'*	
Diameter	*NA*		*- sample B-6-3.5' collected*	
Riser Interval	*NA*			
Screen Interval	*NA*	*4' - 9.5'*	*Orange tan silty to clayey medium to fine SAND (SC)*	*250 ppm @ 7'*
Slot Size	*NA*			
Grout Type	*NA*			
Interval	*NA*	*9.5' - 12'*	*Gray silty medium to fine sandy CLAY (CH) to silty*	*1000+ @ 10'*
Bentonite Type	*NA*		*clayey medium to fine SAND (SC)*	
Interval	*NA*		*-slight petroleum odor*	
Filter Pack	*NA*		*-sample B-6-10' collected*	
Interval	*NA*			
Total Depth	*NA*			
R.P. Elevation			*Boring terminated @ 12 foot depth*	
Datum				

Water Level Information				
Date	**W.L. Below R.P.**			

R.P. = Reference Point *W.L. = Water Level* *TBM = Temporary Benchmark* *MSL = Mean Sea Level*

Boring Log

Duncklee & Dunham, P.C.

I. D. Number	*B-7*	**Purpose**	*Soil Sampling*
Project Name	*Southern States Wilson Service*	**Contractor**	*Troxler Geologic*
Project No.	*82700*	**Registration No.**	
Geologist	*Dave Duncklee*	**Driller**	*Ben Troxler*
Start Date	*9/15/98* **Complete Date** *Same*	**Equipment**	*Geoprobe*

Drilling Method	*Geoprobe*
Comments	

Well Construction Information		**Depth From - To**	**Soil / Rock Description / Comments**	**FID / PID (ppm) @ Depth (ft.)**
Borehole Diameter	*2"*	*0 - 5.3'*	*Fill - Orange tan silty to clayey medium to fine SAND*	
Riser Type	*NA*		*(SC)*	*250 ppm @ 2'*
Diameter	*NA*		*- with gravel*	
Screen Type	*NA*			
Diameter	*NA*	*5.3' - 6.3'*	*Dark Grey Silty Medium to Fine SAND (SM)*	
Riser Interval	*NA*		*-organic odor*	
Screen Interval	*NA*		*-sample B-7-6' collected*	
Slot Size	*NA*	*6.3' - 7.5'*	*Orange tan silty to clayey medium to fine SAND (SC)*	*350 ppm @ 7'*
Grout Type	*NA*		*-petroleum odor*	
Interval	*NA*			
Bentonite Type	*NA*	*7.5' - 10'*	*Dark Grey Silty Medium to Fine SAND (SM)*	
Interval	*NA*		*-petroleum odor*	
Filter Pack	*NA*			
Interval	*NA*	*10' to 12'*	*Gray silty medium to fine sandy CLAY (CH)*	*480 ppm @ 10'*
Total Depth	*12'*			
R.P. Elevation			*Boring terminated @ 12 foot depth*	
Datum				

Water Level Information

Date	**W.L. Below R.P.**

R.P. = Reference Point *W.L. = Water Level* *TBM = Temporary Benchmark* *MSL = Mean Sea Level*

Boring Log

Duncklee & Dunham, P.C.

I. D. Number	*B-8*	**Purpose**	*Soil Sampling*
Project Name	*Southern States Wilson Service*	**Contractor**	
Project No.	*82700*	**Registration No.**	
Geologist	*Dave Duncklee*	**Driller**	*Dave Duncklee*
Start Date	*9/10/98* **Complete Date** *Same*	**Equipment**	*Hand Auger*

Drilling Method	*Hand Auger*
Comments	

Well Construction Information		Depth From - To	Soil / Rock Description / Comments	FID / PID (ppm) @ Depth (ft.)
Borehole Diameter	*3.5"*	*0 - 3'*	*Fill - Orange tan silty to clayey medium to fine SAND*	
Riser Type	*NA*		*(SC)*	*BAB @ 3'*
Diameter	*NA*		*- with gravel*	
Screen Type	*NA*			
Diameter	*NA*			
Riser Interval	*NA*		*Boring terminated @ 3 foot depth*	
Screen Interval	*NA*			
Slot Size	*NA*			
Grout Type	*NA*			
Interval	*NA*			
Bentonite Type	*NA*			
Interval	*NA*			
Filter Pack	*NA*			
Interval	*NA*			
Total Depth	*NA*			
R.P. Elevation				
Datum				
Water Level Information				
Date	**W.L. Below R.P.**			

R.P. = Reference Point *W.L. = Water Level* *TBM = Temporary Benchmark* *MSL = Mean Sea Level*

Boring Log

Duncklee & Dunham, P.C.

I. D. Number	*B-9*			**Purpose**	*Soil Sampling*
Project Name	*Southern States Wilson Service*			**Contractor**	*Troxler Geologic*
Project No.	*82700*			**Registration No.**	
Geologist	*Dave Duncklee*			**Driller**	*Ben Troxler*
Start Date	*9/15/98*	**Complete Date**	*Same*	**Equipment**	*Geoprobe*

Drilling Method	*Geoprobe*
Comments	

Well Construction Information		**Depth From - To**	**Soil / Rock Description / Comments**	**FID / PID (ppm) @ Depth (ft.)**
Borehole Diameter	*2"*	*0 - 3'*	*Fill - Orange tan silty to clayey medium to fine SAND*	
Riser Type	*NA*		*(SC)*	*100 ppm @ 2'*
Diameter	*NA*		*- with gravel*	
Screen Type	*NA*		*-strong petroleum odor*	
Diameter	*NA*		*- sample B-6-3.5' collected*	
Riser Interval	*NA*			
Screen Interval	*NA*	*3' - 8'*	*Orange tan silty to clayey medium to fine SAND (SC)*	*1000 ppm @ 6'*
Slot Size	*NA*		*-sample B-9-6' collected*	
Grout Type	*NA*			
Interval	*NA*	*8' - 11'*	*Light brown to gray slightly medium to fine sandy*	*280 ppm @ 10'*
Bentonite Type	*NA*		*silty CLAY (CH)*	
Interval	*NA*		*-highly plastic*	
Filter Pack	*NA*			
Interval	*NA*		*Boring terminated @ 11 foot depth*	
Total Depth	*NA*			
R.P. Elevation				
Datum				

Water Level Information

Date	**W.L. Below R.P.**

R.P. = Reference Point *W.L. = Water Level* *TBM = Temporary Benchmark* *MSL = Mean Sea Level*

Boring Log

Duncklee & Dunham, P.C.

I. D. Number	*B-10*	**Purpose**	*Soil Sampling*
Project Name	*Southern States Wilson Service*	**Contractor**	*Troxler Geologic*
Project No.	*82700*	**Registration No.**	
Geologist	*Dave Duncklee*	**Driller**	*Ben Troxler*
Start Date	*9/15/98* **Complete Date** *Same*	**Equipment**	*Geoprobe*

Drilling Method	*Geoprobe*
Comments	*Boring abandoned at shallow depth because not suitable for vertical soil definition*

Well Construction Information		**Depth From - To**	**Soil / Rock Description / Comments**	**FID / PID (ppm) @ Depth (ft.)**
Borehole Diameter	*2"*	*0 - 4'*	*Fill - Orange tan silty to clayey medium to fine SAND*	
Riser Type	*NA*		*(SC)*	*90 ppm @ 3'*
Diameter	*NA*		*- with gravel*	
Screen Type	*NA*		*-strong petroleum odor at 2 to 4'*	
Diameter	*NA*			
Riser Interval	*NA*			
Screen Interval	*NA*		*Boring terminated @ 4 foot depth*	
Slot Size	*NA*			
Grout Type	*NA*			
Interval	*NA*			
Bentonite Type	*NA*			
Interval	*NA*			
Filter Pack	*NA*			
Interval	*NA*			
Total Depth	*NA*			
R.P. Elevation				
Datum				

Water Level Information

Date	W.L. Below R.P.

R.P. = Reference Point *W.L. = Water Level* *TBM = Temporary Benchmark* *MSL = Mean Sea Level*

Boring Log

Duncklee & Dunham, P.C.

I. D. Number	*B-11*	**Purpose**	*Soil Sampling*
Project Name	*Southern States Wilson Service*	**Contractor**	*Troxler Geologic*
Project No.	*82700*	**Registration No.**	
Geologist	*Dave Duncklee*	**Driller**	*Ben Troxler*
Start Date	*9/15/98* **Complete Date** *Same*	**Equipment**	*Geoprobe*

Drilling Method	*Geoprobe*
Comments	

Well Construction Information		Depth From - To	Soil / Rock Description / Comments	FID / PID (ppm) @ Depth (ft.)
Borehole Diameter	*2"*	*0 - 6'*	*Fill - Orange tan silty to clayey medium to fine SAND*	
Riser Type	*NA*		*(SC)*	*50 ppm @ 3'*
Diameter	*NA*		*- with gravel*	
Screen Type	*NA*			
Diameter	*NA*			
Riser Interval	*NA*			
Screen Interval	*NA*	*6' - 9'*	*Dark gray slightly silty medium to fine SAND (SM)*	*250 ppm @ 6'*
Slot Size	*NA*		*- sample B-11-6' collected*	
Grout Type	*NA*			
Interval	*NA*	*9' - 16'*	*Orange tank to olive tan to gray medium to fine*	*110 ppm @ 14'*
Bentonite Type	*NA*		*sandy CLAY to clayey medium to fine SAND*	
Interval	*NA*		*(CL to SC)*	
Filter Pack	*NA*			
Interval	*NA*	*16' - 19'*	*Orange tan slightly silty medium to fine SAND (SM)*	*18 ppm @ 17.5'*
Total Depth	*NA*		*-saturated soil*	
R.P. Elevation				
Datum		*19' - 20'*	*Dark green gray slightly fine sandy slightly silty to*	
Water Level Information			*silty CLAY (CH)*	
Date	**W.L. Below R.P.**			
			Boring terminated @ 20 foot depth	
			Water level at 11.9' below grade one hour after TOB	

R.P. = Reference Point *W.L. = Water Level* *TBM = Temporary Benchmark* *MSL = Mean Sea Level*

Comprehensive Site Assessment Report
Southern States Cooperative, Inc. – Wilson Service
Highway 301 South
Wilson, North Carolina

July 28, 2000

Prepared For

Southern States Cooperative, Inc.
Richmond, Virginia

Submitted To

North Carolina Department of Environment
And Natural Resources
Division of Water Quality – Ground Water Section
1628 Mail Service Center
Raleigh, North Carolina 27699-1628

Prepared By

Duncklee & Dunham, P.C.
Raleigh, North Carolina

511 Keisler Drive, Suite 102
Cary, North Carolina 27511

Post Office Box 33366
Raleigh, North Carolina 27636

Phone: 919.858.9898
Fax: 919.858.9899

July 28, 2000

Mr. Rick Bolich, Hydrogeologist
NC Department of Environment and Natural Resources
Division of Water Quality – Ground Water Section
1628 Mail Service Center
Raleigh, North Carolina 27699-1628

Reference: Comprehensive Site Assessment Report
Southern States Cooperative, Inc. – Wilson Service
Wilson, North Carolina
Duncklee & Dunham Job No. 82700

Dear Mr. Bolich:

Duncklee & Dunham, P.C. is pleased to submit this *Comprehensive Site Assessment* report for the above referenced site. This report discusses the technical and field services provided and presents the results of soil and ground water analytical testing. This report was prepared in accordance with the DENR *Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater, Volume I, Sources Other Than Petroleum Underground Storage Tanks (May 1998).*

If you have any questions or require any additional information regarding this report, please call us at (919) 858-9898 or Mr. Rusty Vanness of Southern States (804) 281-7756.

Sincerely,

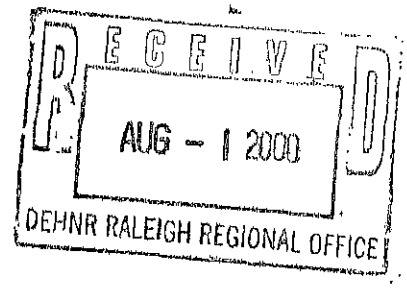
DUNCKLEE & DUNHAM, P.C.

Douglas M. Rakoczy
Project Geologist

David L. Duncklee, L.G.
Senior Hydrogeologist

Senior Peer Review:

Thomas S. Dunham, P.G.
Senior Geologist



00146/DMR/DLD/dmr

cc: Mr. Rusty Vanness - Southern States Cooperative, Inc.

Executive Summary

The subject Southern States Cooperative, Inc. (Southern States) site is located along Highway 301 South in Wilson, North Carolina. The facility operates as a retail center for farm, home and garden supplies and consists of a main store building, garden center, and several fertilizer and material storage sheds. A truck scale is located to the south-southeast of the main store building and an aboveground storage tank (AST) area is located within a concrete dike area adjacent to the truck scale.

A bulk petroleum storage and distribution operation was previously located in the south-southwestern portion of the property near the truck scale. Approximately 12 ASTs, a loading rack, and dispenser pumps were reportedly used to store and distribute fuels. The petroleum ASTs, the loading rack, and the fuel dispensers were removed from the site several years ago. The former loading rack and dispenser pump area is believed to have been located directly adjacent to the existing truck scale. There are currently five ASTs within the concrete dike area used to store liquid fertilizer solutions.

In September 1998, petroleum hydrocarbon odors were noted in soils in an excavation being advanced for a truck scale footer. A release of petroleum hydrocarbons was subsequently reported to the North Carolina Department of Environment and Natural Resources (DENR) by Southern States. Based on the results of soil assessment activities performed by Duncklee & Dunham, P.C., Southern States authorized the excavation of the petroleum affected soils before the truck scale was installed.

The excavation activities were performed between September 30 and October 6, 1998. Approximately 1,364 tons of soil were removed from the former loading rack and dispenser pump area and transported to a DENR permitted treatment and disposal facility. A total of six soil samples were collected from the base of the excavation walls and five soil samples were collected from the excavation floor to document closure conditions at the termination of the excavation.

None of the samples collected from the base of the excavation walls contained total petroleum hydrocarbons (TPH) at concentrations exceeding DENR action levels. Therefore, all impacted soils extending horizontally from the source area had been removed. Three samples from the floor of the western portion of the excavation contained TPH at concentrations above DENR action levels. TPH as gasoline was detected at a maximum concentration of 28 mg/kg (parts per million or ppm), and TPH as diesel was detected at a maximum concentration of 133 mg/kg (ppm). However, because the water table was encountered, additional vertical excavation was not feasible.

Based on the low levels of TPH remaining in the soil and the availability of municipal water in the area, Southern States requested that DENR grant satisfactory site closure. DENR responded by requesting additional assessment at the site. Therefore, on January 21, 2000, one soil boring was advanced for the installation of monitoring well MW-1 immediately adjacent to the western edge of the former excavation. The boring was advanced as close as possible to the remaining area of soil contamination.

As requested by the DENR, one soil sample was collected from the boring for MW-1 at a depth just above the water table. The sample was analyzed for volatile organic compounds (VOCs) according to SW-846 Method 8260. Only one compound, sec-butylbenzene, was detected in the sample at a concentration of 0.0083 mg/kg (ppm). This result is significantly below the "soil to groundwater" maximum soil contaminant concentration of 3 mg/kg (ppm) established for this compound as outlined in DENR Guidelines.

Ground water samples were subsequently collected from MW-1 on February 4, 2000 and March 21, 2000. The ground water analytical results indicated trace levels of benzene, MTBE, and xylenes in MW-1. Only benzene (4 to 7 ug/l or parts per billion, ppb) was detected at a concentration above North Carolina 2L ground water standards.

Based on the results of the additional assessment activities and additional receptor survey information, Duncklee & Dunham petitioned the DENR to approve semiannual sampling of MW-1 in lieu of a Comprehensive Site Assessment (CSA). However, the DENR subsequently requested that a CSA be performed at the site.

The CSA activities were initiated in June 2000. In order to complete the soil assessment, soil samples were collected from two additional borings (MW-5 and SB-062900) advanced within and adjacent to the former petroleum AST locations. The samples were submitted for laboratory analysis of TPH according to Extraction Methods 3550 and 5030. No TPH was detected in any of the samples.

Four additional shallow monitoring wells (MW-2 through MW-5) and one intermediate depth Type III well (MW-1d) were installed to further assess ground water quality at the site. Ground water samples were collected from all monitoring wells on July 6, 2000. The ground water analytical results indicated trace levels of dissolved gasoline contamination. Only one compound, benzene, was detected at concentrations exceeding North Carolina 2L standards. Wells MW-1 and MW-4 contained benzene at concentrations of 8 and 2 ppb, respectively.

The depth to the water table at the site is between 9.5 and 13.0 feet below grade. Ground water measurements on July 6, 2000 indicated a ground water high or mound near MW-1 (adjacent to the former soil excavation area) with ground water flowing radially away from this area. The average estimated ground water seepage velocity was calculated to be approximately 5.11 feet per year.

The site is located in the city of Wilson in an area consisting primarily of industrial and commercial land use. The density of development near the site is moderately high. There are no residences within 1,500 feet of the site. The site and surrounding area are served by the City of Wilson public water supply which is obtained from two surface water sources: Wiggins Mill Reservoir which is located six to seven miles southwest of the site, and Lake Toisnot is located two and a half miles to the north . There are no known water supply wells in the vicinity of the site, and there are no surface water bodies within 1,500-feet of the site.

Based on the results of the soil excavation activities performed at the site in September and October 1998, all accessible petroleum contaminated soils (over 1,300 tons) have been successfully removed from the vicinity of the former loading rack and dispenser pumps. No TPH was detected in additional soil samples collected adjacent to the former petroleum ASTs. Therefore, no additional soil assessment or remedial activities are necessary.

The ground water assessment activities indicate a limited dissolved plume at the site with only one compound, benzene, detected at concentrations exceeding North Carolina 2L ground water standards (2 ppb in MW-4 and 8 ppb in MW-1). Based on the limited extent of the dissolved plume and the lack of any potential receptors, the most practical ground water remedial approach is monitored natural attenuation.

Contents

	Executive Summary		*iii*
1	**Site History and Source Characterization**		1
	1.1	Site Description	1
	1.2	Source Investigation and Soil Excavation Activities	1
	1.3	Additional Assessment Activities	2
2	**Potential Receptors and Exposure Pathways**		3
	2.1	Risk Characterization and Receptor Survey	3
		2.1.1 Land Use and Zoning	3
		2.1.2 Public Water Supply	3
		2.1.3 Private Water Supply Wells	4
		2.1.4 Surface Water Bodies	4
		2.1.5 Wellhead Protection Areas	4
		2.1.6 Deep Aquifers in the Coastal Plain	4
		2.1.7 Subsurface Structures	4
	2.2	Exposure Pathways	4
	2.3	Chemical and Physical Characteristics of Contaminants	5
3	**Soils Investigation**		5
	3.1	Local Soils and Geology	5
	3.2	Additional Soil Assessment and Results	6
4	**Ground Water Investigation**		6
	4.1	Additional Monitoring Well Installation	6
	4.2	Monitoring Well Sampling and Analytical Results	7
		4.2.1 Methods	7
		4.2.2 Analytical Results	7
	4.3	Site Hydrogeology	8
		4.3.1 General	8
		4.3.2 Ground Water Flow Direction and Gradient	8
		4.3.3 Ground Water Seepage Velocity	8
5	**Conclusions and Preliminary Remediation Assessment**		9
	5.1	Soil	9
	5.2	Ground Water	9
6	**References**		9
7	**Certification**		9

Figures

Figure	Title
1	Site Location Topographic Map
2	Site Plan
3	Extent of Soil Excavation and Closure Sample Locations
4	Soil Boring Location Map
5	Ground Water Analytical Results Map
6	A – A' Cross Section Map
7	Ground Water Contour Map, July 6, 2000

Tables

Table	Title
1	Summary of Soil Excavation Closure Sampling TPH Results
2	Adjacent Property Owners
3	Monitoring Well Construction and Ground Water Elevation Data
4	Ground Water Analytical Results

Appendices

Appendix	Title
A	Boring Logs and GW-1 Forms
B	Standard Methodologies and Procedures
C	Analytical Laboratory Reports
D	Horizontal Hydraulic Conductivity Calculations
E	CSA Certification Form

Comprehensive Site Assessment Report
Southern States Cooperative, Inc. – Wilson Service
Highway 301 South
Wilson, North Carolina
July 28, 2000

1 Site History and Source Characterization

1.1 Site Description

The subject Southern States Cooperative, Inc. (Southern States) site is located along Highway 301 South in Wilson, North Carolina (see Figure 1). The facility is a retail center for farm, home and garden supplies and consists of a main store/warehouse building, garden center, and several fertilizer and material storage sheds. A truck scale is located to the south-southeast of the main store and five aboveground storage tanks (ASTs) are located within a concrete dike structure adjacent to the truck scale (see Figure 2). Asphalt parking areas are located to the immediate west and southwest of the main store. The remainder of the site is covered with gravel and several concrete pads. The topography across the site is generally flat with a slight slope to the south-southwest.

A bulk petroleum storage and distribution operation was previously located in the south-southwestern portion of the site (see Figure 2) in the current location of the liquid fertilizer ASTs. Approximately 12 ASTs, a loading rack, and dispenser pumps were reportedly used to store and distribute fuels. The petroleum ASTs, the loading rack, and the fuel dispensers were removed from the site several years ago. The former loading rack and dispenser pump areas are believed to have been located directly adjacent to the existing truck scale. The 12 ASTs were reportedly located in the existing concrete dike area. The five ASTs currently located within the concrete dike area are used to store liquid fertilizer solutions.

1.2 Source Investigation and Soil Excavation Activities

In September 1998, petroleum hydrocarbon odors were noted in soils during excavation activities for a truck scale footer. Southern States subsequently contracted with Duncklee & Dunham to advance two shallow hand auger borings in one of the footer excavations. On September 10, 1998, a suspected release of petroleum hydrocarbons was confirmed. A release of petroleum hydrocarbons was reported to the North Carolina Department of Environment and Natural Resources (DENR) – Division of Water Quality, Raleigh Regional Office by Mr. Hilton Withers of Southern States on September 10, 1998.

A soil assessment was subsequently performed to determine the extent of impacted soils in the area of the proposed truck scale. Based on the assessment results, Southern States authorized the excavation of petroleum affected soils prior to the installation of the truck scale. Remedial goals were established to be the DENR action levels of 10 mg/kg (parts per million or ppm) for total petroleum hydrocarbons (TPH) as gasoline and 40 ppm for TPH as diesel/#2 fuel oil.

The excavation activities were performed between September 30 and October 6, 1998 (see Figures 2 and 3). Approximately 1,364 tons of soil were removed from the former loading rack and dispenser pump area and transported to a DENR permitted treatment and disposal facility. A total of six soil samples were collected from the base of the excavation walls and five soil samples were collected from the excavation floor to document closure conditions at the termination of the excavation activities (see Table 1 and Figure 3).

None of the samples collected from the base of the excavation walls contained TPH at concentrations exceeding DENR action levels, indicating all impacted soils extending horizontally from the source area had been removed. Three samples from the floor of the western portion of the excavation (SS-13-11.5', SS-14-12', and SS-15-12', see Table 1 and Figure 3) contained TPH at concentrations above DENR action levels. TPH as gasoline was detected at a maximum concentration of 28 ppm, and TPH as diesel was detected at a maximum concentration of 133 ppm. Additional vertical excavation on the TPH impacted soils was not feasible because the water table was encountered.

A *Soil Excavation Report* dated November 23, 1998, was subsequently prepared and submitted to the DENR. The report concluded all accessible petroleum impacted soils had been successfully removed from the vicinity of the former loading rack and dispenser pumps. Based on the low levels of TPH remaining in the soil and the availability of municipal water in the area, Southern States requested that DENR grant satisfactory site closure. DENR responded by requesting additional information before making a determination regarding the site status.

1.3 Additional Assessment Activities

As requested by the DENR, one soil boring was advanced for the installation of a monitoring well (MW-1) immediately adjacent to the western edge of the former excavation (see Figures 2 and 3). The boring was advanced on January 21, 2000, as close as possible to the remaining area of soil contamination on the apparent topographic downgradient side of the former excavation using a decontaminated drill rig equipped with hollow stem augers.

One soil sample was collected from the boring at a depth of 9.5 to 10 feet below grade. The sample was submitted for laboratory analysis of volatile organic compounds (VOCs) including methyl tertiary butyl ether (MTBE) and isopropyl ether (IPE) according to SW-846 Method 8260 as requested by DENR. The analytical report indicated one compound, sec-butylbenzene, was detected in the sample at a concentration of 0.0083 ppm. This result is significantly below the "soil to groundwater" maximum soil contaminant concentration of 3 ppm established for this compound as outlined in the DENR *Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater, Volume I, Sources Other Than Petroleum Underground Storage Tanks* (DENR Guidelines) dated May 1998.

Ground water samples were subsequently collected from MW-1 on February 4, 2000 and March 21, 2000. A new, decontaminated disposable Teflon bailer was used to purge and withdraw the sample collected on February 4, 2000. A peristaltic pump and polyethylene line was used to collect the March 21, 2000 sample. As requested by DENR, the February ground water sample was submitted for laboratory analysis of purgeable halocarbons and aromatics including ethylene dibromide (EDB), IPE, and MTBE according to Methods 601 and 602, semivolatile organic compounds (SVOCs) according to Method 625, and lead. The March sample was tested for Method 602 compounds plus MTBE.

The ground water analytical results indicated trace levels of benzene, MTBE, and xylenes were detected in MW-1. Benzene (4 to 7 ug/L or parts per billion (ppb)) was the only compound detected above North Carolina 2L ground water standards, as shown below.

Compound	February 4, 2000 Results	March 21, 2000 Results	NC 2L Standard
Benzene	4 ppb	7 ppb	1 ppb
MTBE	12 ppb	19 ppb	200 ppb
Xylenes	< 2 ppb	5 ppb	530 ppb

Duncklee & Dunham submitted the soil and ground water analytical results, along with additional receptor survey information, to the DENR in a *Soil and Ground Water Sampling Report* dated April 18, 2000. Due to the low concentration of benzene, Duncklee & Dunham petitioned the DENR to approve semiannual sampling of MW-1 in lieu of a Comprehensive Site Assessment (CSA). However, the DENR subsequently requested that a CSA be prepared for the site.

2 Potential Receptors and Exposure Pathways

2.1 Risk Characterization and Receptor Survey

Information regarding potential receptors and land use for the site and surrounding area was collected in accordance with DENR Guidelines. This information is summarized below.

2.1.1 Land Use and Zoning

The site is located in the City of Wilson in an area consisting primarily of light industrial and commercial land use. The density of development near the site is moderately high. Highway 301 and Cargill Road border the site to the northwest and west, respectively. The Norfolk Southern rail line is located to the immediate north and northeast.

Tobacco warehouses are located further to the northwest, north, and northeast beyond Highway 301 and the rail line. A plumbing/heating contractor (Ihrie Supply) and several tire service facilities (Colony Tire and Turnage Tire) are located to the southeast. A large fenced gravel parking lot and Cummins Diesel facility are located to the south. The Wilson County Farm Bureau office is located to the west-southwest. No residences are located within a 1,500-foot radius of the site. The names and addresses of immediately adjacent property owners are included in Table 2.

The subject site and areas to the immediate southeast, south, and west are zoned industrial (I-2). The areas across Highway 301 to the northwest and the rail line to the north and northeast are also zoned industrial (I-1). The closest non-industrial zoned area is approximately 500 to 600 feet to the southwest where several properties are zoned heavy duty business (B-5), which is a category closely associated with industrial land use.

2.1.2 Public Water Supply

The subject site and surrounding area is served by the City of Wilson municipal water supply system. According to Mr. Gary Mills, the Assistant Public Services Director/City Engineer for the City of Wilson, the municipal water supply is obtained from two surface water sources: Wiggins Mill Reservoir, which is located six to seven miles southwest of the site, and Lake Toisnot, which is located two and a half miles to the north.

2.1.3 Private Water Supply Wells

City of Wilson personnel did not know of any private water supply wells within the vicinity of the site. Duncklee & Dunham personnel performed an on-foot visual reconnaissance within 1,500 feet of the release area and did not see any evidence of any water supply wells (pump or well houses, casings, etc.). Water meters were clearly visible at many of the adjacent commercial and industrial facilities.

2.1.4 Surface Water Bodies

No surface water bodies were noted near the site during the on-foot visual reconnaissance performed by Duncklee & Dunham personnel. In addition, the U.S.G.S. topographic map of the area (see Figure 1) does not show any surface water bodies within a 1,500-foot radius.

2.1.5 Wellhead Protection Areas

The City of Wilson obtains its water supply from surface water sources and does not utilize any water supply wells. There are no known wellhead protection areas within the city limits.

2.1.6 Recharge to Deep Aquifers in the Coastal Plain Physiographic Province

The subject site is located within the Coastal Plain Physiographic Province. The Tertiary age Yorktown Formation (consisting primarily of bluish-gray clay) which is present beneath the site (see Section 3.1 below) acts as an aquitard to the deeper Cretaceous age sandy aquifers from which ground water is typically obtained (via water supply wells) for drinking water purposes in the Wilson County area. However, as indicated above, the area surrounding the site is served by the City of Wilson municipal water supply, which is obtained from surface water sources. The City does not utilize any water supply wells and there are no known private supply wells in the vicinity of the site. According to Mr. Gary Mills, the City of Wilson has no plans to use ground water as a source of drinking water in the future.

2.1.7 Subsurface Structures

No subsurface utility structures are located directly adjacent to the former excavation area. The closest subsurface structure is a storm drain inlet located to the south along Cargill Avenue (see Figure 2). The storm drain line appears to be above the depth of the water table and therefore would not be in contact with petroleum impacted soils or ground water.

None of the structures at the site contains a basement, and no basements were noted at any of the structures on immediately adjacent properties.

2.2 Exposure Pathways

The exposure pathways most applicable to the subject site are direct human contact with, or ingestion of, petroleum contaminated soils or ground water. The release from the former petroleum storage and distribution operation appears to have been centered at the former loading rack and dispenser pump area. However, all petroleum impacted soils have been excavated to the depth of the water table (10.5 to 12 feet) and clean fill material brought in. In addition, no TPH was detected in additional soil samples collected adjacent to the former AST locations. Therefore, the potential for any human contact with or ingestion of petroleum impacted soil in this area has been eliminated.

The depth to ground water in the vicinity of the release area ranges from approximately 9.5 to 12.5 feet below grade. Only trace levels of dissolved petroleum constituents have been detected in ground water. The site and surrounding area are served by the City of Wilson public water supply, and there are no known water supply wells near the site. In addition, there are no surface water bodies (ground water discharge points) near the site. Therefore, any human contact with or ingestion of petroleum impacted ground water originating at the subject site is unlikely.

2.3 *Chemical and Physical Characteristics of Contaminants*

The contaminants of concern in the release area are petroleum constituents associated with gasoline and diesel fuel/#2 fuel oil. A brief overview of the chemical and physical characteristics of each is presented below.

Gasoline is a lightweight petroleum distillate consisting of a mixture of petroleum hydrocarbons and non-hydrocarbon chemical additives such as IPE and MTBE. Fresh gasoline contains high percentages of aromatic hydrocarbons, which are among the most soluble and toxic hydrocarbon compounds. The most common of the aromatic compounds are benzene, ethylbenzene, toluene, and xylenes (BETX). These compounds have a relatively high volatility, solubility, and biodegradability. The non-hydrocarbon additives (such as MTBE) are highly soluble and more likely to dissolve in ground water. MTBE will therefore move away from the source area faster than the BETX compounds and is much less biodegradable.

Diesel/#2 fuel oil is a mid-weight petroleum distillate containing compounds that are more dense, less volatile, and less soluble than compounds found in gasoline. The group of compounds typically of concern with a release of diesel/#2 fuel oil are the polynuclear aromatic hydrocarbons (PAHs). Acenaphthene, naphthalene, and phenanthrene are three PAHs typically detected. Lighter fractions, such as the BETX compounds, are typically found only as trace impurities in diesel/#2 fuel oil.

Diesel/#2 fuel oil compounds have relatively high partition coefficient between water and organic carbon (K_{oc}) values compared to gasoline and are therefore more likely to remain sorbed to soil particles and less likely to dissolve in ground water. Gasoline is more mobile than diesel fuel due to the lower molecular weights of its components. Both gasoline and diesel/#2 fuel oil are less dense than water. Because of their density, the potential for vertical migration of these compounds is believed to be limited.

3 Soils Investigation

3.1 *Local Soils and Geology*

The site is located within the Coastal Plain Physiographic Province of North Carolina. Based on a review of the drilling logs for the site (see below) and the Geologic Map of North Carolina (1985), the site appears to be underlain by a thin layer of Pleistocene age terrace deposits which are in turn underlain by the Tertiary age Yorktown Formation. The Yorktown consists of bluish-gray fossiliferous clay with varying amounts of fine-grained sand and shell material.

Soils encountered during the CSA drilling activities generally consisted of orange-brown, tan, and brown-gray silty sands, sandy silts, and silty clays to a depth of approximately 18 feet below grade. A bluish gray to grayish-green slightly silty clay with increasing amounts of sand (Yorktown Formation) was encountered from approximately 19 to 36 feet below grade, the maximum depth

drilled at the site for vertical extent monitoring well MW-1d. Boring logs for the drilling activities at the site are included in Appendix A.

3.2 Additional Soil Assessment and Results

Based on the results of the soil excavation activities, all accessible petroleum impacted soils were removed from the former loading rack and dispenser pump locations. In order to complete the assessment of the former petroleum storage and distribution area, additional soil samples were collected from borings advanced within and adjacent to the former petroleum AST area.

Soil borings MW-5 and SB-062900 were advanced at the locations shown on Figure 4 on June 29, 2000. Soil boring MW-5 was advanced using a truck mounted hydraulic push drill rig and SB-062900 was advanced using a stainless steel hand auger. Soil samples were collected from the borings in accordance with the procedures outlined in Appendix B. Boring logs are included in Appendix A. One soil sample from boring MW-5 collected at eight feet and two soil samples from boring SB-062900 collected at four and seven feet were submitted to Paradigm Analytical Laboratory (Paradigm) in Wilmington, North Carolina for analysis of TPH according to SW-846 Extraction Methods 3550 and 5030. The soil samples were transported to the analytical laboratory in accordance with EPA protocols.

The soil analytical results (see Appendix C) indicated no TPH was detected in any of the samples. Based on these results, no additional soil assessment is believed warranted near the former petroleum storage and distribution operation and all soil remedial activities are complete.

4 Ground Water Investigation

As indicated above, trace levels of several gasoline constituents were detected in monitoring well MW-1, which was installed along the west-southwest edge of the excavation area. Benzene was the only compound detected at a concentration exceeding North Carolina 2L ground water standards. Therefore, to complete the ground water assessment, additional monitoring wells were installed.

4.1 Additional Monitoring Well Installation

Shallow monitoring wells MW-2 through MW-5 were installed by the Earth Care Corporation, Inc. of Lexington, Virginia, on June 29, 2000. The well locations are shown on Figure 2. Each well was installed to a depth of approximately 16 to 16.5 feet using a truck mounted drill rig equipped with hollow stem augers. The wells were installed and constructed in accordance with the procedures in Appendix B. A Duncklee & Dunham geologist was present to supervise the drilling, log the boreholes, and supervise the construction of the wells. Copies of the monitoring well boring logs and construction details are included in Appendix A. Well completion records (GW-1 forms) are also included in Appendix A.

One intermediate depth Type III well, MW-1d, was installed on July 5 and 6, 2000, by Geologic Exploration, Inc. of Statesville, North Carolina. This well was nested with shallow well MW-1 to determine the vertical extent of ground water impact (see Figure 2). The boring for the well was initially advanced to a depth of 20 feet using hollow stem augers. A six-inch diameter PVC surface casing was then set and grouted in place. After the grout was allowed one day to cure, the boring was advanced from the base of the surface casing to a depth 36 feet using wash rotary methods. A two-inch well with five feet of screen was then set inside the surface casing to this depth. The boring log and GW-1 form for MW-1d are included in Appendix A.

Upon completion of well installation, each well was developed by bailing with a decontaminated disposable polyethylene bailer or by pumping with a two-inch submersible electric PVC pump. Approximately 15 to 20 gallons were removed from each well as part of the development process.

The wells were then surveyed by Duncklee & Dunham personnel to determine the relative elevations of the measuring points (top of casing). Elevations were referenced to an assumed elevation of 100.00 feet. The surveyed wellhead elevations and ground water level elevations are summarized in Table 3.

4.2 Monitoring Well Sampling and Analytical Results

4.2.1 Methods

All of the monitoring wells were sampled on July 6, 2000. Prior to sample collection, the depth to water measurement was recorded for each well using a decontaminated electric water level probe (see Table 3). Each well was then purged of at least three volumes to remove stagnant water so that a representative sample could be collected. An individual, decontaminated disposable polyethylene bailer was used to purge and withdraw the sample at each well.

All samples were collected in laboratory provided glassware, labeled and logged onto a chain-of-custody form, and transported to the analytical laboratory in accordance with EPA protocols. The ground water samples were analyzed by Paradigm for the following constituents: purgeable halocarbons and aromatics including IPE and MTBE according to Methods 601 and 602, EDB according to Method 504, SVOCs according to Method 625 BN, and lead with Method 3030C digestion.

4.2.2 Analytical Results

The ground water analytical results (see Table 4 and Appendix C) indicated that trace levels of benzene, xylenes, and MTBE were detected in wells MW-1 and MW-4. However, only benzene (2 ppb in MW-4 and 8 ppb in MW-1) was detected at a concentration exceeding North Carolina 2L ground water standards. No petroleum related VOCs were detected in any of the other wells, and no SVOCs were detected in any of the wells. Lead was detected at a concentration of 9.6 ppb in MW-1d, which is below the 2L standard of 15 ppb. No lead was detected in the other wells.

The ground water benzene results are illustrated in plan view in Figure 5 and in cross-sectional view along the A-A' line in Figure 6. The trace of the cross-section is shown on Figure 2. The ground water results indicate a limited benzene plume at trace concentrations at the site.

Trace concentrations of several non-petroleum VOCs were also detected in three of the wells. Chloroform and bromodichloromethane were detected at concentrations of 4 ppb and 1 ppb, respectively, in MW-1d, and chloroform was also detected at a concentration of 1 ppb in MW-4. Both of these compounds are typically associated with chlorinated municipal water supplies and their presence in MW-1d is likely related to the municipal water used as part of the wash rotary method for installing the well. Traces of chloroform in MW-4 may be the result of site conditions (leaking secondary water line, hose, or spigot, runoff from garden center, etc) or laboratory cross-contamination. One additional compound, 1,2-dichloropropane, was detected at a trace concentration of 1 ppb in MW-5. The source of this compound is not known and additional sampling would be necessary to verify its presence.

4.3 *Site Hydrogeology*

4.3.1 General

The ground water table at the site occurs at depths between 9.5 and 13.0 feet below grade within Pleistocene age surficial deposits consisting of orange-brown, tan, and brown-gray silty sands, sandy silts, and silty clays. The saturated shallow soils form the uppermost hydrogeologic unit at the site. All of the shallow monitoring wells are screened within this unit.

Ground water occurs within the pore spaces of the shallow saturated soils under water table (unconfined) conditions. Recharge to the system is derived primarily from precipitation that infiltrates the land surface and percolates to the water table. Discharge from this system is through lateral flow to surface water bodies, evaporation, transpiration, or percolation to deeper aquifers.

Intermediate depth well MW-1d is screened within the Tertiary age Yorktown Formation at a depth between 31 and 36 feet below grade.

4.3.2 Ground Water Flow Direction and Gradient

The water levels collected on July 6, 2000 were used to create a shallow ground water contour map for the site (see Figure 7). The figure indicates a ground water high or mound near MW-1 with ground water flowing radially away from this area. The July 6, 2000 water levels were collected subsequent to a rain storm the previous night. The mounding effect may be due to the close proximity of MW-1 to the backfilled excavation area, which have been influenced by the rain. The average horizontal hydraulic gradient is a relatively flat 0.006 ft/ft.

4.3.3 Ground Water Seepage Velocity

The approximate rate of ground water flow in the shallow hydrogeologic unit across the study area has been calculated by modifying Darcy's Law to account for the plume movement with respect to time:

$$v = Ki/n$$

Where:
- v = seepage velocity of ground water
- K = estimated average horizontal hydraulic conductivity
- i = average hydraulic gradient (calculated from data shown in Figure 7)
- n = estimated effective porosity

The average hydraulic conductivity and hydraulic gradient are calculated to be 0.57 ft/day and 0.006 ft/ft, respectively. The hydraulic gradient and horizontal hydraulic conductivity values have been derived from well monitoring and testing. A rising head slug test was performed in monitoring well MW-5. Copies of the field data and calculations are included in Appendix D. The field rising head slug test data was analyzed using AQTESOLV for WINDOWS according to the method presented by Hvorslev (1951). The estimated effective porosity is 25 percent. The effective porosity of the unit has been estimated based on sample descriptions (Fetter 1980, Freeze and Cherry 1979).

Based on these values, the linear seepage velocity for ground water flow in the water table hydrogeologic unit at the site is 0.014 ft/day (or approximately 5.11 ft/year). This result represents an estimated average value for the study area. Actual velocities are likely to vary throughout the unit due to heterogeneities within the system.

5 Conclusions and Preliminary Remediation Assessment

5.1 Soil

Based on the results of the soil excavation activities performed in September and October 1998, all accessible petroleum impacted soils at concentrations exceeding DENR action levels have been successfully removed from the vicinity of the former loading rack and dispenser pumps. No TPH was detected in soil samples collected within or adjacent to the former petroleum ASTs as part of the CSA activities. Therefore, no additional soil assessment is believed warranted and the soil remedial activities are complete.

5.2 Ground Water

The ground water assessment activities indicate a minor dissolved plume at the site. Only one compound, benzene, was detected at a concentration exceeding North Carolina 2L ground water standards. The detected concentrations, 2 ppb in MW-4 and 8 ppb in MW-1, are only slightly above the standard. The site and surrounding area are served by the City of Wilson public water supply, and there are no known water supply wells near the site. In addition, there are no surface water bodies in the vicinity of the site. Based on the minor nature of the dissolved plume and the lack of any potential receptors, ground water remedial activities are not believed warranted. The most reasonable and cost effective remedial approach is monitored natural attenuation.

6 References

Fetter, C. W. 1980. Page 75 in *Applied Hydrogeology.* Columbus, Ohio: Charles E. Merrill Publishing Company.

Freeze, R. Allan and John A. Cherry, pp. 37, 59, 61 in *Groundwater.* Englewood Cliffs, New Jersey: Prentice-Hall, Inc.

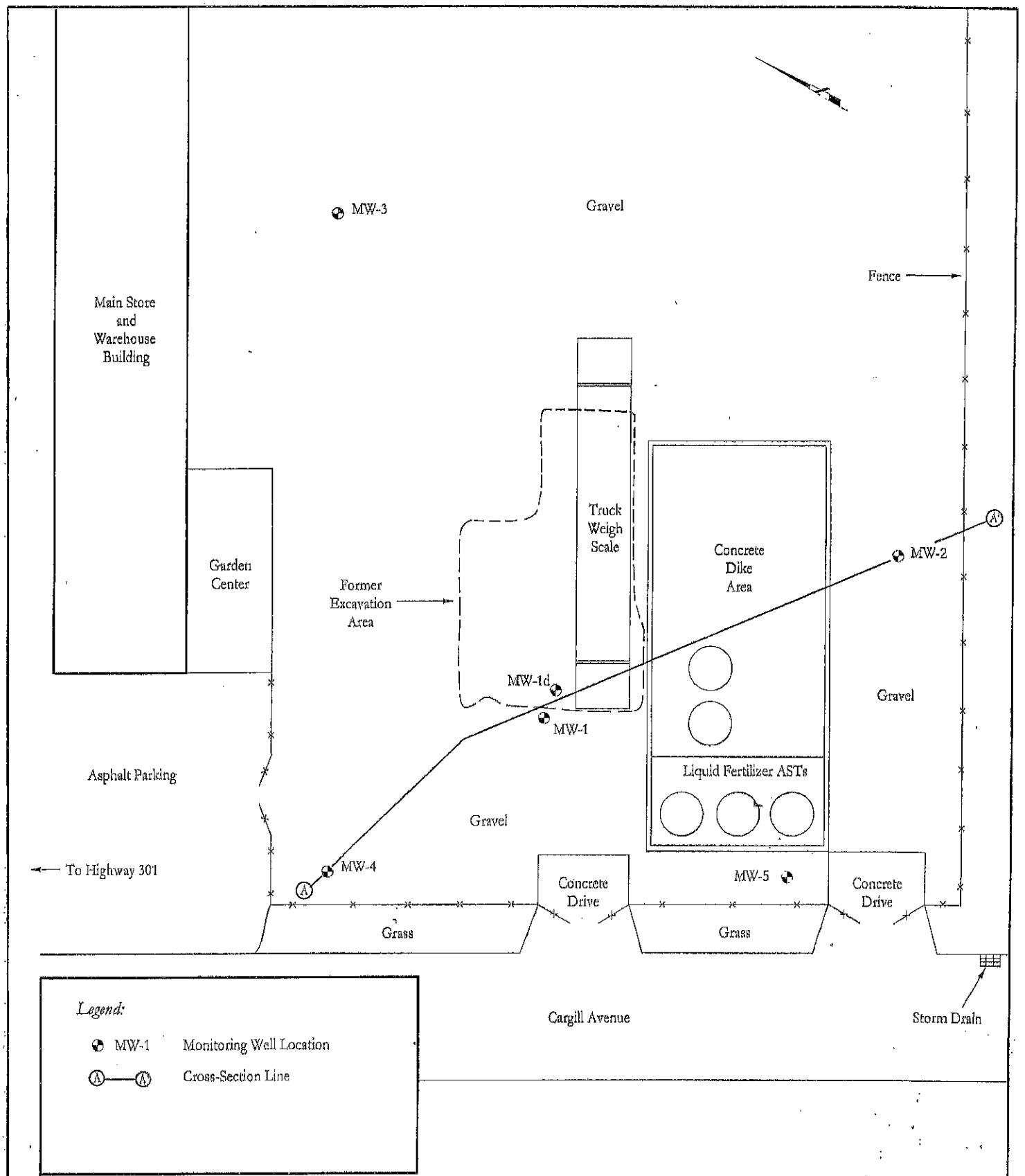
Hvorslev, M. J. 1951. *Time Lag and Soil Permeability in Ground Water Observations.* U. S. Army Corps of Engineers. Waterways Exp. Sta. Bull 36, Vicksburg, Mississippi.

Mackey, D. Shiu, W. Y. Ma, K.C., 1992. *Illustrated Handbook of Physical – Chemical Properties and Environmental Fate for Organic Chemicals:* Lewis Publishers, Inc., Chelsea, Michigan.

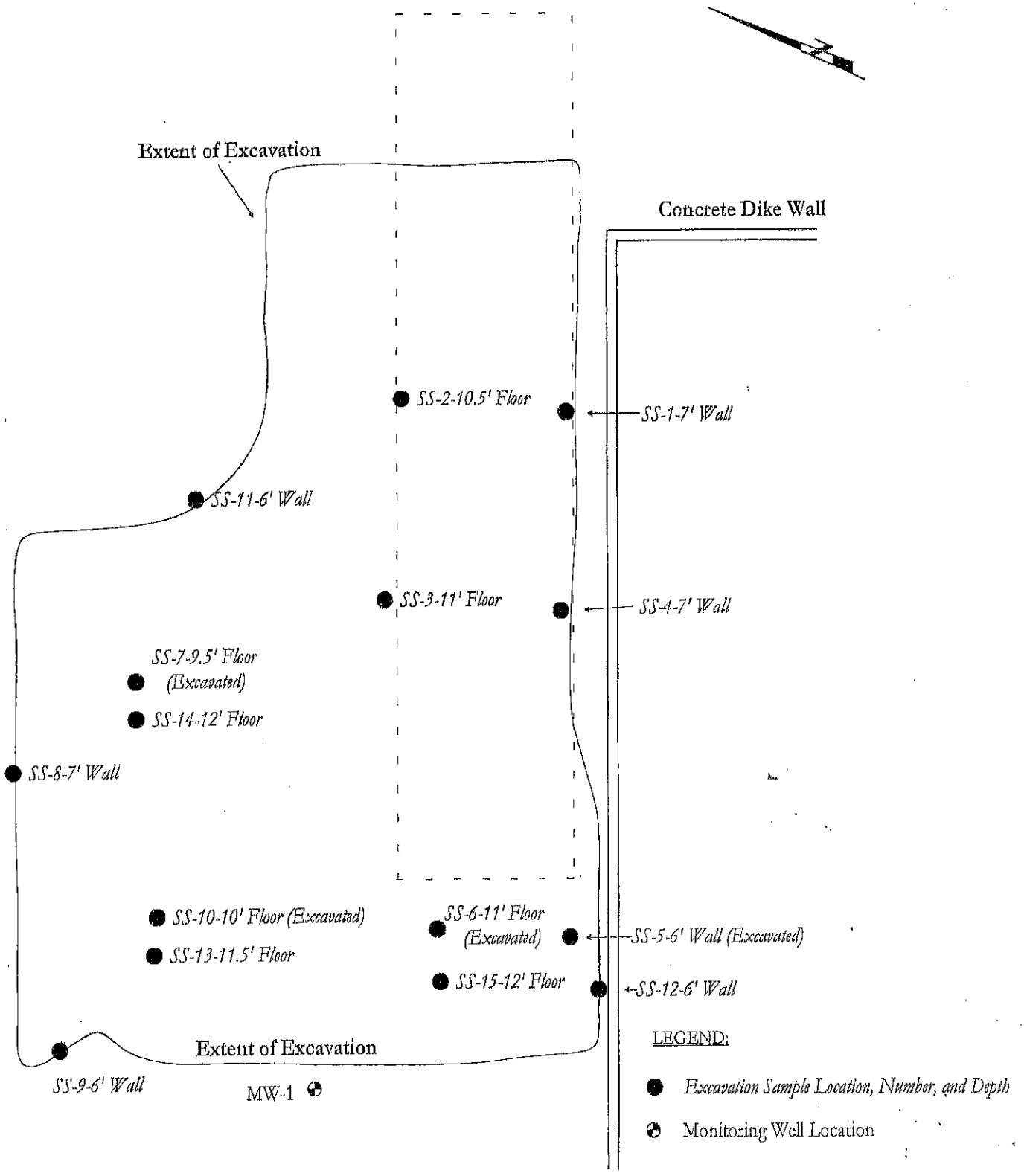
North Carolina Department of Natural Resources and Community Development. Geologic Map of North Carolina, 1985. Scale 1:500,000.

7 Certification

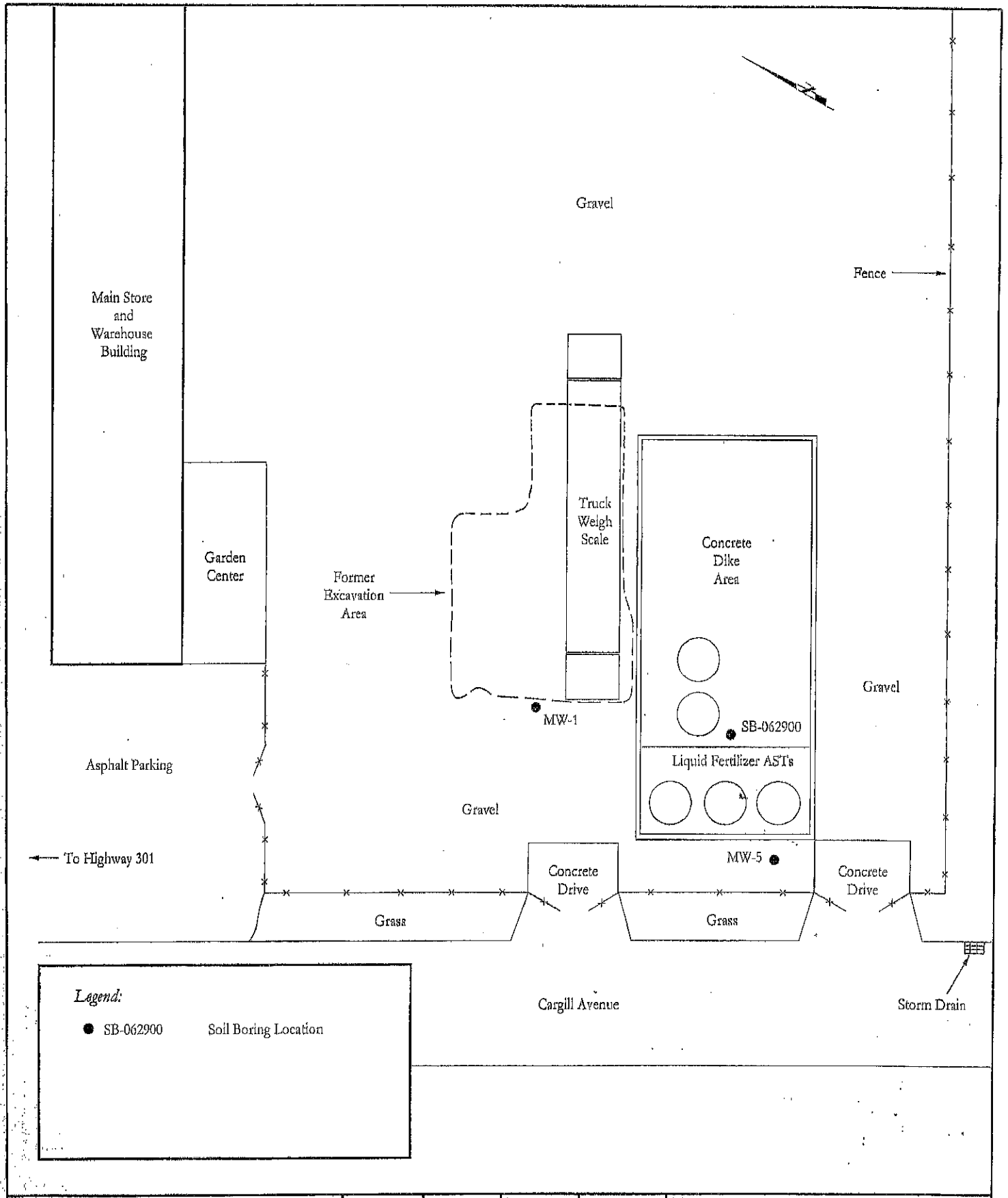
A completed DWQ Certification for the Submittal of a Comprehensive Site Assessment (GW-100 (csa)) is included in Appendix E.



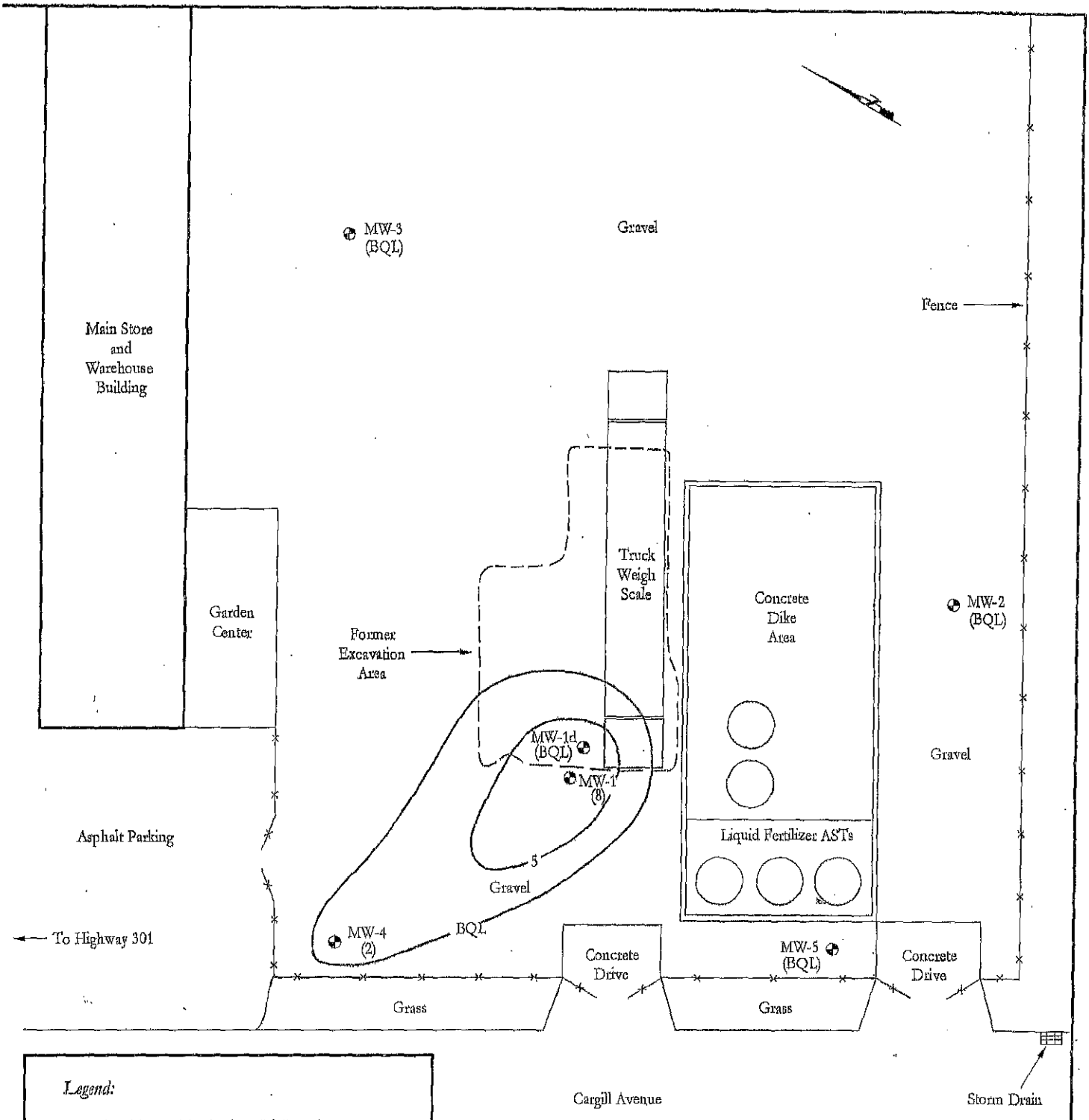
Duncklee & Dunham, P.C. Environmental Consultants	*Author* dmr	*Drawing* 82700-3	*Layer* 0,1	*Date* 7-21-00	*Title* Site Plan
	Job No. 82700	*Revision* 7-21-00	*Figure* 2	*Scale* 1"=30'	*Project* Southern States Cooperative, Inc. Wilson, North Carolina



Duncklee & Dunham, P.C. Environmental Consultants	Author: dld	Drawing: 82700-1	Layer:	Date: 4/11/00	Title: Excavation, Soil Sampling, and Well Locations
	Job No.: 82700	Revision: 0	Figure: 3	Scale: Not to scale	Project: Southern States Cooperative, Inc. Wilson, North Carolina



Duncklee & Dunham, P.C. Environmental Consultants	*Author* dmr	*Drawing* 82700-3	*Layer* 0,2	*Date* 7-21-00	*Title* Soil Boring Location Map
	Job No. 82700	*Revision* 7-21-00	*Figure* 4	*Scale* 1"=30'	*Project* Southern States Cooperative, Inc. Wilson, North Carolina

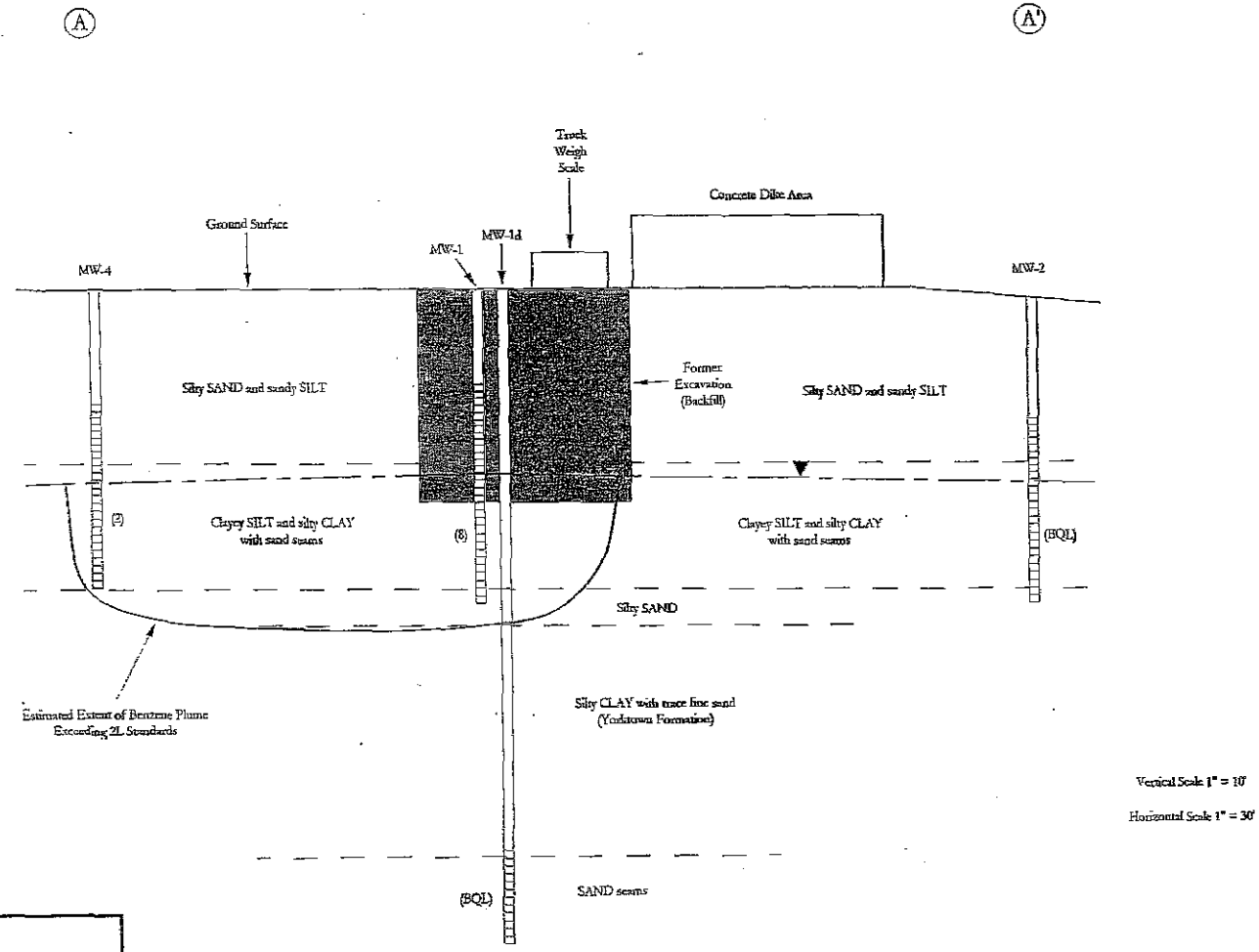


Legend:

MW-1	Monitoring Well Location
(8)	Benzene Concentration in ug/L (ppb)
BQL	Below Quantitation Limit
	Benzene Isopleth in ug/L (ppb)

Duncklee & Dunham, P.C.
Environmental Consultants

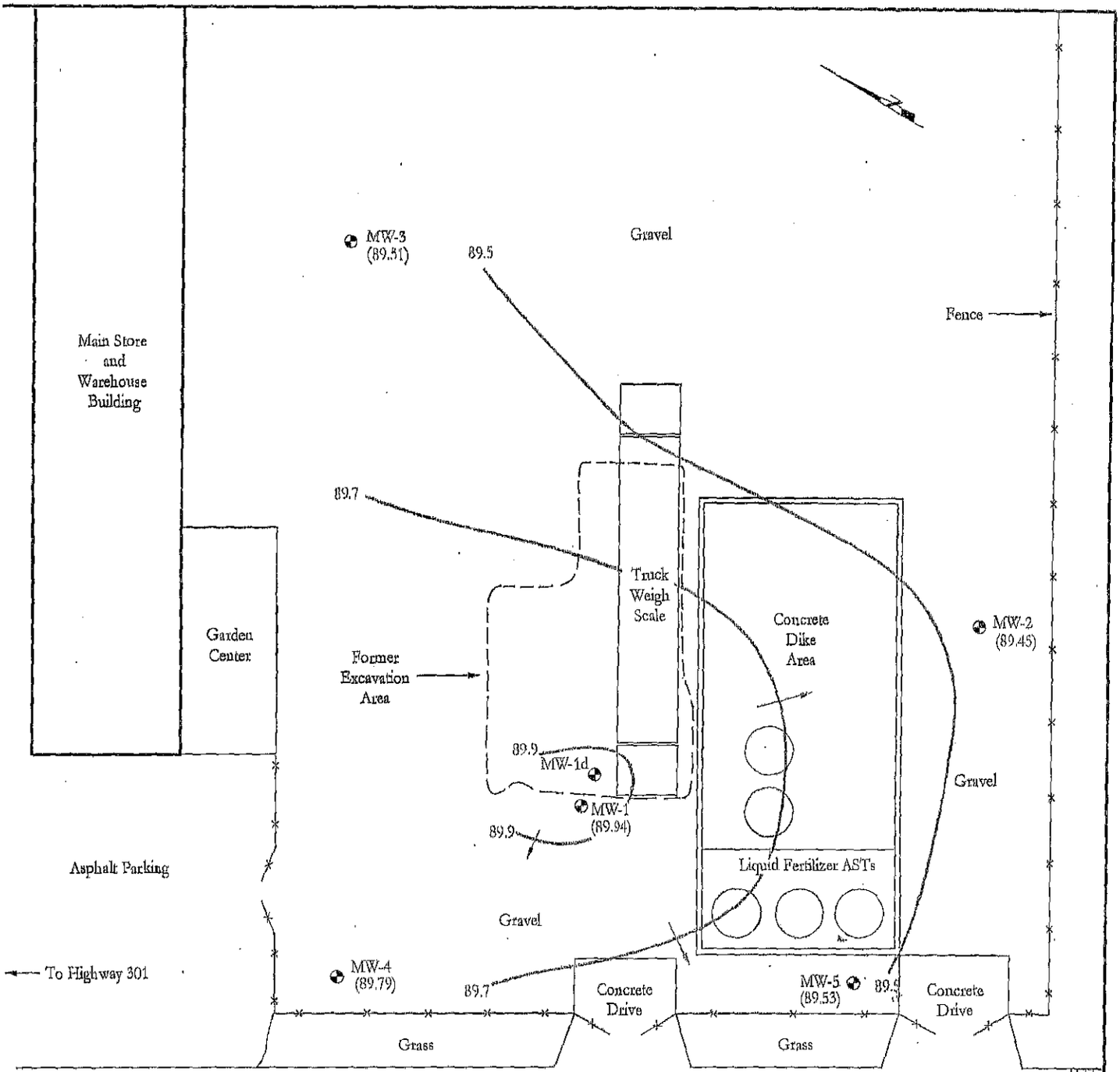
Author	*Drawing*	*Layer*	*Date*	*Title*
dmr	82700-3	0,3	7-21-00	Ground Water Benzene Isopleth Map (7-6-00)
Job No.	*Revision*	*Figure*	*Scale*	*Project*
82700	7-21-00	5	1"=30'	Southern States Cooperative, Inc. Wilson, North Carolina



Legend:

(8)	Benzene in ug/L (ppb)
BQL	Below Quantitation Limit
▼	Water Table (7-6-00)

Duncklee & Dunham, P.C. Environmental Consultants	*Author* dmr	*Drawing* 82700-4	*Layers* 0	*Date* 7-21-00	*Title* Cross Section A-A' With Ground Water Benzene Results
	Job No. 82700	*Revision* 7-21-00	*Figure* 6	*Scale* As Shown	*Project* Southern States Cooperative, Inc. Wilson, North Carolina



Legend:

MW-1	Monitoring Well Location
(89.79)	Ground Water Elevation (feet)
	Ground Water Contour (feet)
	Flow Direction

Duncklee & Dunham, P.C.
Environmental Consultants

Author	*Drawing*	*Layer*	*Date*	*Title*	Ground Water Contour Map (7-6-00)
dmr	82700-3	0,4	7-21-00		
Job No.	*Revision*	*Figure*	*Scale*	*Project*	Southern States Cooperative, Inc. Wilson, North Carolina
82700	7-21-00	7	1"=30'		

Table 1. Summary of Soil Excavation Closure Sampling TPH Results

Sample ID And Depth	Date	Location	TPH 3550 (mg/kg)	TPH 5030 (mg/kg)
SS-1-7'	9-30-98	Base of Wall	BQL	BQL
SS-2-11'	9-30-98	Floor	BQL	BQL
SS-3-11'	9-30-98	Floor	BQL	BQL
SS-4-7'	10-1-98	Base of Wall	18	BQL
SS-8-7'	10-1-98	Base of Wall	BQL	BQL
SS-9-6'	10-1-98	Base of Wall	BQL	BQL
SS-11-6'	10-1-98	Base of Wall	16	BQL
SS-12-6'	10-1-98	Base of Wall	BQL	BQL
SS-13-11.5'	10-1-98	Floor	133	28
SS-14-12'	10-1-98	Floor	72	10
SS-15-12'	10-1-98	Floor	BQL	16

BQL = Below Quantitation Limit
Duncklee & Dunham Job No. 82700
00146

Table 2. Adjacent Property Owners

Direction From Site	Land Use	Owner	Address
North and Northeast	Railroad Line	Norfolk Southern Railway	8 North Jefferson Street, Roanoke, VA 24042
Northwest	Service Road	City of Wilson	P.O. Box 10, Wilson, NC 27894-0010
West	Wilson County Farm Bureau Office	Frank Marren	202 Brentwood Drive, Wilson, NC 27893
West-Southwest	Gravel Lot	Eldon Newton	1317 Lakeside Drive, Wilson, NC 27896
South	Gravel Parking Lot	Southern States Cooperative, Inc.	P.O. Box 26234, Richmond, VA 23260-6234
East-Southeast	Plumbing-Heating Supply Company	Edward Ihrie	P.O. Box 1629, Wilson, NC 27893

Table 3. Monitoring Well Construction and Ground Water Elevation Data.

Well ID	Screen Interval Below Grade (Feet)	TOC Elevation (Feet)	Date	Depth to Ground Water (Feet)	Ground Water Elevation (Feet)
MW-1	5 – 17	100.00	7/6/00	10.06	89.94
MW-1d	31 – 36	100.21	7/6/00	10.36	89.85
MW-2	6.5 – 16.5	99.43	7/6/00	9.98	89.45
MW-3	6.5 – 16.5	102.29	7/6/00	12.78	89.51
MW-4	6 – 16	100.35	7/6/00	10.56	89.79
MW-5	6.6 – 16.6	99.03	7/6/00	9.50	89.53

All elevations referenced to assumed elevation of 100.00 feet
TOC = Top of Casing
Dunckiee & Dunham Job No.82700
00146

Table 4. Ground Water Petroleum Analytical Results.

Compound	MW-1 (7-6-00) ug/L	MW-1d (7-6-00) ug/L	MW-2 (7-6-00) ug/L	MW-3 (7-6-00) ug/L	MW-4 (7-6-00) ug/L	MW-5 (7-6-00) ug/L	2L Standard ug/L
Benzene	8	BQL	BQL	BQL	2	BQL	1
Xylenes	BQL	BQL	BQL	BQL	7	BQL	530
MTBE	10	BQL	BQL	BQL	3	BQL	200
Lead	BQL	9.6	BQL	BQL	BQL	BQL	15

ug/L = parts per billion (ppb)
BQL = Below quantitation limit
Duncklee & Dunham Job No. 82700
00146

Boring /Well Construction Log

Duncklee & Dunham, P.C.

I. D. Number	*MW-1*	**Purpose**	*GW Sampling*
Project Name	*SS Wilson*	**Contractor**	*Geologic Exploration*
Project No.	*82700*	**Registration No.**	*1175*
Geologist	*Doug Rakoczy*	**Driller**	*Mike McConohay*
Start Date	*01/21/2000* **Complete Date** *Same*	**Equipment**	*Mobile B-61*

Drilling Method	*Hollow Stem Augers 4 1/4" ID*
Comments	*Soil sample MW-1-9.5-10' collected with split-spoon*
	Subgrade well head completion

Well Construction Information		**Depth From - To**	**Soil / Rock Description / Comments**	**FID / PID (ppm) @ Depth (ft.)**
Borehole Diameter	*8"*	*0 - 6"*	*Gravel*	
Riser Type	*PVC*	*6" - 5'*	*Orange brown to tan slightly silty to silty fine and*	
Diameter	*2"*		*medium SAND (SM), trace clay*	
Screen Type	*PVC*	*5 - 8'*	*Brown-gray silty fine SAND (SM), trace clay*	
Diameter	*2"*	*8 - 9.5'*	*Brown and gray clayey fine sandy SILT (ML) to*	
Riser Interval	*0 - 5'*		*very silty fine SAND (SM)*	
Screen Interval	*5 - 17'*	*9.5 - 11'*	*Orange brown and gray fine sandy clayey SILT (ML)*	
Slot Size	*0.010"*	*11 - 11.5'*	*Brown and gray clayey silty fine SAND (SM)*	
Grout Type	*#1 Portland*	*11.5 - 16'*	*Brown and gray to gray silty CLAY (CL) with thin*	
Interval	*0 - 1.5'*		*orange brown clayey fine SAND seams*	
Bentonite Type	*Chips*	*16 - 17'*	*Brown-gray clayey fine SAND (SC)*	
Interval	*1.5 - 3'*			
Filter Pack	*# 1 Sand*		*Boring terminated @ 17' depth*	
Interval	*3 - 17'*			
Total Depth	*17'*			
R.P. Elevation				
Datum				

Water Level Information

Date	**W.L. Below R.P.**

R.P. = Reference Point *W.L. = Water Level* *TBM = Temporary Benchmark* *MSL = Mean Sea Level*

Division of Environmental Management - Groundwater Section
P.O. Box 29535 - Raleigh, N.C. 27626-0535
Phone (919) 733-3221

WELL CONSTRUCTION RECORD

RILLING CONTRACTOR: Geologic Exploration, Inc.

FOR OFFICE USE ONLY
QUAD NO _____ SERIAL NO _____
Lat _____ Long _____ RO _____
Minor Basin _____
Basin Code _____
Header Ent _____ GW-1 Ent _____

STATE WELL CONSTRUCTION
DRILLER REGISTRATION NUMBER: 1175 PERMIT NUMBER: _____

. WELL LOCATION: (Show sketch of the location below)

Nearest Town: WILSON County: WILSON

WARD BLVD.
Road, Community, or Subdivision and Lot No.)

. OWNER SOUTHERN STATES

ADDRESS 6606 W. BROAD ST.
(Street or Route No.)

RICHMOND VA 23260
City or Town State Zip Code

. DATE DRILLED 1-21-00 USE OF WELL MONITOR
. TOTAL DEPTH 17.0 FEET
. CUTTINGS COLLECTED YES | | NO |X|
. DOES WELL REPLACE EXISTING WELL? YES | | NO |X|
: STATIC WATER LEVEL Below Top of Casing: _____ FT
(Use "+" if Above Top of Casing)
. TOP OF CASING IS 0.0 FT Above Land Surface*
Casing Terminated at/or below land surface is illegal unless a variance is issued in accordance with 15A NCAC 2C .0118
. YIELD (gpm): N/A METHOD OF TEST N/A
0. WATER ZONES (depth): N/A

1. CHLORINATION: Type N/A Amount N/A
2. CASING:

	Depth			Diameter	Wall Thickness or Weight/Ft.	Material
From	0.0	To 5.0	Ft.	2 INCH	SCH 40	PVC
From		To	Ft.			
From		To	Ft.			

3. GROUT:

	Depth			Material	Method
From	0.0	To 1.0	Ft.	PORTLAND BENTONITE	SLURRY
From		To	Ft.		

4. SCREEN:

	Depth			Diameter		Slot Size		Material
From	5.0	To 17.0	Ft.	2.0	in.	.010	in.	PVC
From		To	Ft.		in.		in.	
From		To	Ft.		in.		in.	

5. SAND/GRAVEL PACK:

	Depth			Size	Material
From	3.0	To 17.0	Ft.	20-40	FINE SILICA SAND
From		To	Ft.		

6. REMARKS: MW-1 BENTONITE SEAL FROM 1.0 TO 3.0 FEET

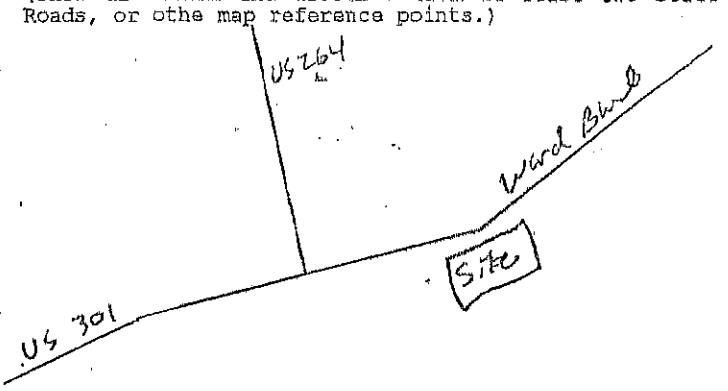
DRILLING LOG

DEPTH From	To	Formation Description
0.0'	1.0'	GRAVEL
1.0'	14.0'	BROWN/TAN SILTY SAND
15.0'	17.0'	GREY SILTY CLAY

If additional space is needed use back of form

LOCATION OF SKETCH

(Show direction and distance from at least two State Roads, or othe map reference points.)



I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

3-19-00

SIGNATURE OF CONTRACTOR OR AGENT DATE

GW-1 REV. 9/91

Submit original to Division of Environmental Management and copy to well owner.

Boring /Well Construction Log

Duncklee & Dunham, P.C.

I. D. Number	*MW-2*	**Purpose**	*GW Sampling*
Project Name	*SS Wilson*	**Contractor**	*EarthCare Corporation*
Project No.	*82700*	**Registration No.**	*2923*
Geologist	*Tom Dunham*	**Driller**	*Todd Dudley*
Start Date	*06/29/2000* **Complete Date** *Same*	**Equipment**	*9600 Power Probe*

Drilling Method	*Hollow Stem Augers 4 1/4" ID*
Comments	*Subgrade well head completion*

Well Construction Information		Depth From - To	Soil / Rock Description / Comments	FID / PID (ppm) @ Depth (ft.)
Borehole Diameter	*7.5"*	*0 - 6"*	*Gravel*	
Riser Type	*PVC*	*6" - 5'*	*Orange brown to tan slightly silty to silty fine and*	
Diameter	*2"*		*medium SAND (SM), trace clay*	
Screen Type	*PVC*	*5 - 8'*	*Brown-gray silty fine SAND (SM), trace clay*	
Diameter	*2"*	*8 - 9.5'*	*Brown and gray clayey fine sandy SILT (ML) to*	
Riser Interval	*0 - 6.5'*		*very silty fine SAND (SM)*	
Screen Interval	*6.5 - 16.5'*	*9.5 - 11'*	*Orange brown and gray fine sandy clayey SILT (ML)*	
Slot Size	*0.010"*	*11 - 11.5'*	*Brown and gray clayey silty fine SAND (SM)*	
Grout Type	*#1 Portland*	*11.5 - 16'*	*Brown and gray to gray silty CLAY (CL) with thin*	
Interval	*0 - 2.0'*		*orange brown clayey fine SAND seams*	
Bentonite Type	*Chips*	*16 - 20'*	*Gray-green slightly fine sandy, silty CLAY (CL)*	
Interval	*2.0 - 4.5'*			
Filter Pack	*# 1 Sand*		*Boring terminated @ 20.0' depth*	
Interval	*4.5 - 16.5'*			
Total Depth	*20.0'*			
R.P. Elevation				
Datum				

Water Level Information	
Date	**W.L. Below R.P.**

R.P. = Reference Point *W.L. = Water Level* *TBM = Temporary Benchmark* *MSL = Mean Sea Level*

North Carolina • Department of Environment and Natural Resources - Division of Water Quality • Groundwater Section
1636 Mail Service Center • Raleigh, N.C. 27699-1636 Phone (919) 733-3221

WELL CONSTRUCTION RECORD

WELL CONTRACTOR: Todd W. Dudley
WELL CONTRACTOR CERTIFICATION #: 2923
STATE WELL CONSTRUCTION PERMIT#: _____

1. WELL USE (Check Applicable Box): Residential ☐ Municipal ☐ Industrial ☐ Agricultural ☐ Monitoring ☒
Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use: _____

2. WELL LOCATION: (Show sketch of the location below)
Nearest Town: Wilson County: Wilson
Cargill Ave. South
(Road Name and Numbers, Community, or Subdivision and Lot No.)

3. OWNER Southern States Coop. Inc
Address 6606 West Broad Street
(Street or Route No.)
Richmond Virginia 23230
City or Town State Zip Code

4. DATE DRILLED 6-29-00
5. TOTAL DEPTH 16.5 feet
6. CUTTINGS COLLECTED YES ☐ NO ☒
7. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒
8. STATIC WATER LEVEL Below Top of Casing: 10 FT.
(Use "+" if Above Top of Casing)
9. TOP OF CASING IS 0.0 FT. Above Land Surface*
*Top of casing terminated at/or below land surface requires a variance in accordance with 15A NCAC 2C .0118
10. YIELD (gpm): N/A METHOD OF TEST N/A
11. WATER ZONES (depth): N/A
12. CHLORINATION: Type N/A Amount N/A
13. CASING:

	Depth		Diameter	Wall Thickness or Weight/Ft.	Material
From 0.0	To 6.5	Ft.	2 inch	Sch 40	PVC
From	To	Ft.			
From	To	Ft.			

14. GROUT:

	Depth		Material	Method
From 0.0	To 2.0	Ft.	Portland Bentonite	Slurry
From	To	Ft.		

15. SCREEN:

	Depth		Diameter		Slot Size		Material
From 6.5	To 16.5	Ft	2.0	In.	.010	In.	PVC
From	To	Ft.		In.		In.	
From	To	Ft.		In.		In.	

16. SAND/GRAVEL PACK:

	Depth		Size	Material
From 4.5	To 16.5	Ft.	20-40	Fine Silica Sand
From	To	Ft.		

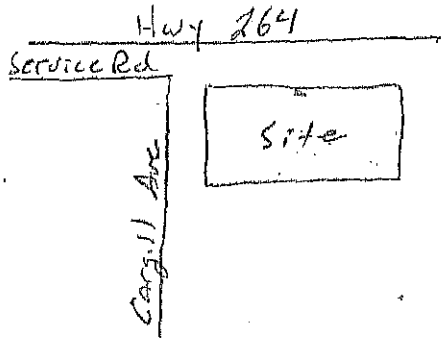
17. REMARKS: MW-2 Bentonite Seal From 2.0 to 4.5 Feet.

DRILLING LOG

From	To	Formation Description
0.0	11.5	Orange Silty Sand
11.5	16.5	Gray Silty Clay

If additional space is needed use back of form

LOCATION SKETCH
(Show direction and distance from at least two State Roads, or other map reference points)



I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Todd W. Dudley 7-18-00
SIGNATURE OF PERSON CONSTRUCTING THE WELL DATE

Submit original to Division of Water Quality, Groundwater Section within 30 days

FOR OFFICE USE ONLY
Quad No: _____
Serial No. _____

GW-1 REV. 12/98

Boring /Well Construction Log

Duncklee & Dunham, P.C.

. D. Number	*MW-3*	Purpose	*GW Sampling*
'roject Name	*SS Wilson*	Contractor	*EarthCare Corporation*
'roject No.	*82700*	Registration No.	*2923*
Geologist	*Tom Dunham*	Driller	*Todd Dudley*
Start Date	*06/29/2000* Complete Date *Same*	Equipment	*9600 Power Probe*

Drilling Method	*Hollow Stem Augers 4 1/4" ID*
Comments	*Subgrade well head completion*

Well Construction Information		Depth From - To	Soil / Rock Description / Comments	FID / PID (ppm) @ Depth (ft.)
Borehole Diameter	*7.5"*	*0 - 6"*	*Gravel*	
Riser Type	*PVC*	*6" - 5'*	*Orange brown to tan slightly silty to silty fine and*	
Diameter	*2"*		*medium SAND (SM), trace clay*	
Screen Type	*PVC*	*5 - 8'*	*Brown-gray silty fine SAND (SM), trace clay*	
Diameter	*2"*	*8 - 9.5'*	*Brown and gray clayey fine sandy SILT (ML) to*	
Riser Interval	*0 - 6.5'*		*very silty fine SAND (SM)*	
Screen Interval	*6.5 - 16.5'*	*9.5 - 11'*	*Orange brown and gray fine sandy clayey SILT (ML)*	
Slot Size	*0.010"*	*11 - 11.5'*	*Brown and gray clayey silty fine SAND (SM)*	
Grout Type	*#1 Portland*	*11.5 - 16.5'*	*Brown and gray to gray silty CLAY (CL) with thin*	
Interval	*0 - 2.0'*		*orange brown clayey fine SAND seams*	
Bentonite Type	*Chips*			
Interval	*2.0 - 4.5'*			
Filter Pack	*# 1 Sand*		*Boring terminated @ 17' depth*	
Interval	*4.5 - 16.5'*			
Total Depth	*16.5'*			
R.P. Elevation				
Datum				
Water Level Information				
Date	W.L. Below R.P.			

R.P. = Reference Point *W.L. = Water Level* *TBM = Temporary Benchmark* *MSL = Mean Sea Level*

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section
1636 Mail Service Center - Raleigh, N.C. 27699-1636-Phone (919) 733-3221

WELL CONSTRUCTION RECORD

WELL CONTRACTOR: Todd W. Dudley
WELL CONTRACTOR CERTIFICATION #: 2923
STATE WELL CONSTRUCTION PERMIT#:

1. WELL USE (Check Applicable Box): Residential ☐ Municipal ☐ Industrial ☐ Agricultural ☐ Monitoring ☒
Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use:

2. WELL LOCATION: (Show sketch of the location below)
Nearest Town: Wilson County: Wilson
Cargill Ave. South
(Road Name and Numbers, Community, or Subdivision and Lot No.)

3. OWNER Southern States Coop. Inc
Address 6606 West Broad Street
(Street or Route No.)
Richmond VA 23230
City or Town State Zip Code

4. DATE DRILLED 6-29-00
5. TOTAL DEPTH 16.5 Feet
6. CUTTINGS COLLECTED YES ☐ NO ☒
7. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒
8. STATIC WATER LEVEL Below Top of Casing: 10 FT.
(Use "+" if Above Top of Casing)
9. TOP OF CASING IS 0.0 FT. Above Land Surface*
*Top of casing terminated at/or below land surface requires a variance in accordance with 15A NCAC 2C .0118
10. YIELD (gpm): N/A METHOD OF TEST N/A
11. WATER ZONES (depth): N/A
12. CHLORINATION: Type N/A Amount N/A
13. CASING:

	Depth		Diameter	Wall Thickness or Weight/Ft.	Material
From 0.0	To 6.5	Ft.	2 inch	Sch 40	PVC
From	To	Ft.			
From	To	Ft.			

14. GROUT:

	Depth		Material	Method
From 0.0	To 2.0	Ft.	Portland Bentonite	Slurry
From	To	Ft.		

15. SCREEN:

	Depth		Diameter		Slot Size		Material
From 6.5	To 16.5	Ft	2.0	In.	.010	In.	PVC
From	To	Ft.		In.		In.	
From	To	Ft.		In.		In.	

16. SAND/GRAVEL PACK:

	Depth		Size	Material
From 4.5	To 16.5	Ft.	20-40	Fine Silica Sand
From	To	Ft.		

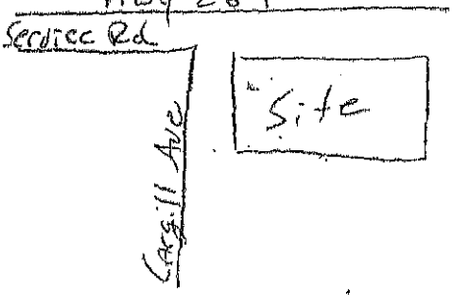
17. REMARKS: MW-3 Bentonite Seal from 2.0 to 4.5 Feet

DRILLING LOG

From	To	DEPTH Formation Description
0.0	11.5	Orange Silty Sand
11.5	16.5	Gray Silty Clay

If additional space is needed use back of form

LOCATION SKETCH
(Show direction and distance from at least two State Roads, or other map reference points)



I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Todd W. Dudley 7-18-00
SIGNATURE OF PERSON CONSTRUCTING THE WELL DATE

Submit original to Division of Water Quality, Groundwater Section within 30 days

FOR OFFICE USE ONLY
Quad No:
Serial No.

GW-1 REV. 12/99

Appendix D

Boring /Well Construction Log

Duncklee & Dunham, P.C.

I. D. Number	*MW-4*	**Purpose**	*GW Sampling*
Project Name	*SS Wilson*	**Contractor**	*EarthCare Corporation*
Project No.	*82700*	**Registration No.**	*2923*
Geologist	*Tom Dunham*	**Driller**	*Todd Dudley*
Start Date	*06/29/2000* **Complete Date** *Same*	**Equipment**	*9600 Power Probe*

Drilling Method	*Hollow Stem Augers 4 1/4" ID*
Comments	*Subgrade well head completion*

Well Construction Information		Depth From - To	Soil / Rock Description / Comments	FID / PID (ppm) @ Depth (ft.)
Borehole Diameter	*7.5"*	*0 - 6"*	*Gravel*	
Riser Type	*PVC*	*6" - 5'*	*Orange brown to tan slightly silty to silty fine and*	
Diameter	*2"*		*medium SAND (SM), trace clay*	
Screen Type	*PVC*	*5 - 8'*	*Brown-gray silty fine SAND (SM), trace clay*	
Diameter	*2"*	*8 - 9.5'*	*Brown and gray clayey fine sandy SILT (ML) to*	
Riser Interval	*0 - 6'*		*very silty fine SAND (SM)*	
Screen Interval	*6 - 16'*	*9.5 - 11'*	*Orange brown and gray fine sandy clayey SILT (ML)*	
Slot Size	*0.010"*	*11 - 11.5'*	*Brown and gray clayey silty fine SAND (SM)*	
Grout Type	*#1 Portland*	*11.5 - 16.0'*	*Brown and gray to gray silty CLAY (CL) with thin*	
Interval	*0 - 2.0'*		*orange brown clayey fine SAND seams*	
Bentonite Type	*Chips*			
Interval	*1.5 - 4'*			
Filter Pack	*# 1 Sand*		*Boring terminated @ 16' depth*	
Interval	*4 - 16'*			
Total Depth	*16'*			
R.P. Elevation				
Datum				
Water Level Information				
Date	**W.L. Below R.P.**			

R.P. = Reference Point *W.L. = Water Level* *TBM = Temporary Benchmark* *MSL = Mean Sea Level*

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section
1636 Mail Service Center - Raleigh, N.C. 27699-1636-Phone (919) 733-3221

WELL CONSTRUCTION RECORD

WELL CONTRACTOR: Todd W. Dudley
WELL CONTRACTOR CERTIFICATION #: 2923
STATE WELL CONSTRUCTION PERMIT#: _____

1. WELL USE (Check Applicable Box): Residential ☐ Municipal ☐ Industrial ☐ Agricultural ☐ Monitoring ☒
   Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use: _____
2. WELL LOCATION: (Show sketch of the location below)
   Nearest Town: Wilson County: Wilson
   Cargill Ave South
   (Road Name and Numbers, Community, or Subdivision and Lot No.)
3. OWNER Southern States Cooperative, Inc
   Address 6606 West Broad St.
   (Street or Route No.)
   Richmond VA 23230
   City or Town State Zip Code
4. DATE DRILLED 6-29-00
5. TOTAL DEPTH 16.0 Feet
6. CUTTINGS COLLECTED YES ☐ NO ☒
7. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒
8. STATIC WATER LEVEL Below Top of Casing: 10 FT.
   (Use "+" if Above Top of Casing)
9. TOP OF CASING IS 0.0 FT. Above Land Surface*
   *Top of casing terminated at/or below land surface requires a variance in accordance with 15A NCAC 2C .0118
10. YIELD (gpm): N/A METHOD OF TEST N/A
11. WATER ZONES (depth): N/A
12. CHLORINATION: Type N/A Amount N/A
13. CASING:

	Depth		Diameter	Wall Thickness or Weight/Ft.	Material
From	0.0	To 6.0 Ft.	2 inch	Sch 40	PVC
From		To Ft.			
From		To Ft.			

14. GROUT:

	Depth		Material	Method
From	0.0	To 2.0 Ft.	Portland Bentonite	Slurry
From		To Ft.		

15. SCREEN:

	Depth		Diameter	Slot Size	Material
From	6.0	To 16.0 Ft	2 in.	.010 in.	PVC
From		To Ft.	in.	in.	
From		To Ft.	in.	in.	

16. SAND/GRAVEL PACK:

	Depth		Size	Material
From	4.0	To 16.0 Ft.	20-40	Fine Silica Sand
From		To Ft.		

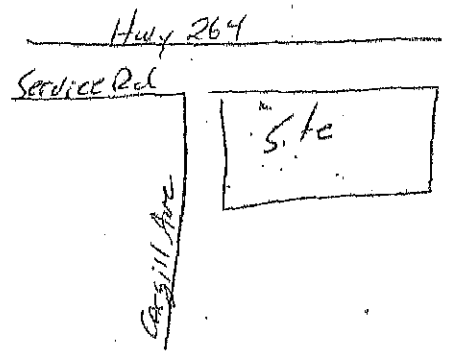
17. REMARKS: MW-4 Bentonite Seal From 1.5 feet to 4.0 feet

DRILLING LOG

From	To	Formation Description
0.0	11.5	Orange Silty Sand
11.5	16.0	Gray Silty Clay

If additional space is needed use back of form

LOCATION SKETCH
(Show direction and distance from at least two State Roads, or other map reference points)



I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF PERSON CONSTRUCTING THE WELL — DATE 7-18-00

Submit original to Division of Water Quality, Groundwater Section within 30 days

GW-1 REV. 12/99

FOR OFFICE USE ONLY
Quad No: _____
Serial No. _____

Boring /Well Construction Log

Duncklee & Dunham, P.C.

I. D. Number	*MW-5*	**Purpose**	*GW Sampling*
Project Name	*SS Wilson*	**Contractor**	*EarthCare Corporation*
Project No.	*82700*	**Registration No.**	*2923*
Geologist	*Tom Dunham*	**Driller**	*Todd Dudley*
Start Date	*06/29/2000* **Complete Date** *Same*	**Equipment**	*9600 Power Probe*

Drilling Method	*Hollow Stem Augers 4 1/4" ID*
Comments	*Soil sample MW-5-8' collected in sampling tube*
	Subgrade well head completion

Well Construction Information		Depth From - To	Soil / Rock Description / Comments	FID / PID (ppm) @ Depth (ft.)
Borehole Diameter	*7.5"*	*0 - 6"*	*Gravel*	
Riser Type	*PVC*	*6" - 5'*	*Orange brown to tan slightly silty to silty fine and*	
Diameter	*2"*		*medium SAND (SM), trace clay*	
Screen Type	*PVC*	*5 - 8'*	*Brown-gray silty fine SAND (SM), trace clay*	
Diameter	*2"*	*8 - 9.5'*	*Brown and gray clayey fine sandy SILT (ML) to*	
Riser Interval	*0 - 6.5'*		*very silty fine SAND (SM)*	
Screen Interval	*6.5 - 16.5'*	*9.5 - 11'*	*Orange brown and gray fine sandy clayey SILT (ML)*	
Slot Size	*0.010"*	*11 - 11.5'*	*Brown and gray clayey silty fine SAND (SM)*	
Grout Type	*#1 Portland*	*11.5 - 16.5'*	*Brown and gray to gray silty CLAY (CL) with thin*	
Interval	*0 - 2.0'*		*orange brown clayey fine SAND seams*	
Bentonite Type	*Chips*			
Interval	*2.0 - 4.5'*			
Filter Pack	*# 1 Sand*		*Boring terminated @ 16.5' depth*	
Interval	*4.5 - 16.5'*			
Total Depth	*16.5'*			
R.P. Elevation				
Datum				

Water Level Information

Date	W.L. Below R.P.

R.P. = Reference Point *W.L. = Water Level* *TBM = Temporary Benchmark* *MSL = Mean Sea Level*

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section
1636 Mail Service Center - Raleigh, N.C. 27699-1636-Phone (919) 733-3221

WELL CONSTRUCTION RECORD

WELL CONTRACTOR: Todd W. Dudley
WELL CONTRACTOR CERTIFICATION #: 2023
STATE WELL CONSTRUCTION PERMIT#: _____

1. WELL USE (Check Applicable Box): Residential ☐ Municipal ☐ Industrial ☐ Agricultural ☐ Monitoring ☒
Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use: _____

2. WELL LOCATION: (Show sketch of the location below)
Nearest Town: Wilson County: Wilson
Cargill Ave South
(Road Name and Numbers, Community, or Subdivision and Lot No.)

3. OWNER Southern States Cooperative, Inc
Address 6606 West Broad Street
(Street or Route No.)
Richmond VA 23230
City or Town State Zip Code

4. DATE DRILLED 6-29-00
5. TOTAL DEPTH 16.5
6. CUTTINGS COLLECTED YES ☐ NO ☒
7. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒
8. STATIC WATER LEVEL Below Top of Casing: 10 FT.
(Use "+" if Above Top of Casing)
9. TOP OF CASING IS 0.0 FT. Above Land Surface*
*Top of casing terminated at/or below land surface requires a variance in accordance with 15A NCAC 2C .0116
10. YIELD (gpm): N/A METHOD OF TEST N/A
11. WATER ZONES (depth): N/A

12. CHLORINATION: Type N/A Amount N/A
13. CASING:

	Depth From	Depth To	Ft.	Diameter	Wall Thickness or Weight/Ft.	Material
	0.0	6.5		2 Inch	Sch 40	PVC

14. GROUT:

	Depth From	Depth To	Ft.	Material	Method
	0.0	2.0		Bentonite Portland	Slurry

15. SCREEN:

	Depth From	Depth To	Ft.	Diameter	Slot Size	Material
	6.5	16.5		2 in.	.010 in.	PVC
				in.	in.	
				in.	in.	

16. SAND/GRAVEL PACK:

	Depth From	Depth To	Ft.	Size	Material
	4.5	16.5		20-40	Fine Silica Sand

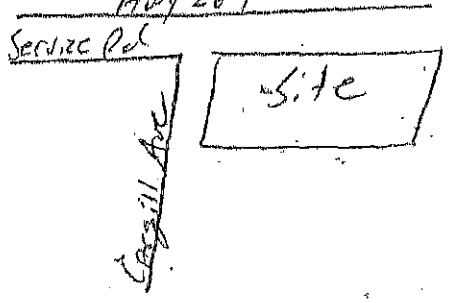
17. REMARKS: MW-5 Bentonite Seal From 2.0 to 4.5 Feet

DRILLING LOG

From	To	Formation Description
0.0	11.5	Orange Silty Sand
11.5	16.5	Gray Silty Clay

If additional space is needed use back of form

LOCATION SKETCH
(Show direction and distance from at least two State Roads, or other map reference points)



I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Todd W. Dudley 7-18-00
SIGNATURE OF PERSON CONSTRUCTING THE WELL DATE

Submit original to Division of Water Quality, Groundwater Section within 30 days

FOR OFFICE USE ONLY
Quad No: _____
Serial No. _____

GW-1 REV. 12/99

Boring /Well Construction Log

Duncklee & Dunham, P.C.

I. D. Number	*MW-1d*	**Purpose**	*GW Sampling*
Project Name	*SS Wilson*	**Contractor**	*Geologic Exploration*
Project No.	*82700*	**Registration No.**	*1175*
Geologist	*Tom Dunham*	**Driller**	*Mark Getty*
Start Date	*07/05/2000* **Complete Date** *07/06/2000*	**Equipment**	*Mobile B-61*

Drilling Method	*Hollow Stem Augers and Mud Rotary*
Comments	*Boring Advanced to 20 feet and 6-inch PVC surface casing grouted in place 7/5/00*
	Boring advanced from base of surface casing to 36 feet on 7/6/00 by mud rotary method
	2-inch well set to 36 feet on 7/6/00
	Subgrade well completion

Well Construction Information		Depth From - To	Soil / Rock Description / Comments	FID / PID (ppm) @ Depth (ft.)
Borehole Diameter	*12" / 5 7/8"*	*0 - 6"*	*Gravel*	
Riser Type	*PVC*	*6" - 5'*	*Orange brown to tan slightly silty to silty fine and*	
Diameter	*2"*		*medium SAND (SM), trace clay*	
Screen Type	*PVC*	*5 - 8'*	*Brown-gray silty fine SAND (SM), trace clay*	
Diameter	*2"*	*8 - 9.5'*	*Brown and gray clayey fine sandy SILT (ML) to*	
Riser Interval	*0 - 31'*		*very silty fine SAND (SM)*	
Screen Interval	*31' - 36'*	*9.5 - 11'*	*Orange brown and gray fine sandy clayey SILT (ML)*	
Slot Size	*0.010"*	*11 - 11.5'*	*Brown and gray clayey silty fine SAND (SM)*	
Grout Type	*#1 Portland*	*11.5 - 16'*	*Brown and gray to gray silty CLAY (CL) with thin*	
Interval	*0 - 26'*		*orange brown clayey fine SAND seams*	
Bentonite Type	*Chips*	*16 - 36'*	*Gray-green slightly fine sandy, silty CLAY (CL) with*	
Interval	*26 - 29'*		*increasing sand content and grain size with depth*	
Filter Pack	*# 1 Sand*		*Boring terminated @ 36' depth*	
Interval	*29 - 36'*			
Total Depth	*36'*			
R.P. Elevation				
Datum				

Water Level Information

Date	W.L. Below R.P.

R.P. = Reference Point *W.L. = Water Level* *TBM = Temporary Benchmark* *MSL = Mean Sea Level*

North Carolina -Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section
1636 Mail Service Center - Raleigh, N.C. 27699-1636 - Phone (919) 733-3221

WELL CONSTRUCTION RECORD

WELL CONTRACTOR: MARK GETTYS
WELL CONTRACTOR CERTIFICATION #: 2348
STATE WELL CONSTRUCTION PERMIT #:

1. WELL USE (Check Applicable Box): Residential ☐ Municipal ☐ Industrial ☐ Agricultural ☐ Monitoring ☒
Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use:

2. WELL LOCATION: (Show sketch of the location below)
Nearest Town: WILSON County: WILSON
CARGILL AVE. SOUTH
(Road name and Numbers, Community, or Subdivision and Lot No.)

3. OWNER SOUTHERN STATES COOPERATIVE INC.
Address 6606 WEST BROAD ST.
(Street or Route No.)
RICHMOND VA 23230
City or Town State Zip Code

4. DATE DRILLED 7-6-00
5. TOTAL DEPTH 36.0 FEET Ft.
6. CUTTINGS COLLECTED YES ☐ NO ☒
7. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒
8. STATIC WATER LEVEL Below top of Casing: _____ FT.
(Use "+" If Above Top of Casing)
9. TOP OF CASING IS 0.0 FT Above Land Surface*
*Top if casing terminated at/or below land surface required a variance in accordance with 15A NCAC 2C .0118
10. YIELD (gmp): N/A METHOD OF TEST N/A
11. WATER ZONES (depth): N/A
12. CHLORINATION: Type N/A Amount N/A
13. CASING

	Depth			Diameter	Wall Thickness Or Weight/Ft.	Material
From	0.0	To 31.0	Ft.	2 INCH	SCH 40	PVC
From		To	Ft.			
From		To	Ft.			

14. GROUT:

	Depth			Material	Method
From	0.0	To 26.0	Ft.	Portland Bentonite	Slurry
From		To	Ft.		

15. SCREEN:

	Depth			Diameter		Slot Size		Material
From	31.0	To 36.0	Ft.	2.0	in.	.010	in.	PVC
From		To	Ft.		in.		in.	
From		To	Ft.		in.		in.	

16. SAND/GRAVEL PACK:

	Depth			Size	Material
From	29.0	To 36.0	Ft.	20-40	FINE SILICA SAND
From		To	Ft.		

17. REMARKS: MW-1D BENTONITE SEAL FROM 26.0 TO 29.0 FEET.

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

FOR OFFICE USE ONLY
Quad No:
Serial No.

SIGNATURE OF PERSON CONSTRUCTING THE WELL — DATE 7-27-00
Submit original to Division of Water Quality, Groundwater Section within 30 days

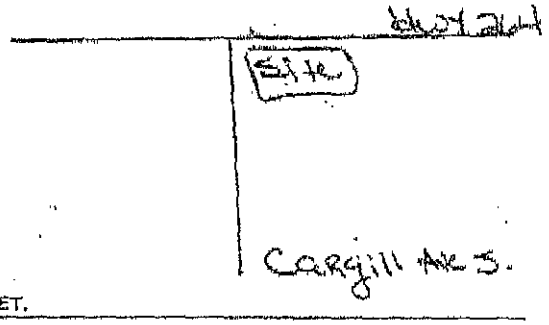
GW-1 REV. 12/99

DRILLING LOG

From	To	DEPTH Formation Description
0.0	12.0	ORANGE SAND
12.0	16.0	TAN CLAY
16.0	32.0	GREY CLAY
32.0	36.0	TAN SANDY CLAY

If additional space is needed use back of form

LOCATION SKETCH
(Show direction and distance from at least two State Roads, or other map reference points)



TOTAL P.03

DECONTAMINATION PROCEDURES

Equipment decontamination helps assure that valid, representative samples are collected and lessens the potential for cross-contamination between sample locations. Duncklee & Dunham often decontaminates sampling equipment, water levels probes, hand auger assemblies, and other equipment in the field as follows.

- Phosphate-free soap such as Alconox (or equivalent) is used on most sites along with distilled water. If the equipment is contaminated with heavy oils or certain other organic residues, then isopropyl alcohol will be used for a wash.
- Distilled water rinse

Teflon or polyethylene bailers are decontaminated at a laboratory or the manufacturer using the following procedure:

- Non-phosphate detergent and tap water wash
- Tap water rinse
- 10% nitric acid solution wash/rinse
- Tap water rinse
- Deionized water rinse
- Isopropyl alcohol wash/rinse
- Organic free water rinse
- Air dried
- Sealed in plastic bag

SOIL BORING INSTALLATION AND SAMPLING

Soil borings are advanced manually with a hand auger or with a drilling rig equipped with hollow stem augers or other equipment. Soil samples are commonly collected from the drill rig advanced borings at five foot intervals using a split-spoon sampling device in accordance with ASTM D 1586-84. Hand auger borings produce soil samples approximately every six inches to a foot. Soils are classified in the field according to the Unified Soil Classification System (ASTM D 2488-84).

Once completed, the borings are either abandoned or used to construct a monitoring well. If the boring is completed below the water table, it is backfilled with a cement grout. Otherwise, the boring is usually filled with the cuttings.

Screening with an organic vapor analyzer (OVA) is commonly performed to measure for the presence of volatile organic compounds (VOCs). VOCs are indicators of releases of petroleum or other common organic contaminants. The procedure for screening involves filling a clean glass container, or plastic bag, halfway with the soil sample. The container is sealed and any VOCs allowed to equilibrate. After approximately 10 to 15 minutes, the OVA probe is inserted and the measurement recorded in a log book.

Soil samples collected for analysis are placed into the laboratory provided containers appropriate for the analysis to be conducted and are labeled with the following information:

- Sample designation
- Sampler's name
- Date and time of collection, and
- Analysis to be performed

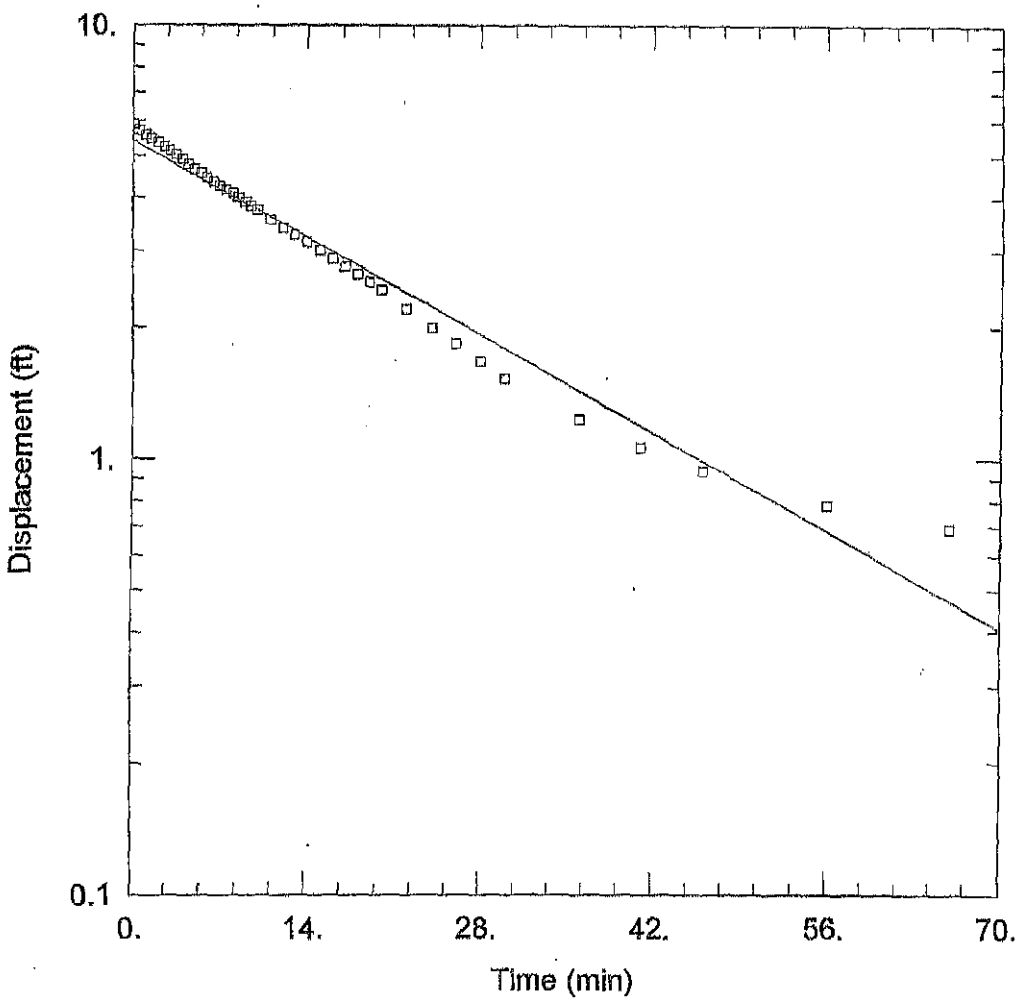
MONITORING WELL INSTALLATION

Monitoring wells are installed in all types of geologic formations to provide representative ground water samples for analysis. The wells are screened at discrete depths where ground water quality information is desired. Monitoring well construction standards are detailed in the *RCRA Technical Enforcement Guidance Document.*

After the completion of the borehole, a two inch diameter PVC casing is commonly inserted to the desired depth to be monitored. The well casing consists of either a five or ten foot screen section attached to a solid casing which extends to the surface. Sand is placed adjacent to the well screen and up to a foot or two above. A one to two foot thick bentonite clay seal is then placed atop the sand and allowed to hydrate. The remainder of the borehole annulus is filled with number one Portland cement to grade. The wellhead is then secured with a locking cap and protective cover. If the well is installed subgrade, a watertight cap is used.

Next, the well is developed by using equipment which has been properly decontaminated. An electric pump or either a teflon or polyethylene bailer is commonly used to remove the fines from the well so that a low turbidity sample can be obtained. Well development improves the connection between the well screen and the geologic formation.

If three or more wells are installed, the wells are surveyed to determine the relative elevations of the tops of the casings. A temporary benchmark is usually established on-site and the wells tied into it. Elevations are measured to within 0.01 foot, and are used to create ground water contour maps.



WELL TEST ANALYSIS

Data Set: P:\SOUTHE~1\WILSON~1\EXCEL\MW-5.AQT
Date: 07/24/00 Time: 18:14:04

PROJECT INFORMATION

Company: Duncklee & Dunham
Client: Southern States
Project: 82700
Test Location: Wilson, NC
Test Well: MW-5
Test Date: 7-5-00

AQUIFER DATA

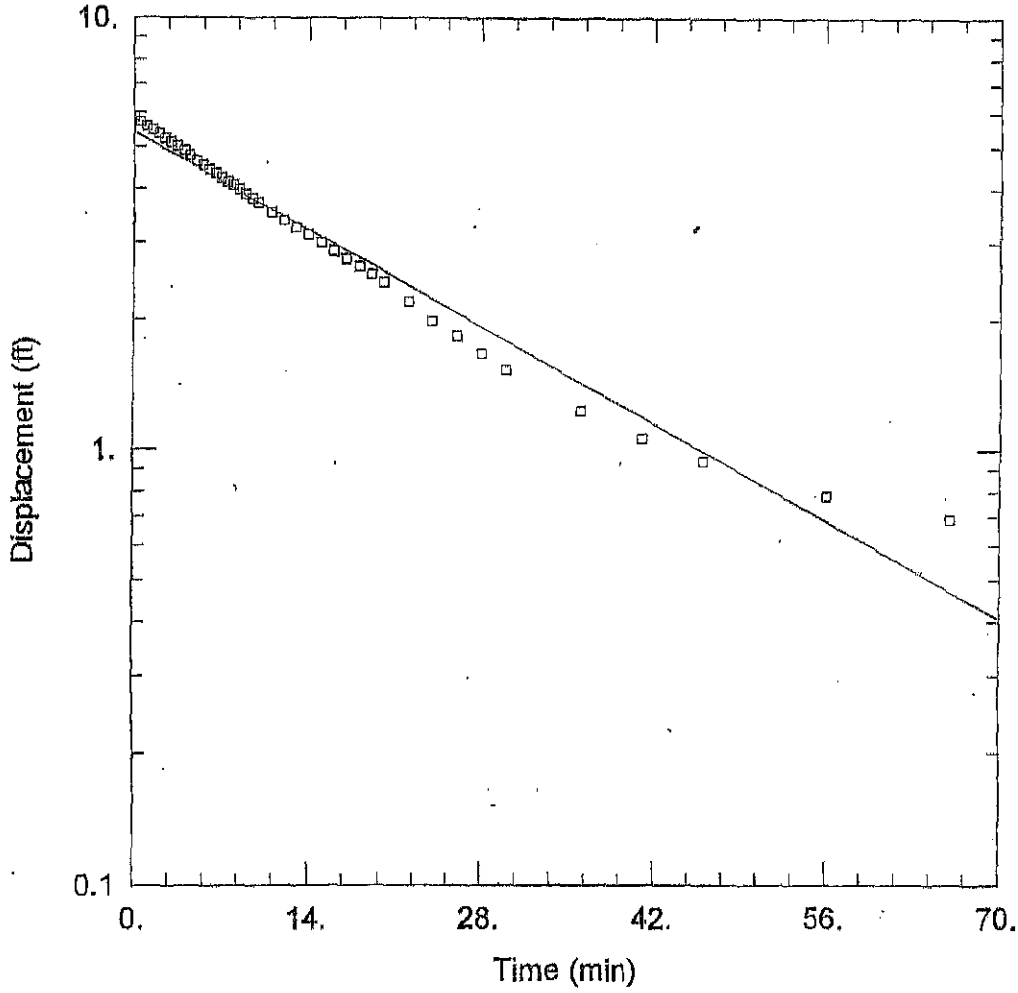
Saturated Thickness: 10. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Initial Displacement: 5.88 ft
Casing Radius: 0.166 ft
Screen Length: 10. ft
Water Column Height: 7.1 ft
Wellbore Radius: 0.5 ft
Gravel Pack Porosity: 0.2

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 0.0002026 cm/sec
y0 = 5.401 ft



WELL TEST ANALYSIS

Data Set: P:\SOUTHE~1\WILSON~1\EXCEL\MW-5.AQT
Date: 07/24/00 Time: 18:18:43

PROJECT INFORMATION

Company: Duncklee & Dunham
Client: Southern States
Project: 82700
Test Location: Wilson, NC
Test Well: MW-5
Test Date: 7-5-00

AQUIFER DATA

Saturated Thickness: 10. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Initial Displacement: 5.88 ft Water Column Height: 7.1 ft
Casing Radius: 0.166 ft Wellbore Radius: 0.5 ft
Screen Length: 10. ft Gravel Pack Porosity: 0.2

SOLUTION

Aquifer Model: Unconfined K = 0.5742 ft/day
Solution Method: Hvorslev y0 = 5.401 ft

Data Set: P:\SOUTHE~1\WILSON~1\EXCEL\MW-5.AQT
Date: 07/24/00
Time: 18:14:55

PROJECT INFORMATION

Company: Duncklee & Dunham
Client: Southern States
Project: 82700
Location: Wilson, NC
Test Date: 7-5-00
Test Well: MW-5

AQUIFER DATA

Saturated Thickness: 10. ft
Anisotropy Ratio (Kz/Kr): 1.

OBSERVATION WELL DATA

Number of observation wells: 1

Observation Well No. 1: MW-5

X Location: 0. ft
Y Location: 0. ft

No. of observations: 41

Observation Data

Time (min)	Displacement (ft)	Time (min)	Displacement (ft)	Time (min)	Displacement (ft)
0.	5.88	7.	4.24	18.	2.65
0.5	5.7	7.5	4.15	19.	2.54
1.	5.58	8.	4.08	20.	2.44
1.5	5.46	8.5	3.99	22.	2.2
2.	5.34	9.	3.9	24.	1.99
2.5	5.22	9.5	3.8	26.	1.83
3.	5.11	10.	3.72	28.	1.67
3.5	5.01	11.	3.54	30.	1.53
4.	4.89	12.	3.39	36.	1.23
4.5	4.77	13.	3.26	41.	1.06
5.	4.64	14.	3.14	46.	0.94
5.5	4.54	15.	3.	56.	0.78
6.	4.44	16.	2.87	66.	0.69
6.5	4.35	17.	2.76		

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev

DIVISION OF WATER QUALITY
Certification for the Submittal of a Comprehensive Site Assessment

Responsible Party: Southern States Cooperative, Inc.
Contact Person: Rusty Janness
Address: PO Box 26234
City: Richmond, **State:** VA, **Zip Code:** 23260

Site Name: SS Wilson Service
Address: Highway 301 South
City: Wilson, **State:** NC, **Zip Code:** 27893
Groundwater Incident Number: Not Assigned, **Site Priority Ranking:** Not Assigned

I, David L. Duncklee, a Professional Engineer/Licensed Geologist (circle one) for Duncklee & Dunham, P.C. (firm or company of employment) do hereby certify that the information indicated below is enclosed as part of the required Comprehensive Site Assessment (CSA) and that to the best of my knowledge the data, assessments, conclusions, recommendations and other associated materials are correct, complete and accurate.

(Each item must be initialed by the certifying licensed professional)

1. DLD The source of the contamination has been identified. A list of all potential sources of the contamination is attached.
2. DLD Imminent hazards to public health and safety have been identified.
3. DLD Potential receptors and significant exposure pathways have been identified.
4. DLD Geological and hydrogeological features influencing the movement of groundwater have been identified. The chemical and physical character of the contaminants have been identified.
5. DLD The CSA sufficiently characterizes the cause, significance and extent of groundwater and soil contamination such that a Corrective Action Plan can be developed.

If any of the above statements have been altered or items not initialed, provide a detailed explanation. Failure to initial any item or to provide written justification for the lack thereof will result in immediate return of the CSA to the responsible party.

(Please Affix Seal and Signature)

NORTH CAROLINA LICENSED SEAL 1017 GEOLOGIST DAVID L. DUNCKLEE

GW-100(csa) 3/17/97

Corrective Action Plan
Southern States Cooperative, Inc. – Wilson Service
Highway 301 South
Wilson, North Carolina

October 30, 2000

NOV - 1 2000

Prepared For

Mr. Rusty Vanness
Southern States Cooperative, Inc.
Post Office Box 26234
Richmond, Virginia 23260

Submitted To

North Carolina Department of Environment
And Natural Resources
Division of Water Quality – Ground Water Section
943 Washington Square Mall
Washington, North Carolina 27889

Prepared By

Duncklee & Dunham, P.C.
Post Office Box 33366
Raleigh, North Carolina 27636

Executive Summary

The subject Southern States Cooperative, Inc. (Southern States) site is located along Highway 301 South in Wilson, North Carolina. The facility is operated as a retail center for farm, home and garden supplies and consists of a main store and warehouse building, garden center, and several fertilizer and material storage sheds. A truck weigh scale installed in the fall of 1998 is located to the south-southeast of the main building and an aboveground storage tank (AST) area is located within a concrete dike structure adjacent to the scale.

A bulk petroleum storage and distribution operation was previously located in the south-southwestern portion of the site in the location of the liquid fertilizer ASTs. Approximately 12 ASTs, a loading rack, and dispenser pumps were reportedly used to store and distribute fuels. The petroleum ASTs, the loading rack, and the fuel dispensers were removed from the site in approximately 1986/1987. The former loading rack and dispenser pump areas are believed to have been located directly adjacent to the truck scale. The 12 ASTs were reportedly located in the concrete dike area. The five ASTs currently located within the concrete dike area are used to store liquid fertilizer solutions.

In September 1998, petroleum odors were noted in soils during the installation of a footer for the truck scale. The results of two hand auger borings advanced in the footer by Duncklee & Dunham personnel confirmed the suspected release, which was subsequently reported to the North Carolina Department of Environment and Natural Resources (DENR) – Division of Water Quality, Raleigh Regional Office by Southern States. Once a soil assessment had been completed, Southern States authorized the excavation of petroleum affected soils prior to the installation of the truck scale.

Soil excavation activities were performed between September 30 and October 6, 1998. Approximately 1,364 tons of soil were removed from the former loading rack and dispenser pump area and transported to a North Carolina permitted treatment and disposal facility. Remedial goals were established to be the DENR action levels of 10 mg/kg (parts per million or ppm) for total petroleum hydrocarbons (TPH) as gasoline and 40 ppm for TPH as diesel/#2 fuel oil. Based on the results of soil excavation closure sampling, all accessible (i.e., non-saturated) soils impacted above DENR action levels were successfully removed from the site.

At the request of the DENR, monitoring well MW-1 was installed immediately adjacent to the western edge of the former excavation on January 21, 2000. A soil sample collected from the well boring did not contain any petroleum constituents at concentrations exceeding DENR action levels. Sampling of the well in February and March 2000 detected trace levels of benzene, MTBE, and xylenes in ground water in this area. The benzene concentrations (4 to 7 ug/L or parts per billion (ppb)) slightly exceeded the North Carolina 2L ground water standard of 1 ppb. Based on these results, DENR requested a Comprehensive Site Assessment (CSA) Report and Corrective Action Plan (CAP) be submitted for the site.

The CSA activities were initiated in June 2000. Soil samples collected from additional borings advanced within and adjacent to the former petroleum AST storage area did not contain detectable TPH. These results confirm that soil remedial activities at the site are complete.

Shallow wells MW-2 through MW-5 and intermediate depth Type III well MW-1d were installed to complete the ground water assessment. All of the monitoring wells were sampled on July 6, 2000. The

ground water analytical results indicated a limited dissolved plume. Trace levels of benzene, xylenes, and MTBE were detected in wells MW-1 and MW-4. However, only benzene (2 ppb in MW-4 and 8 ppb in MW-1) was detected at concentrations exceeding North Carolina 2L ground water standards.

The site is located in the City of Wilson in an area consisting primarily of light industrial and commercial land use. No residences are located within a 1,500-foot radius of the site. The subject site and surrounding area are served by the City of Wilson municipal water supply which is obtained from two surface water sources: Wiggins Mill Reservoir, which is located six to seven miles southwest of the site, and Lake Toisnot, which is located two and a half miles to the north. There are no known water supply wells within a 1,500-foot radius of the site. In addition, there are no surface water bodies located near the site.

As indicated above, soil remedial activities are complete. Therefore, the purpose of the corrective action program outlined in this CAP is to address petroleum impacted ground water. The ground water remedial goals for the site are the North Carolina 2L standards. Benzene is the only compound that has been detected above the standard.

Based on the low levels of dissolved contamination and the lack of any receptors at risk of being impacted, the most practical and cost effective remedial approach is monitored natural attenuation with periodic monitoring in accordance with NCAC Title 15A Subchapter 2L, Section .0106(l). Semiannual sampling of the monitoring well network is proposed for an estimated period of three years.

Ground water samples collected from all wells will be analyzed for BETX and MTBE according to EPA Method 602. Samples will also be submitted for laboratory analysis of nitrate and sulfate and checked in the field for dissolved oxygen, ferrous iron, ORP, temperature, and pH to evaluate the attenuation and biodegradation process. Because the petroleum plume at the site is limited and dissolved contaminant concentrations are low, the results for some of the natural attenuation parameters may not yield useful or quantifiable data. Therefore, after the first year of monitoring, the data will be evaluated to determine if any of the natural attenuation parameters should be eliminated from the monitoring plan. The cost to perform the semiannual sampling for a period of three years is estimated to be $22,500.

Corrective Action Plan
Southern States Cooperative, Inc. – Wilson Service
Highway 301 South
Wilson, North Carolina
October 30, 2000

1 Introduction

1.1 Background

The subject Southern States Cooperative, Inc. (Southern States) site is located along Highway 301 South in Wilson, North Carolina (see Figure 1). The facility is operated as a retail center for farm, home and garden supplies and consists of a store and warehouse building, a garden center, and several fertilizer and material storage sheds. A truck weigh scale, installed in the fall of 1998, is located to the south-southeast of the store building. Several aboveground storage tanks (ASTs) are located within a concrete dike structure adjacent to the scale (see Figure 2). Asphalt parking areas are located to the immediate west and southwest of the store. The remainder of the site is primarily covered with gravel. The topography across the site is generally flat with a very slight slope to the south-southwest.

A bulk petroleum storage and distribution operation was previously located in the south-southwestern portion of the site (see Figure 2). Approximately 12 ASTs, a loading rack, and dispenser pumps were reportedly used to store and distribute fuels. The petroleum ASTs, the loading rack, and the fuel dispensers were removed from the site in approximately 1986/1987. The former loading rack and dispenser pumps are believed to have been located directly adjacent to the truck scale. The 12 ASTs were reportedly located within the concrete dike area. The five ASTs currently located within the concrete dike area are used to store liquid fertilizer solutions.

In September 1998, petroleum odors were noted in soils during the installation of a footer for the truck scale. The results for soil samples collected from two hand auger borings advanced in the footer excavation confirmed the suspected release. The release was subsequently reported to the North Carolina Department of Environment and Natural Resources (DENR) – Division of Water Quality, Raleigh Regional Office by Southern States. After a preliminary soil assessment, Southern States authorized the excavation of petroleum affected soils before the installation of the truck scale (see Figure 2 for the excavation limits). The results of soil excavation closure sampling indicated that all accessible impacted soils had been removed. These activities were detailed in the Duncklee & Dunham *Soil Excavation Report* dated November 23, 1998, and are summarized in Section 1.3 below.

At the request of the DENR, monitoring well MW-1 was installed immediately adjacent to the western edge of the former excavation on January 21, 2000 (see Figure 2). Ground water sampling results from February and March 2000 indicated trace levels of benzene, MTBE, and xylenes. Benzene, which was detected at 4 ug/L and 7 ug/L, was the only compound detected above the North Carolina ground water standard of 1 ug/L. Duncklee & Dunham submitted these results, along with additional soil sampling and receptor survey information, to the DENR in a *Soil and Ground Water Sampling Report* dated April 18, 2000.

In correspondence to Southern States dated May 8, 2000, DENR requested a Comprehensive Site Assessment (CSA) Report and a Corrective Action Plan (CAP) be prepared for the site. Southern States subsequently contracted Duncklee & Dunham to perform the CSA activities, which were detailed in the *Comprehensive Site Assessment Report* dated July 28, 2000.

1.2 Purpose of Corrective Action Plan

A release of petroleum hydrocarbons from a former loading rack and dispenser island associated with a petroleum AST system has been detected in soils and ground water at the site. Based on the results of the 1998 soil excavation activities and additional soil assessment performed as part of the CSA activities, soil remediation is complete. However, benzene has been detected in ground water at a concentration exceeding the standard outlined in Title 15A of the North Carolina Administrative Code (NCAC) Title 15A Subchapter 2L, Section .0202 (2L ground water standards). Therefore, this CAP has been prepared to comply with the DENR correspondence dated May 8, 2000, and the requirements of Title 15A of the NCAC Subchapter 2L, Section .0106.

1.3 Summary of Soil Remedial Activities

Soil excavation activities were performed between September 30 and October 6, 1998. The excavation limits are shown on Figure 2. Additional figures and tables pertaining to the excavation are included in Appendix A. Approximately 1,364 tons of soil were removed from the former loading rack and dispenser pump area and transported to a North Carolina permitted treatment and disposal facility. Remedial goals were established to be the DENR action levels of 10 mg/kg (parts per million or ppm) for total petroleum hydrocarbons (TPH) as gasoline and 40 ppm for TPH as diesel/#2 fuel oil.

A total of six soil samples were collected from the base of the excavation walls and five soil samples were collected from the excavation floor to document closure conditions at the termination of the excavation activities (see Appendix A). None of the samples collected from the base of the excavation walls contained TPH at concentrations exceeding DENR action levels, indicating all impacted soils extending horizontally from the source area had been removed. In addition, none of the samples collected from the floor of the eastern portion of the excavation contained TPH at concentrations exceeding action levels, indicating that all impacted soils extending vertically in this area had been removed.

Three samples from the floor of the western portion of the excavation did contain TPH at concentrations above DENR action levels. TPH as gasoline was detected at a maximum concentration of 28 ppm, and TPH as diesel was detected at a maximum concentration of 133 ppm. However, additional vertical excavation of the TPH impacted soils in this area was not practical because the water table was encountered.

Based on the results of the soil excavation closure sampling, all accessible (i.e., non-saturated) petroleum impacted soils were removed from the vicinity of the former loading rack and dispenser pumps.

1.4 Summary of Soil and Ground Water Assessment

The soil and ground water assessment activities performed for the CSA are summarized below. Copies of pertinent tables and figures from the CSA report (including soil excavation data) are included in Appendix A. These include soil and ground water analytical result maps in both plan and cross-sectional view, ground water contour maps, tables summarized analytical data, monitoring well construction data, and ground water elevation information.

1.4.1 Soil Assessment

As part of the CSA activities, soil samples were collected from three borings advanced outside the excavation area. The boring for monitoring well MW-1 was advanced adjacent to the eastern edge of the former excavation zone. One soil sample was collected from the boring for MW-1 and submitted for analysis of volatile organic compounds (VOCs) according to EPA Method 8260. The boring for monitoring well MW-5 and soil boring SB-062900 were advanced within and adjacent to the former petroleum AST area. Samples from these two borings were analyzed for TPH according to EPA Extraction Methods 3550 and 5030.

No VOCs or TPH were detected in any of the samples at concentrations exceeding DENR action levels. These results confirm that in-situ soils outside the excavation area do not contain petroleum contaminants at concentrations exceeding DENR action levels. Therefore, no additional soil remediation is necessary at the site.

1.4.2 Ground Water Assessment

Shallow wells MW-2 through MW-5 and intermediate depth Type III well MW-1d were installed in addition to existing well MW-1 to complete the ground water assessment (see Figure 2 and Appendix A). All of the monitoring wells were sampled on July 6, 2000. The samples were submitted for analysis of purgeable halocarbons and aromatics including IPE and MTBE according to EPA Methods 601 and 602, ethylene dibromide (EDB) according to Method 504, semivolatile organic compounds (SVOCs) according to EPA Method 625 BN, and lead with EPA Method 3030C digestion.

The ground water analytical results indicated a limited dissolved plume at the site. Trace levels of benzene, xylenes, and MTBE were detected in wells MW-1 and MW-4. However, only benzene (2 ppb in MW-4 and 8 ppb in MW-1) was detected at a concentration exceeding the North Carolina 2L ground water standard. No petroleum related VOCs were detected in any of the other wells, and no SVOCs were detected in any of the wells. Lead was detected at a concentration of 9.6 ppb in MW-1d, which is below the 2L standard of 15 ppb. No lead was detected in the other wells.

1.5 Summary of Receptor Survey

The site is located within the City of Wilson in an area consisting primarily of light industrial and commercial land use. The site and immediately adjacent properties are zoned industrial. Highway 301 and Cargill Avenue border the site to the northwest and west, respectively. A Norfolk Southern rail line is located to the immediate north and northeast. Tobacco warehouses are located further to the northwest, north, and northeast beyond Highway 301 and the rail line. A plumbing/heating contractor

(Ihrie Supply) is located to the southeast. A large fenced gravel parking lot and Cummins Diesel facility are located to the south. The Wilson County Farm Bureau office is located to the west-southwest. No residences are located within a 1,500-foot radius of the site. The names and addresses of immediately adjacent property owners are included in Appendix A.

The subject site and surrounding area is served by the City of Wilson municipal water supply system. According to Mr. Gary Mills, the Assistant Public Services Director/City Engineer for the City of Wilson, the municipal water supply is obtained from two surface water sources: Wiggins Mill Reservoir, which is located six to seven miles southwest of the site, and Lake Toisnot, which is located two and one half miles to the north. Mr. Mills indicated that the City of Wilson has no plans to use ground water as a source of drinking water in the future.

City of Wilson personnel did not know of any private water supply wells in the vicinity of the site. Duncklee & Dunham personnel performed an on-foot visual reconnaissance within 1,500 feet of the release area and did not see any evidence of any water supply wells (pump or well houses, casings, etc.). Water meters were clearly visible at many of the adjacent commercial and industrial facilities.

No surface water bodies were noted near the site during the on-foot visual reconnaissance performed by Duncklee & Dunham personnel. In addition, the U.S.G.S. topographic map of the area (see Figure 1) does not show any surface water bodies within a 1,500-foot radius.

There are no subsurface utility structures located directly adjacent to the former excavation area. The closest subsurface structure is a storm drain inlet located to the south along Cargill Avenue (see Figure 2). The storm drain line appears to be above the depth of the water table and would not be in contact with petroleum impacted soils or ground water. None of the structures at the site contain a basement, and no basements were noted at any of the structures on immediately adjacent properties.

2 Objectives of the Corrective Action Plan

As indicated above, the remediation of petroleum impacted soil in the release area is complete. Therefore, the purpose of this CAP is to address petroleum impacted ground water. The ground water remedial goals are the North Carolina 2L ground water standards. This CAP will identify the most practical and cost-effective ground water remedial program for the site and present a plan and schedule to implement and evaluate the program.

3 Evaluation of Ground Water Remedial Options

Several items must be considered when evaluating ground water remedial options. The most important of these are the magnitude and extent of the ground water plume and the location and threat of impact to any identified potential receptors of the plume. The dissolved plume at the subject site is minor and limited in extent. Only one compound, benzene, has been detected at concentrations exceeding 2L standards (2 ppb in MW-4 and 8 ppb in MW-1). The extent of the benzene plume exceeding 2L standards is shown in Figure 3. The receptor survey did not identify any water supply wells, surface water bodies, or other potential receptors of the plume within a 1,500-foot radius of the site.

Several remedial technologies can be used remediate dissolved petroleum plumes. Two of the most common and cost-effective are dual phase extraction (DPE) and air sparging. The object of dual-phase extraction (DPE) is to extract ground water and vapors from the same well point using a vacuum pump. A single high vacuum pump or blower is connected to numerous DPE well points. Recovered ground water is piped to a treatment system where the water is treated to remove contaminants to below regulatory levels and then discharged. Air sparging is a remedial technology where air is introduced under low pressure below the water table to remove dissolved VOCs. An air sparging system is composed of a series of sparge points designed to transfer air to the ground water, a pipe network to distribute the air, and a blower or compressor to supply the air.

The estimated cost to install a small-scale DPE or air sparging system at the site would be approximately $25,000 to $30,000. System operation and maintenance (O&M) costs would be $8,000 to $10,000 a year, and semiannual ground water monitoring and reporting costs would be approximately $7,500 a year. Therefore, the cost to install and operate a DPE or air sparging system for one-year would likely exceed $40,000. Based on the limited nature of the plume and the lack of any potential receptors, active ground water remediation using either DPE or air sparging would not be practical or cost effective at the site.

The dissolved petroleum constituents detected at the site are known to attenuate and biodegrade, and the extent of ground water impact is minor. Therefore, the most practical and reasonable ground water remedial approach for the site is monitored natural attenuation. The requirements for this option, as outlined in NCAC Title 15A Subchapter 2L, Section .0106(l), include ground water monitoring to track the plume and periodic evaluation of the plume attenuation/biodegradation rates. There are no equipment or O&M costs associated with this approach. Semi-annual sampling of the monitoring well network is estimated at $7,500 per year. It is estimated that dissolved contaminant concentrations (specifically benzene) will reach 2L ground water standards within three years. Therefore, the total cost for the semiannual ground water monitoring activities is estimated at $22,500.

As part of a general overview of monitored natural attenuation, information regarding the fate and transport of common petroleum constituents is presented below along with specific information on hydrocarbon biodegradation processes. Ground water modeling results predicting the maximum extent of the benzene plume at the site are also presented.

3.1 Environmental Fate and Transport of Contaminants

Petroleum contaminants released to the environment migrate from the source to other receiving media. The primary transport mechanism is downward migration into soil by gravity and dissolution as precipitation percolates through impacted soil.

The water solubility, organic carbon partitioning coefficient (K_{OC}), bioconcentration factor (BCF), and media specific half-life from published literature for several common petroleum constituents were reviewed (see Table 1). Benzene, xylenes, and MTBE have been detected in ground water at the subject site; however, as indicated above, only benzene was detected at a concentration exceeding 2L standards.

The water solubility indicates the tendency for a chemical to remain in solution. High solubility indicates a relative tendency to move through the hydrogeologic formation. Benzene has a moderately high solubility. The K_{OC} value provides a measure of the extent of chemical partitioning, or adsorption, between organic carbon in soil and water at equilibrium. The higher the K_{OC} value, the more likely a chemical is to bind to soil than to remain in water. Benzene has a relatively low K_{OC} value. The BCF provides an indication of absorption of the chemical in a biological medium, such as fish and plant tissue. The higher the BCF, the greater the accumulation in living tissue is likely to be. Benzene has a relatively low BCF.

The media-specific half-life of a chemical gives a measure of the persistence of a chemical in soil and ground water. As the half-life increases, the chemical persistence in the media increases. Published data suggest that the concentration of a chemical after it is released to the environment will decrease over time (expressed as the half-life) through the primary loss mechanisms of volatilization, photolysis, sorption, and biodegradation (see below). Benzene has a moderately long ground water half-life.

3.2 Natural Attenuation Processes

The term natural attenuation describes a variety of physical, biological, and chemical processes which act under favorable conditions and without human intervention (i.e., naturally) to reduce the mass and contaminant concentrations of organic compounds such as petroleum hydrocarbons. These processes include biodegradation, dispersion and dilution, sorption, volatilization, and various chemical reactions. The dominant mechanism concerning the destruction of dissolved petroleum hydrocarbons in most ground water systems is biodegradation (Wiedemeier et al, 1998).

Petroleum hydrocarbons are biodegraded via biological oxidation when electron donors, electron acceptors, and nutrients are combined by microorganisms to produce metabolic by-products and energy for microbial growth (Wiedemeier et al, 1998). The primary force in the biodegradation process is the transfer of electrons from an electron donor (the petroleum hydrocarbon) to an electron acceptor. Aerobic biodegradation occurs when oxygen is used as the terminal electron acceptor. Anaerobic biodegradation occurs after oxygen levels have been reduced or depleted.

Dissolved oxygen is the most favored electron acceptor for microbes that degrade petroleum hydrocarbons. As aerobic respiration occurs, dissolved oxygen levels are reduced or depleted within and adjacent to the plume. Denitrification is the first form of anaerobic biodegradation to occur. During this process, nitrate is the electron acceptor used by microorganisms to mineralize petroleum hydrocarbons, and nitrate levels will decrease within and adjacent to the plume. After denitrification occurs, ferric iron and sulfate can be used as electron acceptors to degrade petroleum hydrocarbons via iron and sulfate reduction. The reduction of ferric iron, which is insoluble, typically results in elevated concentrations of ferrous iron (which is soluble) in ground water within and adjacent to the plume. Sulfate reduction results in decreased sulfate concentrations within the plume. The final sequential form of anaerobic biodegradation is methanogenesis, during which methane is produced within the plume. The presence of methane is indicative of strongly reducing conditions.

Ground water geochemical data will be collected at the site as part of the ground water monitoring plan outlined in Section 5 below to determine which biodegradation processes are occurring. It should be noted, however, that because the plume concentrations at the site are low (and soil remediation is complete), evidence of biodegradation may not be as pronounced as it would at a site with significantly higher dissolved contaminant concentrations.

3.3 Modeling

The *Bioscreen Natural Attenuation Decision Support System (Bioscreen)* was used to model the natural attenuation and degradation of benzene at the site. The movement of benzene through the aquifer was modeled assuming no degradation (only physical processes) and as a first-order decay process. The first-order decay model uses a first-order decay coefficient, based on the ground water half-life of the compound being modeled, as a calibration parameter to account for uncertainties regarding factors such as dispersion, sorption, and biodegradation. Site specific hydrogeologic conditions were used in the model. The soil bulk density was estimated based on the most frequently used value. Published information regarding fraction of organic carbon and the half-life of benzene were used in the model. The most conservative benzene half-life value (2 years or 730 days) was used (Howard et al., 1991).

The model results indicate the dissolved benzene concentration will be reduced to a concentration below the 2L ground water standard (1 ppb) within a distance of 70 feet (first order decay) to 140 feet (no degradation) from MW-1. A copy of the modeling results is included in Appendix B. These results confirm that monitored natural attenuation is the most practical remedial option for the site.

4 Proposed Corrective Action Plan

Based on the information presented above, the proposed corrective action plan for the site consists of monitored natural attenuation of ground water exceeding 2L ground water standards in accordance with NCAC Title 15A Subchapter 2L, Section .0106(l). The following sections address each specific point under NCAC Title 15A Subchapter 2L, Section .0106(l).

1. The petroleum ASTs, loading rack, and dispenser island were removed several years ago. No free product has been detected at the site. All accessible (i.e., non-saturated) petroleum impacted soils containing TPH at concentrations exceeding DENR action levels have been excavated from the site and transported off-site for treatment and disposal.

2. The dissolved petroleum constituents (specifically benzene) detected are predicted to attenuate/biodegrade based on published literature, site conditions, and modeling results.

3. The time and direction of contaminant travel can be predicted with reasonable certainty with the existing site data and periodic ground water monitoring. The linear seepage velocity for ground water is calculated to be approximately 5.11 feet/year.

4. The results of ground water modeling indicate the dissolved benzene contaminant concentrations will attenuate/biodegrade to concentrations below 2L ground water standards before reaching any existing or foreseeable receptor.

5. The site and surrounding properties are served by the City of Wilson municipal water supply, which is obtained from two surface water sources approximately two and one half to six miles from the site. These sources would be unaffected by the dissolved contamination detected at the site.

6. The dissolved contaminant plume is not expected to intercept surface waters.

7. Duncklee & Dunham proposes a monitoring program to track the attenuation/biodegradation of the petroleum contaminants within the plume and the ground water downgradient of the plume. Semiannual sampling of the wells is proposed for a period of three years. The monitoring plan is outlined below.

8. No access agreements are necessary at this time or are expected to be necessary in the future for the ground water monitoring activities. All existing wells are located on the property of Southern States.

9. Public notice is being provided by certified mail concurrent with the submittal of this CAP to the Wilson County Health Director, the Wilson City Manager, and adjacent landowners to the Southern States property (see Appendix C).

10. This CAP is intended to be consistent with all applicable environmental laws.

5 Ground Water Monitoring Plan

5.1 Methodology

A baseline ground water sampling event will be performed within 30 days of approval of this CAP. After the initial event, sampling will be performed on a semiannual basis.

During each sampling event, water levels will be measured in each well using a decontaminated electronic water level probe. Each well will then be purged of three well volumes to remove stagnant water so that a representative ground water sample can be collected. A peristaltic pump or disposable bailer will be used to purge and sample the wells.

Ground water samples will be submitted to a North Carolina certified analytical laboratory for analysis of BETX and MTBE according to Method 602. In order to evaluate the biodegradation processes occurring at the site, during the first year of monitoring, samples will be collected from the wells and submitted for laboratory analysis of the natural attenuation parameters nitrate and sulfate. Field measurements of dissolved oxygen, ferrous iron, oxidation reduction potential (ORP), temperature, and pH will also be collected.

Because the petroleum plume is limited and dissolved contaminant concentrations are low, the results for some of the natural attenuation parameters may not yield useful or quantifiable data. Therefore, after the first year of monitoring, the data will be evaluated to determine if any of the natural attenuation parameters should be eliminated from the monitoring plan. In addition, monitoring wells that have been shown to be upgradient and not impacted by the release may be eliminated from the sampling plan.

5.2 Reporting

A report will be prepared for each semiannual sampling event and submitted to the DENR – Raleigh Regional Office within 30-days of receipt of the ground water analytical results. Each report will include the following:

- Summary of ground water sampling activities including field and analytical testing results
- Dissolved contaminant isoconcentration maps
- Summary of water level measurements and ground water contour map
- Updated receptor survey information
- Evaluation of site data and conclusions pertaining to attenuation and plume degradation.

6 Notification Requirements

In accordance with 15A NCAC 2L.0114(b), notification letters are being sent to the Wilson County Health Department, the Wilson City Manager, and adjacent property owners via certified mail. A list of those notified and copies of the letters are included in Appendix C.

7 References

Montgomery, J.H., and L.M. Welkon, 1990, *Groundwater Chemicals Desk Reference:* Lewis Publishers; Chelsea, MI.

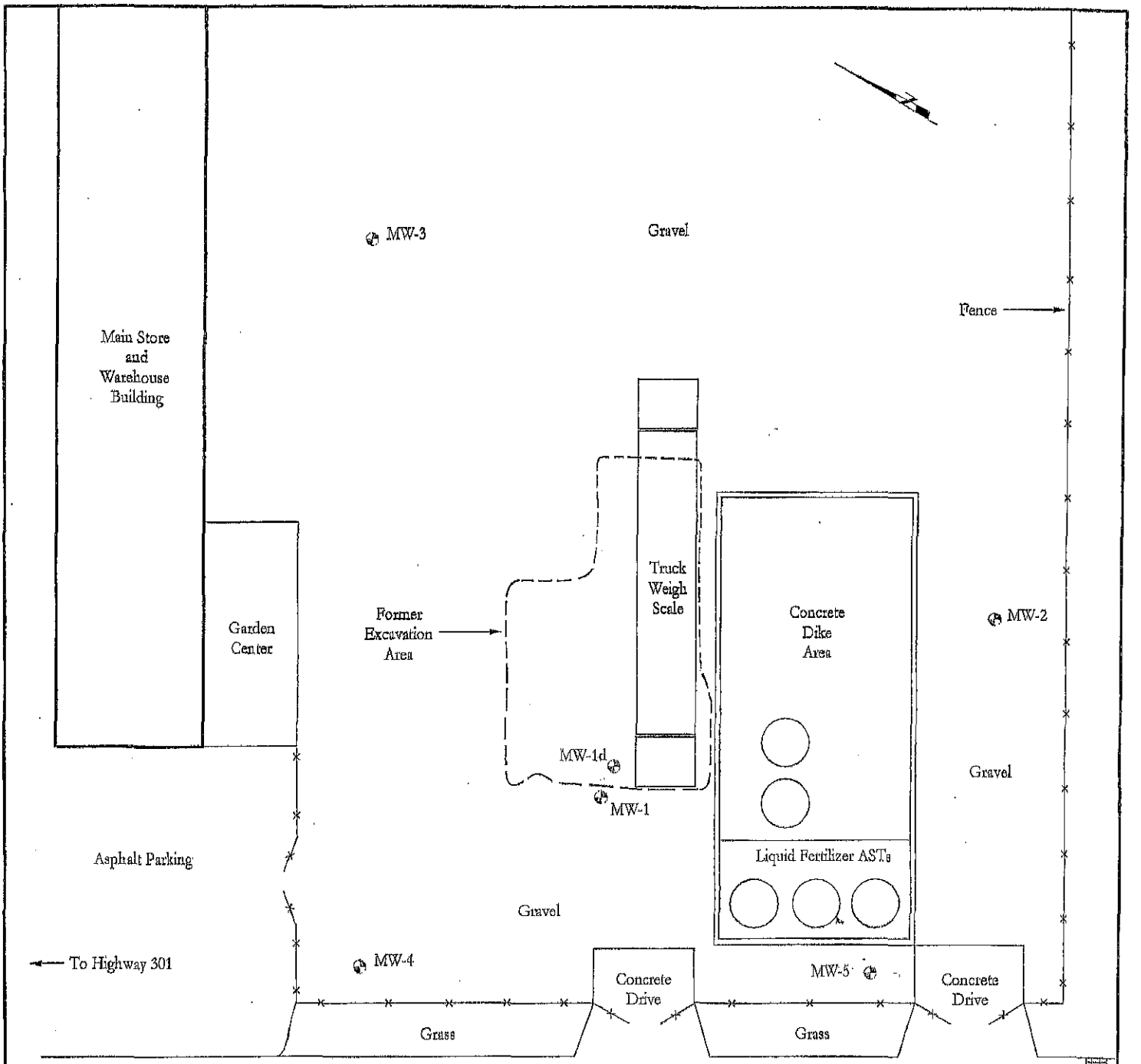
Wiedemeier, Todd H., 1999, *Natural Attenuation of Fuels and Chlorinated Solvents in the Subsurface:* John Wiley & Sons, Inc., New York, New York

Newell, C. J. and McLeod, R. K., 1997, *Bioscreen Natural Attenuation Decision Support System, November 1997 Program Version:* U.S. EPA National Risk Management Research Laboratory, Cincinnati, Ohio.

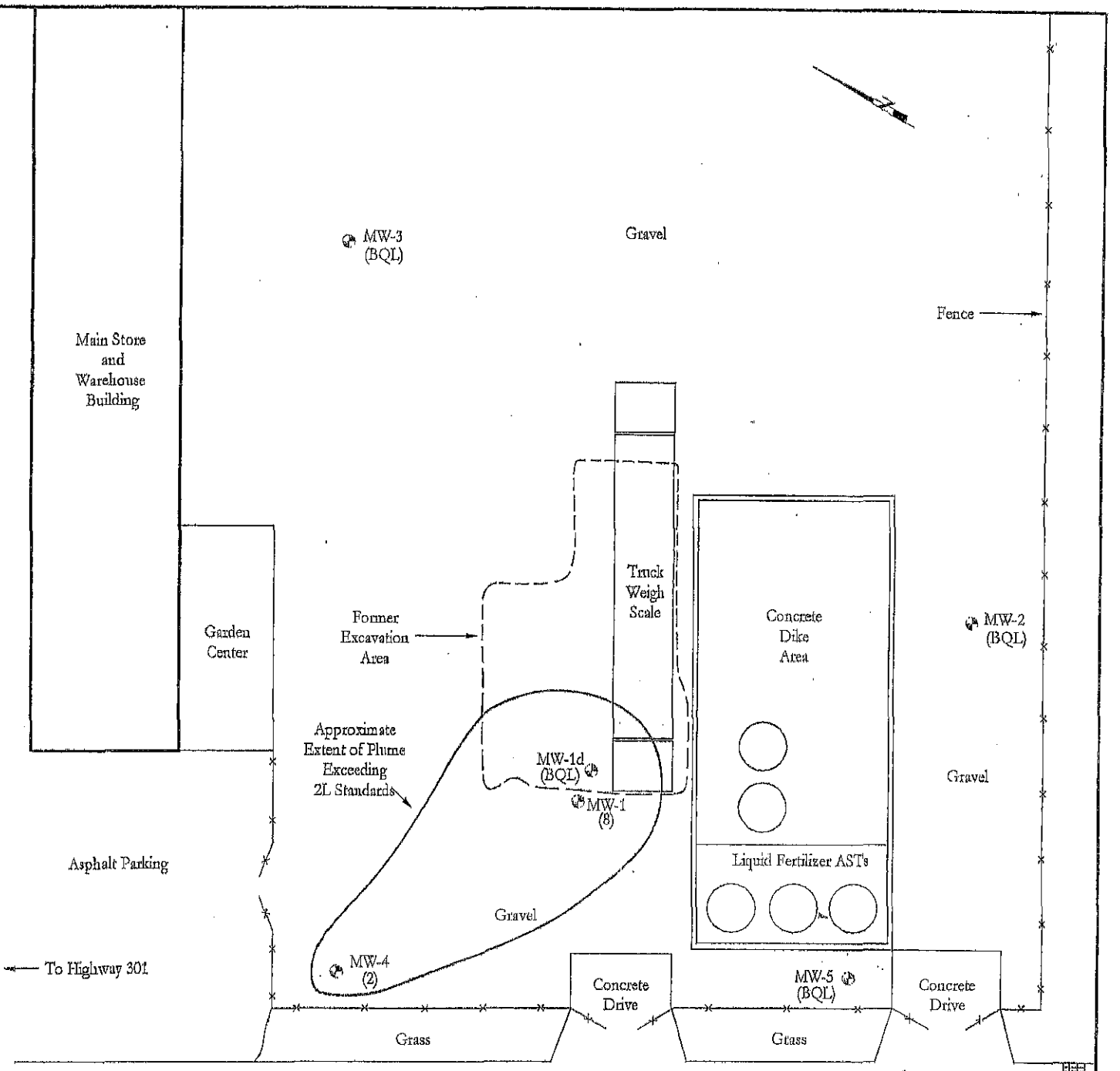
Pope, D.F. and Jones, J.N., 1999, *Monitored Natural Attenuation of Petroleum Hydrocarbons – Technology Fact Sheet:* U.S. EPA National Risk Management Research Laboratory, Ada, Oklahoma.

8 Certification

Please refer to Appendix D for the CAP certification.



Duncklee & Dunham, P. C. Environmental Consultants	*Author* dmr	*Drawing* 82700-5	*Layer* 0,1	*Date* 7-21-00	*Title* Site Plan
	Job No. 82700	*Revision* 8-31-00	*Figure* 2	*Scale* 1"=30'	*Project* Southern States Cooperative, Inc. Wilson, North Carolina



Legend:

MW-1	Monitoring Well Location
(8)	Benzene Concentration in ug/L (ppb)
BQL	Below Quantitation Limit

Duncklee & Dunham, P. C.
Environmental Consultants

Author dmr	*Drawing* 82700-5	*Layer* 0,2	*Date* 7-21-00	*Title* Dissolved Plume Exceeding 2L Standards (July 2000)
Job No. 82700	*Revision* 8-31-00	*Figure* 3	*Scale* 1"=30'	*Project* Southern States Cooperative, Inc. Wilson, North Carolina

Table 1. Physical and Chemical Characteristics of Common Petroleum Compounds.

Compound	Water Solubility (mg/L 25°C)	Koc (mL/g)	Fish BCF (L/kg)	Ground Water Half-Life (Days)
Benzene	1,780	49-100	5.2	10-730
Ethylbenzene	152-208	95-260	37.5	6-228
Toluene	490-627	115-150	10.7	7-28
Xylenes	162-200	128-1,580	132	14-365
MTBE	48,000	12	1.5	56-360
Naphthalene	30-34	550-3,160	10.5	1-258

Koc = Organic Carbon Partitioning Coeffcient
BCF = Bioconcentration Factor
Duncklee & Dunham Job No. 96200
00168

References:

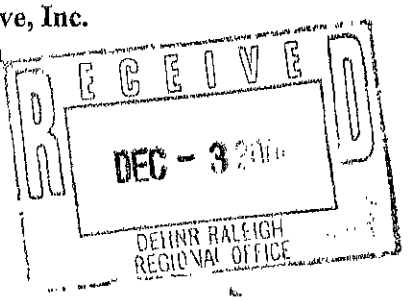
Montgomery, J.H., and L.M. Welkon, 1990. Groundwater Chemicals Desk Reference. Lewis Publishers, Inc., Chelsea MI.
Howard, P.H., R.S. Boethling, W.F. Jarvis, W.M. Meylan, and E.M. Michalenko, 1991. Handbook of Environmental Degradation Rates. Lewis Publishers, Inc., Chelsea MI.
USEPA, 1992. Toxic Substance Spreadsheet. USEPA Region IV Water Quality Section.

Ground Water Monitoring Report
Southern States Cooperative, Inc. – Wilson Service
Wilson, North Carolina
Groundwater Incident No. 21616
Site Ranking – 15E

November 29, 2001

Prepared For

Southern States Cooperative, Inc.
Richmond, Virginia



Submitted To

North Carolina Department of Environment
And Natural Resources
Division of Water Quality - Groundwater Section
1628 Mail Service Center
Raleigh, North Carolina 27699-1628

Prepared By

Duncklee & Dunham, P. C.
Raleigh, North Carolina

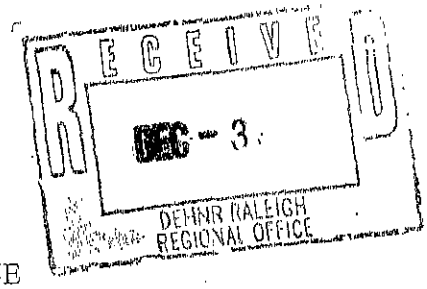
511 Kelsler Drive, Suite 102
Cary, North Carolina 27511

Post Office Box 33366
Raleigh, North Carolina 27636

Phone: 919.858.9898
Fax: 919.858.9899

November 29, 2001

Mr. Rick Bolich, Hydrogeologist
NC Department of Environment and Natural Resources
Division of Water Quality – Ground Water Section
1628 Mail Service Center
Raleigh, North Carolina 27699-1628



Reference: Ground Water Monitoring Report
Southern States Cooperative, Inc. – Wilson Service
Wilson, North Carolina
Groundwater Incident No. 21616 – Site Ranking 15E
Duncklee & Dunham Job No. 82700

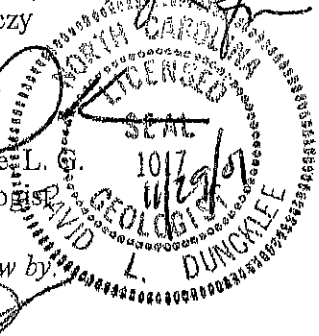
Dear Mr. Bolich:

On behalf of Southern States Cooperative, Inc. (Southern States), Duncklee & Dunham, P. C. is pleased to submit this *Ground Water Monitoring Report* for the above referenced facility. This report presents the results for the fourth consecutive quarterly ground water monitoring event. No North Carolina 2L ground water standards have been exceeded during this or the previous three monitoring events. Therefore, Southern States has met the requirements outlined in the *Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater* dated July 2000 and is requesting satisfactory closure of the subject ground water incident. If there are any questions or if you require any additional information, please do not hesitate to call us at (919) 858-9898 or Mr. Vance Dann of Southern States at (804) 281-1262.

Sincerely,

DUNCKLEE & DUNHAM, P. C.

Douglas M. Rakoczy
Project Geologist



David L. Duncklee, L. G.
Senior Hydrogeologist

Senior Peer Review by:

Thomas S. Dunham, P.G.
Senior Geologist

c: Mr. Vance Dann – Southern States Cooperative, Inc. (2)
01355/DMR/DLD/dmr

Ground Water Monitoring Report
Southern States Cooperative, Inc. – Wilson Service
Wilson, North Carolina
Groundwater Incident No. 21616
Site Ranking – 15E
November 29, 2001

1 Introduction

1.1 Site Background

The Southern States Cooperative, Inc. (Southern States) site is located along Highway 301 South in Wilson, North Carolina (see Figure 1). The facility is a retail center for farm, home and garden supplies and consists of a store and warehouse building, a garden center, and several fertilizer and material storage sheds.

Petroleum bulk storage and distribution operations were previously located in the south-southwestern portion of the site. The petroleum operations consisted of approximately 12 ASTs, a loading rack, and dispenser pumps, which were removed from the site in approximately 1986/1987. The ASTs were located within the concrete dike area (see Figure 2).

In September 1998, petroleum odors were noted in soils during the installation of footers for a truck scale. A release of petroleum was subsequently confirmed and reported to the North Carolina Department of Environment and Natural Resources (DENR) – Division of Water Quality, Raleigh Regional Office by Southern States. After a preliminary soil assessment, Southern States authorized the excavation of petroleum affected soils before the installation of the truck scale (see Figure 2 for the excavation limits). The results of soil excavation closure sampling indicated that all accessible impacted soils had been removed. These activities were detailed in the Duncklee & Dunham *Soil Excavation Report* dated November 23, 1998.

At the request of the DENR, monitoring well MW-1 was installed immediately adjacent to the western edge of the former excavation (see Figure 2). Ground water sampling results indicated trace levels of benzene, MTBE, and xylenes. Benzene was detected at 4 ug/L and 7 ug/L, and was the only compound detected above the North Carolina 2L ground water standard of 1 ug/L. These results, along with additional soil sampling and receptor survey information, were submitted to the DENR in a *Soil and Ground Water Sampling Report* dated April 18, 2000.

In correspondence dated May 8, 2000, DENR requested a Comprehensive Site Assessment (CSA) Report and a Corrective Action Plan (CAP) be prepared for the site. Four shallow wells (MW-2 through MW-5) and one Type III deep well (MW-1d) were installed to complete the ground water assessment. Benzene was detected at concentrations slightly exceeding the 2L standard in wells MW-1 and MW-4. Details of the CSA activities can be found in the Duncklee & Dunham *Comprehensive Site Assessment Report* dated July 28, 2000.

A CAP, dated October 30, 2000, was submitted to the DENR to address petroleum impacted ground water at the site. Based on the low levels of dissolved contamination and the lack of any potential receptors near the site, monitored natural attenuation was selected as the most practical ground water remedial approach.

In correspondence dated January 5, 2001, the DENR approved the CAP with one minor modification: ground water monitoring was to be performed on a quarterly basis during the first year of CAP implementation. This *Ground Water Monitoring Report* summarizes the results of the fourth quarterly ground water monitoring event recently performed at the site.

2 Ground Water Monitoring

2.1 Methodology

The fourth quarter ground water monitoring activities were conducted on October 23, 2001. Monitoring wells MW-1, MW-1d, and MW-2 through MW-5 were sampled on this date. A decontaminated peristaltic pump equipped with new, disposable polyethylene tubing (changed between wells) was used to purge and withdraw the sample at each well. The ground water samples were collected immediately after the completion of purging.

All samples were collected in laboratory provided glassware, labeled and logged onto a chain-of-custody form, and transported to the analytical laboratory in accordance with EPA protocols. The ground water samples were submitted to Pace Analytical Services, Inc. (Pace) in Huntersville, North Carolina. In accordance with the sampling plan outlined in the CAP, the samples were analyzed for benzene, ethylbenzene, toluene, xylenes (BETX), and methyl tertiary butyl ether (MTBE) according to Method 602. The samples were also analyzed in the laboratory for the natural attenuation indicator parameter sulfate. Field measurements were collected for dissolved oxygen (DO), ferrous iron, nitrate, oxidation reduction potential (ORP), pH, conductivity, and temperature.

2.2 Hydrogeologic Conditions

Water levels collected on October 23, 2001 (see Table 1) were used to create a shallow ground water contour map for the site (see Figure 3). The figure indicates a ridge or ground water high along a line between MW-4 and MW-1. Ground water flows radially away from this area towards wells MW-3, MW-2 and MW-5. The average horizontal hydraulic gradient is a relatively flat 0.004 ft/ft. The current ground water flow data is consistent with previous site data.

2.3 Petroleum Analytical Results

The ground water analytical results indicated that well MW-1 contained xylenes at a concentration of 24.9 ug/L (parts per billion or ppb) and well MW-5 contained MTBE at a concentration of 1.4 ug/L (ppb). These concentrations are significantly below the North Carolina 2L ground water standards of 530 ug/L (ppb) for xylenes and 200 ug/L (ppb) for MTBE. None of the BETX compounds or MTBE were detected in wells MW-1d or MW-2 through MW-4.

The petroleum ground water analytical data for the site is summarized in Table 2. A copy of the laboratory analytical report for the current sampling event is included in Appendix A.

This sampling event marks the fourth consecutive event during which no dissolved petroleum constituents were detected at the site at concentrations exceeding North Carolina 2L ground water standards.

2.4 Natural Attenuation Parameter Results

As detailed in the CAP, biodegradation of a dissolved petroleum hydrocarbon plume will occur by the following processes in sequential order: aerobic respiration, denitrification, iron (III, or ferric) reduction, sulfate reduction, and methanogenesis. However, it should be noted that site specific variables can cause this sequence to be interrupted or, in some cases, a process can be passed over entirely.

During this sampling event, DO levels were low in all of the shallow wells across the site, with levels in wells MW-1, MW-2, MW-4, and MW-5 less than 0.5 mg/L (parts per million or ppm). These results confirm DO levels are depleted within the current and former area of the plume, which is evidence of aerobic respiration.

Well MW-2, located directly downgradient of the former AST area, did not contain detectable nitrate, while nitrate was detected in several perimeter and upgradient wells. This serves as limited evidence of denitrification in the aquifer.

The presence of ferrous iron within or adjacent to the plume is an indication that ferric iron reduction by microorganisms is occurring. Wells MW-1, MW-2, and MW-5, located directly adjacent to and downgradient of the former AST area, contained ferrous iron at slightly to moderately concentrations of 1.4, 3.8, and 3.0 mg/L (ppm), respectively. These levels are noticeably greater than those for the other shallow wells. Therefore, ferrous iron production is apparent.

The sulfate results are similar to the nitrate results, with some evidence of sulfate reduction in the vicinity of MW-2, but no distinct pattern to the results for the remaining wells. Therefore, there is only very limited evidence for sulfate reduction conditions at the site.

The ground water natural attenuation parameter results are summarized in Table 3. The results continue to show evidence of biodegradation processes (specifically aerobic respiration and ferric iron reduction) in ground water directly adjacent to, and downgradient of, the former AST area. Because the dissolved plume at the site has consisted of only trace to low concentrations and soil remediation is complete, evidence of biodegradation is not as pronounced as it likely would be if contaminant levels were higher.

3 Receptor Survey Update

As indicated in the CSA, the site and surrounding area are served by the City of Wilson public water supply, and there are no known water supply wells near the site. In addition, there are no surface water bodies near the site. No new or previously undiscovered information was obtained during the most recent site visit. Therefore, there are no changes to the receptor survey information presented in the CSA report.

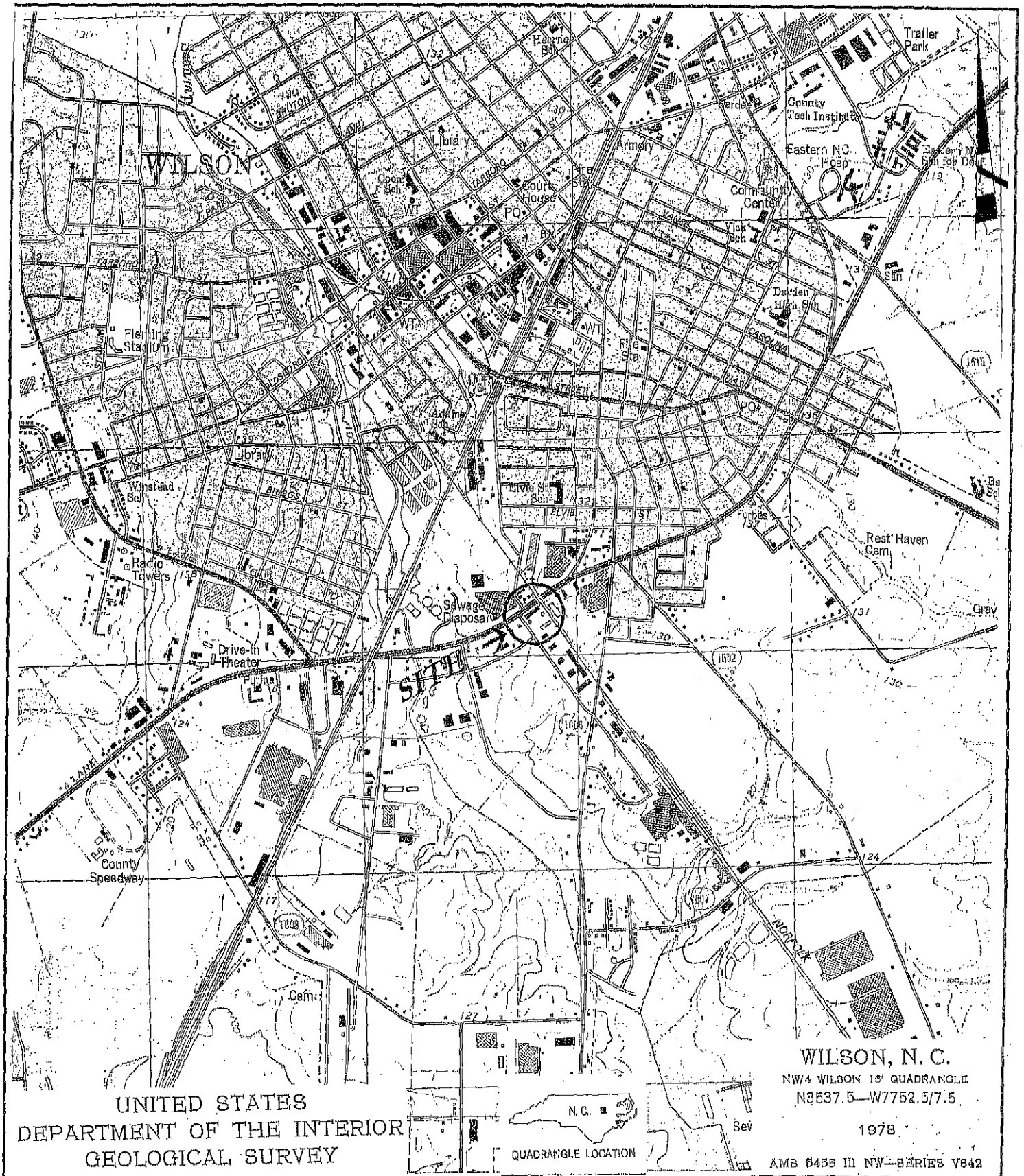
4 Conclusions

Based on the information presented in this report, Duncklee & Dunham offers the following conclusions:

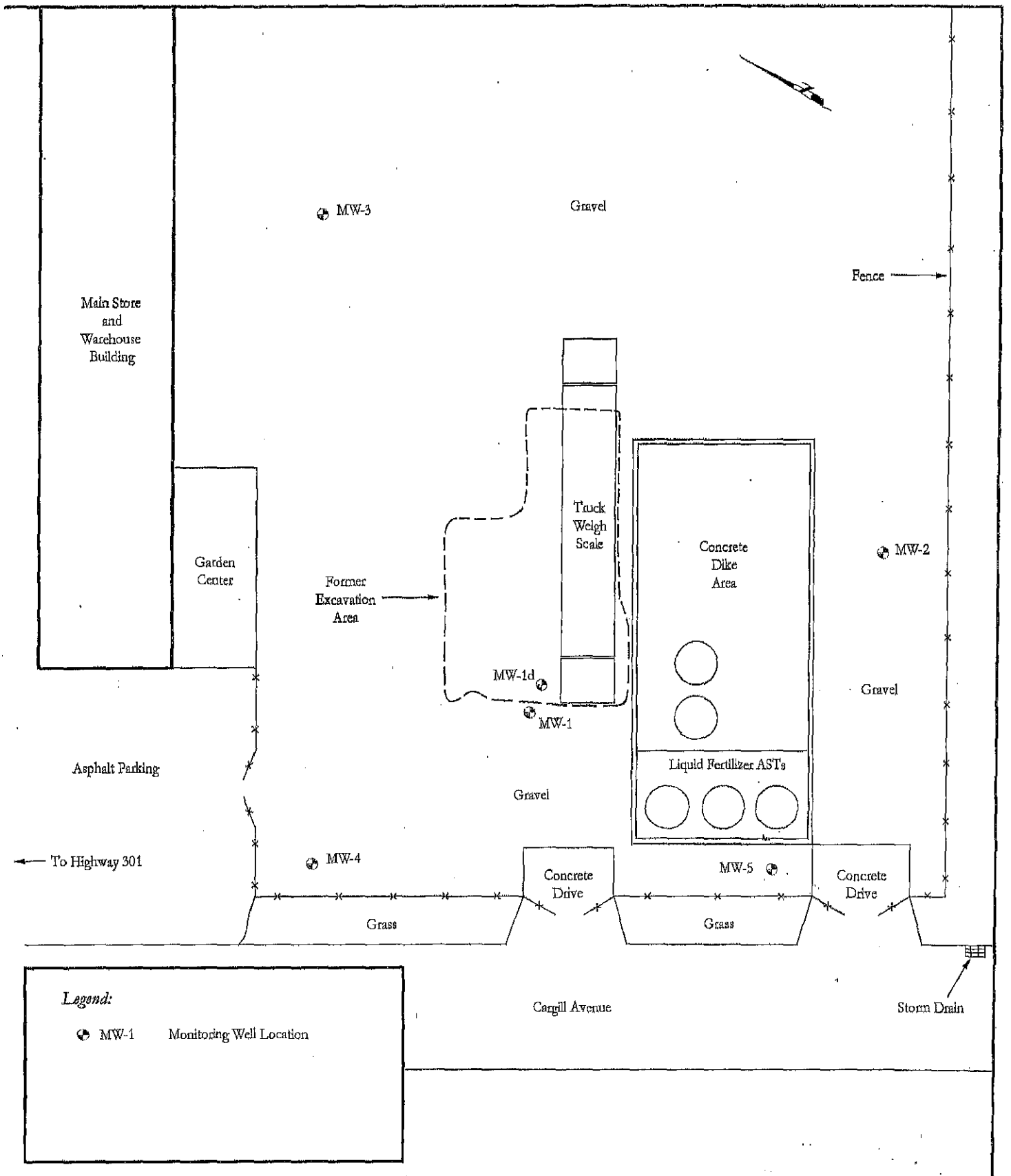
- The fourth consecutive quarterly ground water monitoring event was completed on October 23, 2001. The ground water analytical results indicated a low level of xylenes in well MW-1 and a trace level of MTBE in MW-5. The concentrations detected are significantly below North Carolina 2L ground water standards.

- No BETX compounds or MTBE were detected in shallow wells MW-2 through MW-4 or intermediate well MW-1d.

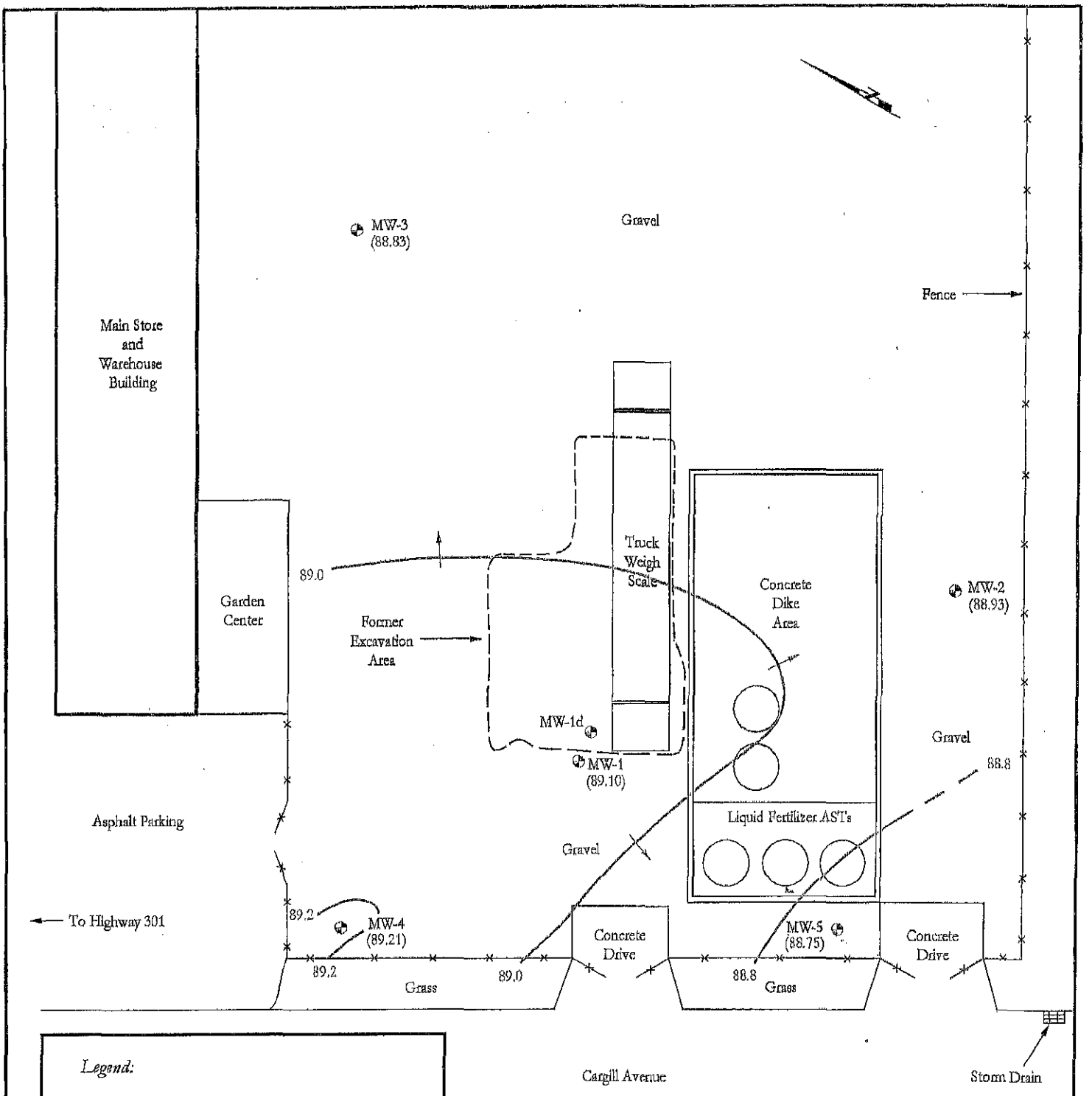
- This is the fourth consecutive quarterly sampling event in which three were no violations of the North Carolina 2L ground water standards in any of the monitoring wells. Based on this data, Southern States has met the conditions for site closure as outlined in the *Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater* dated July 2000. Therefore, Duncklee & Dunham, on behalf of Southern States, is petitioning the DENR for satisfactory closure of the subject ground water incident.



Duncklee & Dunham, P.C. Environmental Consultants	*Author* dld	*Drawing* 82700-0	*Layer*	*Date* 11/23/98	*Title* Topographic Map
	Job No. 82700	*Revision* 0	*Figure* 1	*Scale* 1"=2000'	*Project* Southern States Cooperative, Inc. Wilson, North Carolina



Duncklee & Dunham, P. C. Environmental Consultants	Author dcm	Drawing 82700-3	Layer 0,1	Date 7-21-00	Title Site Plan
	Job No. 82700	Revision 11-7-01	Figure 2	Scale 1"=30'	Project Southern States Cooperative, Inc. Wilson, North Carolina



Duncklee & Dunham, P. C. Environmental Consultants	*Author* dmr	*Drawing* 82700-3	*Layer* 0,9	*Date* 7-21-00	*Title* Ground Water Contour Map (10-23-01)
	Job No. 82700	*Revision* 11-7-01	*Figure* 3	*Scale* 1"=30'	*Project* Southern States Cooperative, Inc. Wilson, North Carolina

Table 1. **Monitoring Well Construction and Ground Water Elevation Data.**

Well ID	Screen Interval Below Grade (Feet)	TOC Elevation (Feet)	Date	Depth to Ground Water (Feet)	Ground Water Elevation (Feet)
MW-1	5 – 17	100.00	7/6/00	10.06	89.94
			2/22/01	11.10	88.90
			5/17/01	10.68	89.32
			8/21/01	10.18	89.82
			10/23/01	10.90	89.10
MW-1d	31 – 36	100.21	7/6/00	10.36	89.85
			2/22/01	NM	NM
			5/17/01	9.22	90.99
			8/21/01	8.85	91.36
			10/23/01	10.03	90.18
MW-2	6.5 – 16.5	99.43	7/6/00	9.98	89.45
			2/22/01	10.77	88.66
			5/17/01	10.13	89.30
			8/21/01	9.65	89.78
			10/23/01	10.50	88.93
MW-3	6.5 – 16.5	102.29	7/6/00	12.78	89.51
			2/22/01	13.76	88.53
			5/17/01	13.38	88.91
			8/21/01	13.00	89.29
			10/23/01	13.46	88.83
MW-4	6 – 16	100.35	7/6/00	10.56	89.79
			2/22/01	11.40	88.95
			5/17/01	10.95	89.40
			8/21/01	10.54	89.81
			10/23/01	11.14	89.21
MW-5	6.6 – 16.6	99.03	7/6/00	9.50	89.53
			2/22/01	10.68	88.35
			5/17/01	10.15	88.88
			8/21/01	9.82	89.21
			10/23/01	10.28	88.75

All elevations referenced to assumed elevation of 100.00 feet
TOC = Top of Casing
NM = Well not measured
Duncklee & Dunham Job No.82700
01355

Table 2. Ground Water Petroleum Analytical Results (in ug/L)

MW-1

Analyte	2/4/2000	3/21/2000	7/6/2000	2/22/2001	5/17/2001	8/21/2001	10/23/2001	2L Standard
Purgeable Aromatic Compounds								
Benzene	4	7	8	.	.	.	.	1
Ethylbenzene	.	.	.	.	.	.	.	29
Toluene	.	.	.	.	.	.	.	1000
Xylenes	.	5	.	.	10.3	11.1	24.9	530
MTBE	12	19	10	.	5.9	2.2	.	200

MW-1d

Analyte			7/6/2000	2/22/2001	5/17/2001	8/21/2001	10/23/2001	2L Standard
Purgeable Aromatic Compounds								
Benzene			.		.	.	.	1
Ethylbenzene			.		.	.	.	29
Toluene			.		.	.	.	1000
Xylenes			.		.	.	.	530
MTBE			.		.	.	.	200

MW-2

Analyte			7/6/2000	2/22/2001	5/17/2001	8/21/2001	10/23/2001	2L Standard
Purgeable Aromatic Compounds								
Benzene			.	.	.	.	.	1
Ethylbenzene			.	.	.	.	.	29
Toluene			.	.	.	.	.	1000
Xylenes			.	.	.	.	.	530
MTBE			.	.	.	.	.	200

MW-3

Analyte			7/6/2000	2/22/2001	5/17/2001	8/21/2001	10/23/2001	2L Standard
Purgeable Aromatic Compounds								
Benzene			.	.	.	.	.	1
Ethylbenzene			.	.	.	.	.	29
Toluene			.	.	.	.	.	1000
Xylenes			.	.	.	.	.	530
MTBE			.	.	.	.	.	200

All results in ug/L (ppb)

. = Indicates results below quantitation limit of 1 ppb

Blank cell = Not sampled

Table 2. Ground Water Petroleum Analytical Results (in ug/L)

MW-4

Analyte			7/6/2000	2/7/2001	5/17/2001	8/21/2001	10/23/2001	2L Standard
Purgeable Aromatic Compounds								
Benzene			2	.	.	.	.	1
Ethylbenzene			.	.	.	.	.	29
Toluene			.	.	.	.	.	1000
Xylenes			7	.	.	.	.	530
MTBE			3	1.4	2.3	.	.	200

MW-5

Analyte			7/6/2000	2/22/2001	5/17/2001	8/21/2001	10/23/2001	2L Standard
Purgeable Aromatic Compounds								
Benzene			.	.	.	.	.	1
Ethylbenzene			.	.	.	.	.	29
Toluene			.	.	.	.	.	1000
Xylenes			.	.	.	.	.	530
MTBE			.	.	1.4	.	1.4	200

All results in ug/L (ppb)

. = Indicates results below quantitation limit of 1 ppb

Blank cell = Not sampled

Table 3. Gound Water Natural Attenuation Parameter Results

MW-1

Parameter	2/22/2001	5/17/2001	8/21/2001	10/23/2001
pH	4.1*	4.2*	4.4*	4.4*
ORP (mV)	313*	306*	252*	228*
DO (mg/L)	2.87*	0.45*	0.20*	0.39*
Nitrate (mg/L)	110	>5*	43.2*	>44*
Ferrous Iron (mg/L)	<0.1*	1.8*	4.2*	1.4*
Sulfate (mg/L)	22	34	94	98

MW-1d

Parameter	2/22/2001	5/17/2001	8/21/2001	10/23/2001
pH		6.1*	6.1*	
ORP (mV)		156*	68*	
DO (mg/L)		0.58*	1.2*	1.18*
Nitrate (mg/L)		<0.1*	<0.1*	<0.1*
Ferrous Iron (mg/L)		1.4*	1.2*	2.2*
Sulfate (mg/L)		9	9.4	10

MW-2

Parameter	2/22/2001	5/17/2001	8/21/2001	10/23/2001
pH	5.6*	6.5*	5.9*	6.4*
ORP (mV)	40*	46*	34*	120*
DO (mg/L)	2.44*	3.02*	0.15*	0.49*
Nitrate (mg/L)	<0.1	<0.1*	<0.1*	<0.1*
Ferrous Iron (mg/L)	6.2*	6.0*	7.4*	3.8*
Sulfate (mg/L)	<1	<1	1.6	1.2

MW-3

Parameter	2/22/2001	5/17/2001	8/21/2001	10/23/2001
pH	4.7*	5.4*	5.0*	6.1*
ORP (mV)	-3*	176*	205*	301*
DO (mg/L)	4.42*	0.85*	0.23*	0.89*
Nitrate (mg/L)	1.3	<0.1*	26.4*	2.2*
Ferrous Iron (mg/L)	0.6*	<0.1*	0.4*	0.4*
Sulfate (mg/L)	2.7	2.9	3.3	6.0

** = Field measured parameter*

Blank cell = Parameter not measured

Appendix A

Table 3. Gound Water Natural Attenuation Parameter Results

MW-4

Parameter	2/22/2001	5/17/2001	8/21/2001	10/23/2001
pH	4.2*	4.4*	4.2*	5.4*
ORP (mV)	179*	303*	293*	297*
DO (mg/L)	2.94*	0.58*	0.14*	0.42*
Nitrate (mg/L)	25	0.44*	32.6*	35.2*
Ferrous Iron (mg/L)	<0.1*	0.5*	0.4*	0.4*
Sulfate (mg/L)	4.3	2.3	4.1	14

MW-5

Parameter	2/22/2001	5/17/2001	8/21/2001	10/23/2001
pH	5.42*	5.5*	5.5*	6.7*
ORP (mV)	111*	160*	165*	329*
DO (mg/L)	1.98*	0.34*	0.18*	0.38*
Nitrate (mg/L)	<0.1	4.4*	9.68*	13.2*
Ferrous Iron (mg/L)	2.6*	3.6*	4.6*	3.0*
Sulfate (mg/L)	4.5	50	21	20

** = Field measured parameter*

Blank cell = Parameter not measured

State of North Carolina
Department of Environment and Natural Resources
Raleigh Regional Office

Michael F. Easley, Governor
William G. (Bill) Ross, Secretary

NCDENR
North Carolina Department of Environment and Natural Resources

December 17, 2001

Mr. Vance Dann
Southern States Cooperative, Inc.
Post Office Box 26234
Richmond, Virginia 23260

RE: Approval – Site Closure Request
Southern States Cooperative – Wilson Service
Wilson, North Carolina
Wilson County
Groundwater Incident No. 21616
Site Ranking - 15E

Dear Mr. Dann:

The following letter is submitted to advise you that the Division of Water Quality's Raleigh Regional Office (RRO) Groundwater Section is closing the subject incident file. The facility is located in Wilson, North Carolina.

A review of the file and information submitted by Dunklee and Dunham, P.C. indicates that contamination at the subject facility has been remediated to the extent determined necessary to comply with current State regulations and guidelines.

Please note that this office may not have conducted a site visit prior to closure and is relying on the accuracy of the information submitted by you and your agent to make this determination.

In closing this file, the Section reserves the right to reopen its investigation should information become available which indicates the cleanup at this site does not meet regulatory requirements for site closure.

Should you have any questions, please contact Rick Bolich or me at (919) 571-4700.

Sincerely,

S. Jay Zimmerman, L.G.
Environmental Regional Supervisor

cc: Arthur Mouberry
Mr. David Duncklee, L.G.; Duncklee & Dunham, P.C.; P.O. Box 33366; Raleigh, NC 27636

DUNCKLEE & DUNHAM
ENVIRONMENTAL CONSULTANTS

511 Kelsler Drive, Suite 102
Cary, North Carolina 27511

Post Office Box 33366
Raleigh, North Carolina 27636

Phone: 919.858.9898
Fax: 919.858.9899

RECEIVED
FEB 12 2002
DEHNR RALEIGH REGIONAL OFFICE

February 8, 2002

Mr. Rick Bolich, Hydrogeologist
North Carolina Department of Environment and Natural Resources
Division of Water Quality – Ground Water Section
1628 Mail Service Center
Raleigh, North Carolina 27699-1628

Reference: Monitoring Well Abandonment Record
Southern States Cooperative, Inc. – Wilson Service
Groundwater Incident No. 21616
Duncklee & Dunham Job No. 82700

Dear Mr. Bolich:

Duncklee & Dunham, P. C., on behalf of Southern States Cooperative, Inc. (Southern States), is pleased to submit the attached *Well Abandonment Records* for the above referenced site. In a letter dated December 17, 2001, the North Carolina Division of Water Quality's Raleigh Regional Office Groundwater Section granted site closure. Therefore, on January 16, 2002, Troxler Geologic Services, Inc. abandoned the six ground water monitoring wells (MW-1, MW-1d, and MW-2 through MW-5) at the site in accordance with North Carolina regulations.

If you have any questions or require additional information please do not hesitate to contact Mr. Tom Dunham of Duncklee & Dunham at (919) 858-9898 or Mr. Vance Dann of Southern States at (804) 281-1262.

Sincerely,

DUNCKLEE & DUNHAM, P. C.

Thomas S. Dunham
Senior Geologist

David L. Duncklee, L.G.
Senior Hydrogeologist

c: Mr. Vance Dann – Southern States Cooperative, Inc. (2)

02029/TSD/tsd

North Carolina
Department of Environment and Natural Resources
Division of Water Quality
Groundwater Section
P.O. Box 29578 - Raleigh, N.C. 27626-0578

MW-1

WELL ABANDONMENT RECORD BEN TROXLER (FOR)

CONTRACTOR TROXLER GEOLOGIC SERVICES INC. REG. NO. 2511

1. WELL LOCATION: (Show a sketch of the location on back of form.)
Nearest Town: WILSON County WILSON
Highway 301 S
(Road, Community, Subdivision, Lot No.) Quadrangle No.

2. OWNER: Southern States Wilson Service

3. ADDRESS: Wilson, NC

4. TOPOGRAPHY : draw, slope, hilltop, valley (flat)

5. USE OF WELL: MONITORING DATE: _____

6. TOTAL DEPTH: 17' DIAMETER: 2"

7. CASING REMOVED: NONE

feet	diameter

8. SEALING MATERIAL:

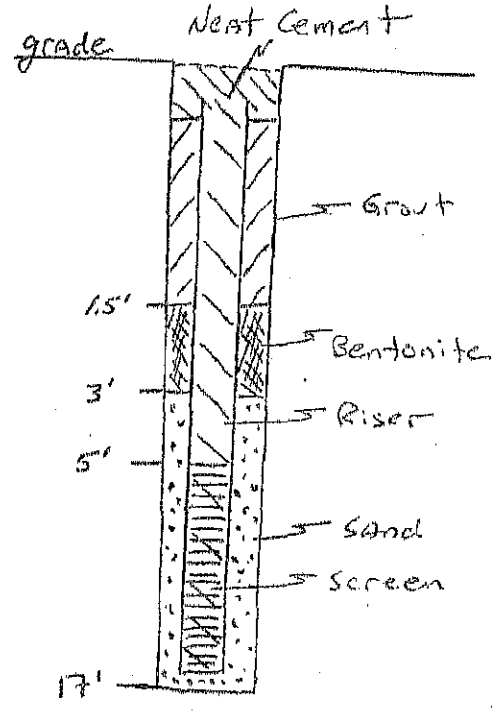
(Neat cement)	Sand cement
bags of cement	bags of cement
gals. of water	yds. of sand
	gals. of water

Other
Type material: APPROX. 5% BENONITE

Amount

9. EXPLAIN METHOD EMPLACEMENT OF MATERIAL.
PUMPED THROUGH TREMIE PIPE FROM BOTTOM TO TOP

WELL DIAGRAM: Draw a detailed sketch of the well showing total depth, depth and diameter of screens remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.



I do hereby certify that this well abandonment record is true and exact.

Signature of Contractor or Agent Ben Troxler Date 1-17-02

WELL LOCATION: Draw a location sketch on the reverse of this sheet, showing the direction and distance of the well to at least two (2) nearby reference points such as roads, intersections and streams. Identify roads with State Highway road identification numbers.

Submit original to the Division of Water Quality, one copy to the Driller, and one copy to the owner.

North Carolina
Department of Environment and Natural Resources
Division of Water Quality
Groundwater Section
P.O. Box 29578 - Raleigh, N.C. 27626-0578

MW-2

WELL ABANDONMENT RECORD BEN TROXLER (FOR)

CONTRACTOR TROXLER GEOLOGIC SERVICES INC REG. NO. 2511

1. WELL LOCATION: (Show a sketch of the location on back of form.)
Nearest Town: WILSON County WILSON
Highway 301
(Road, Community, Subdivision, Lot No.) Quadrangle No.

2. OWNER: Southern States Wilson Service

3. ADDRESS: Wilson, NC

4. TOPOGRAPHY : draw, slope, hilltop, valley (flat)

5. USE OF WELL: MONITORING DATE: _____

6. TOTAL DEPTH: 16.5' DIAMETER: 2"

7. CASING REMOVED: NONE

feet	diameter

8. SEALING MATERIAL:

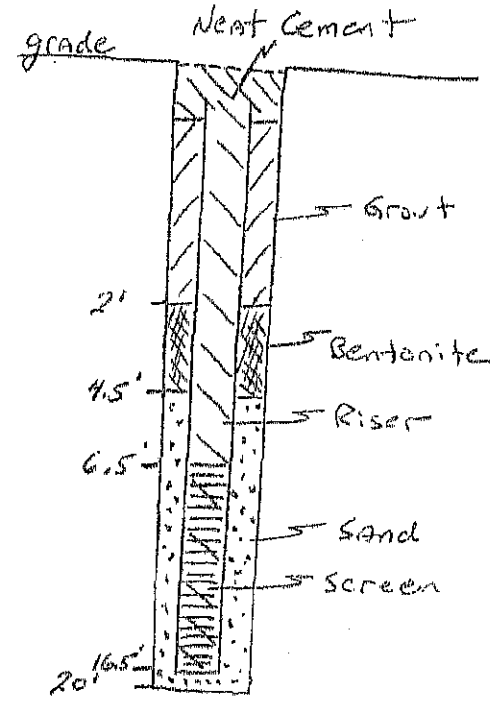
(Neat cement)	Sand cement
bags of cement _____	bags of cement _____
gals. of water _____	yds. of sand _____
	gals. of water _____

Other
Type material APPROX. 5% BENTONITE

Amount _____

9. EXPLAIN METHOD EMPLACEMENT OF MATERIAL.
PUMPED THROUGH TREMIE PIPE FROM BOTTOM TO TOP

WELL DIAGRAM: Draw a detailed sketch of the well showing total depth, depth and diameter of screens remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.



I do hereby certify that this well abandonment record is true and exact.

Signature of Contractor or Agent _____ Date 1-17-02

WELL LOCATION: Draw a location sketch on the reverse of this sheet, showing the direction and distance of the well to at least two (2) nearby reference points such as roads, intersections and streams. Identify roads with State Highway road identification numbers.

Submit original to the Division of Water Quality, one copy to the Driller, and one copy to the owner.

North Carolina
Department of Environment and Natural Resources
Division of Water Quality
Groundwater Section
P.O. Box 29578 - Raleigh, N.C. 27626-0578

MW-3

WELL ABANDONMENT RECORD BEN TROXLER (FOR)

CONTRACTOR TROXLER GEOLOGIC SERVICES INC REG. NO. 2511

1. WELL LOCATION: (Show a sketch of the location on back of form.)
Nearest Town: WILSON County WILSON
Highway 301 S
(Road, Community, Subdivision, Lot No.) Quadrangle No.

2. OWNER: Southern States Wilson Service

3. ADDRESS: Wilson, NC

4. TOPOGRAPHY : draw, slope, hilltop, valley (flat)

5. USE OF WELL: MONITORING DATE: _____

6. TOTAL DEPTH: 16.5' DIAMETER: 2"

7. CASING REMOVED: NONE

feet	diameter

8. SEALING MATERIAL:

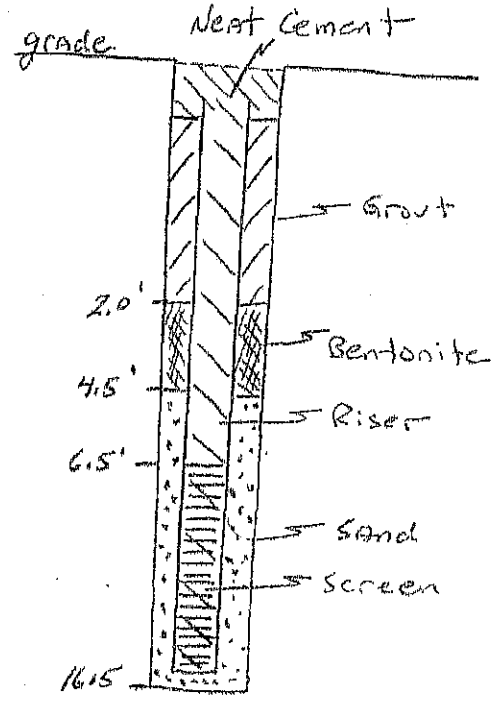
(Neat cement)	Sand cement
bags of cement	bags of cement
gals. of water	yds. of sand
	gals. of water

Other
Type material APPROX. 5% BENONITE

Amount

9. EXPLAIN METHOD EMPLACEMENT OF MATERIAL.
PUMPED THROUGH TREMIE PIPE FROM BOTTOM TO TOP

WELL DIAGRAM: Draw a detailed sketch of the well showing total depth, depth and diameter of screens remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.



I do hereby certify that this well abandonment record is true and exact.

Signature of Contractor or Agent Ben Troxler Date 1-17-02

WELL LOCATION: Draw a location sketch on the reverse of this sheet, showing the direction and distance of the well to at least two (2) nearby reference points such as roads, intersections and streams. Identify roads with State Highway road identification numbers.

Submit original to the Division of Water Quality, one copy to the Driller, and one copy to the owner.

North Carolina
Department of Environment and Natural Resources
Division of Water Quality
Groundwater Section
P.O. Box 29578 - Raleigh, N.C. 27626-0578

MW-4

WELL ABANDONMENT RECORD BEN TROXLER (FOR)

CONTRACTOR TROXLER GEOLOGIC SERVICES INC. REG. NO. 2511

1. WELL LOCATION: (Show a sketch of the location on back of form.)
Nearest Town: WILSON County WILSON
Highway 301 S
(Road, Community, Subdivision, Lot No.) Quadrangle No.

2. OWNER: Southern States Wilson Service

3. ADDRESS: Wilson, NC

4. TOPOGRAPHY : draw, slope, hilltop, valley (flat)

5. USE OF WELL: MONITORING DATE:

6. TOTAL DEPTH: 16' DIAMETER: 2"

7. CASING REMOVED: NONE

feet	diameter

8. SEALING MATERIAL:

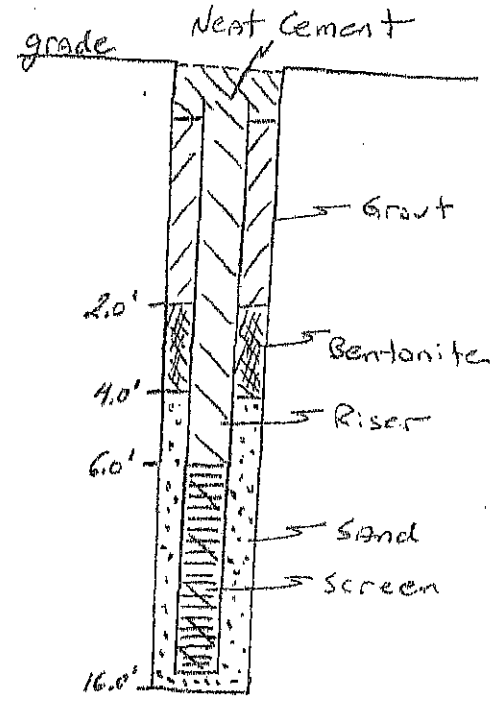
(Neat cement)	Sand cement
bags of cement	bags of cement
gals. of water	yds. of sand
	gals. of water

Other
Type material APPROX. 5% BENAWITE

Amount

9. EXPLAIN METHOD EMPLACEMENT OF MATERIAL.
PUMPED THROUGH TREMIE PIPE FROM BOTTOM TO TOP

WELL DIAGRAM: Draw a detailed sketch of the well showing total depth, depth and diameter of screens remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.



I do hereby certify that this well abandonment record is true and exact.

Signature of Contractor or Agent [signature] Date 1-17-02

WELL LOCATION: Draw a location sketch on the reverse of this sheet, showing the direction and distance of the well to at least two (2) nearby reference points such as roads, intersections and streams. Identify roads with State Highway road identification numbers.

Submit original to the Division of Water Quality, one copy to the Driller, and one copy to the owner.

North Carolina
Department of Environment and Natural Resources
Division of Water Quality
Groundwater Section
P.O. Box 29578 - Raleigh, N.C. 27626-0578

MW-5

WELL ABANDONMENT RECORD BEN TROXLER (FOR)

CONTRACTOR TROXLER GEOLOGIC SERVICES INC. REG. NO. 2511

1. WELL LOCATION: (Show a sketch of the location on back of form.)
Nearest Town: WILSON County WILSON
Highway 301 S
(Road, Community, Subdivision, Lot No.) Quadrangle No.

2. OWNER: Southern States Wilson Service

3. ADDRESS: Wilson, NC

4. TOPOGRAPHY : draw, slope, hilltop, valley (flat)

5. USE OF WELL: MONITORING DATE: _____

6. TOTAL DEPTH: 16.6' DIAMETER: 2"

7. CASING REMOVED: NONE

feet	diameter

8. SEALING MATERIAL:

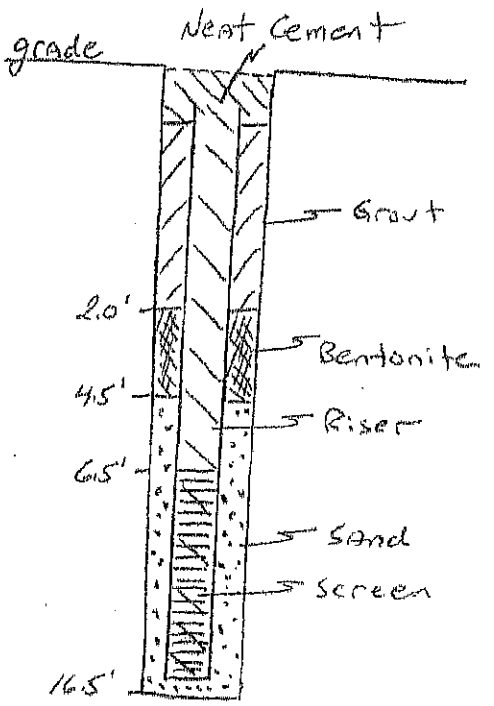
(Neat cement)	Sand cement
bags of cement _____	bags of cement _____
gals. of water _____	yds. of sand _____
	gals. of water _____

Other
Type material APPROX. 5% BENONITE

Amount _____

9. EXPLAIN METHOD EMPLACEMENT OF MATERIAL.
PUMPED THROUGH TREMIE PIPE FROM BOTTOM TO TOP

WELL DIAGRAM: Draw a detailed sketch of the well showing total depth, depth and diameter of screens remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.



I do hereby certify that this well abandonment record is true and exact.

Signature of Contractor or Agent _____ Date 1-17-02

WELL LOCATION: Draw a location sketch on the reverse of this sheet, showing the direction and distance of the well to at least two (2) nearby reference points such as roads, intersections and streams. Identify roads with State Highway road identification numbers.

Submit original to the Division of Water Quality, one copy to the Driller, and one copy to the owner.

North Carolina
Department of Environment and Natural Resources
Division of Water Quality
Groundwater Section
P.O. Box 29578 - Raleigh, N.C. 27626-0578

MW-1D

WELL ABANDONMENT RECORD BEN TROXLER (FOR)

CONTRACTOR TROXLER GEOLOGIC SERVICES INC REG. NO. 2511

1. WELL LOCATION: (Show a sketch of the location on back of form.)
Nearest Town: WILSON County WILSON
Highway 301 S
(Road, Community, Subdivision, Lot No.) Quadrangle No.

2. OWNER: Southern States Wilson Service

3. ADDRESS: Wilson, NC

4. TOPOGRAPHY : draw, slope, hilltop, valley (flat)

5. USE OF WELL: MONITORING DATE:

6. TOTAL DEPTH: 36' DIAMETER: 2"

7. CASING REMOVED: NONE

feet	diameter

8. SEALING MATERIAL:

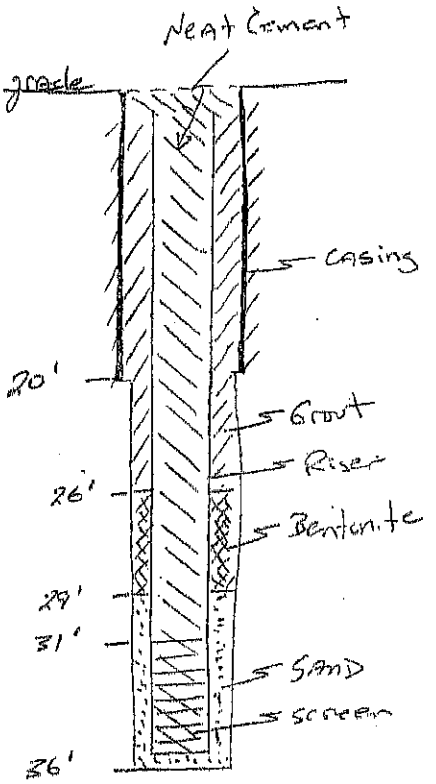
(Neat cement)	Sand cement
bags of cement	bags of cement
gals. of water	yds. of sand
	gals. of water

Other
Type material APPROX. 5% BENAWITE

Amount

9. EXPLAIN METHOD EMPLACEMENT OF MATERIAL.
PUMPED THROUGH TREMIE PIPE FROM BOTTOM TO TOP

WELL DIAGRAM: Draw a detailed sketch of the well showing total depth, depth and diameter of screens remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.



I do hereby certify that this well abandonment record is true and exact.

Signature of Contractor or Agent Ben Troxler Date 1-17-02

WELL LOCATION: Draw a location sketch on the reverse of this sheet, showing the direction and distance of the well to at least two (2) nearby reference points such as roads, intersections and streams. Identify roads with State High way road identification numbers.

Submit original to the Division of Water Quality, one copy to the Driller, and one copy to the owner.

Appendix 16.7

Subject Site Environmental Records - Underground Release Incident

OCT 17 1989

AQUATERRA
Aquaterra, Inc. • P.O. Box 50328 • Raleigh, NC 27650 • 919-839-0199

October 12, 1989

Four Seasons Industrial Services, Inc.
P.O. Box 16590
Greensboro, North Carolina 27416-0590

Attention: Mr. Jeff Knight

Reference: Underground Storage Tank Closure Soil Assessment Report
Southern States Cooperative, Inc.
Wilson, North Carolina
Aquaterra Job #233

Dear Mr. Knight:

Aquaterra, Inc. (Aquaterra) is pleased to submit this report regarding underground storage tank closure and soil quality assessment activities at the above referenced site. The attached report discusses the technical services Aquaterra has provided, describes field procedures, presents the results of soil analytical testing and presents Aquaterra's conclusions and recommendations.

Aquaterra appreciates this opportunity to have been of service to Four Seasons Industrial Services, Inc. If there are any questions or comments, please do not hesitate to contact us.

Sincerely,

AQUATERRA, INC.

William L. Stone
William L. Stone
Project Geologist

David L. Duncklee
David L. Duncklee, P.G.
Project Manager

cc: Mr. James M. Lillard, Southern States Cooperative, Inc. (2)
BS/DLD/plv
Attachments
R700-89

UNDERGROUND STORAGE TANK CLOSURE
SOIL ASSESSMENT REPORT
SOUTHERN STATES COOPERATIVE, INC.
WILSON, NORTH CAROLINA
October 12, 1989

Prepared For:

Four Seasons Industrial Services, Inc.
Greensboro, North Carolina

RECEIVED
JAN 04 1990
RALEIGH REGIONAL OFFICE

Prepared By:

Aquaterra, Inc.
Raleigh, North Carolina

Aquaterra, Inc.

AQUATERRA
Aquaterra, Inc. • P.O. Box 50328 • Raleigh, NC 27650 • 919-839-0199

October 12, 1989

Southern States Cooperative, Inc.
6606 West Broad Street
Richmond, Virginia 23230

Attention: Mr. James M. Lillard

Reference: Underground Storage Tank Closure Soil Assessment Report.
Southern States Cooperative, Inc.
Wilson, North Carolina
Aquaterra Job #233

Dear Mr. Lillard:

Aquaterra, Inc. (Aquaterra) is pleased to submit this report regarding underground storage tank closure soil quality assessment activities at the above referenced site. This report discusses the technical services Aquaterra has provided, describes field procedures, presents the results of soil analytical testing, and presents Aquaterra's conclusions and recommendations. These services were provided in general accordance with the Four Seasons Industrial Services, Inc. (Four Seasons) proposal entitled "UST Closures 1989, North Carolina Operations ",dated September 13, 1989.

Aquaterra appreciates this opportunity to be of service to Southern States Cooperative, Inc. and Four Seasons Industrial Services, Inc. If there are any questions or comments, please do not hesitate to call.

Sincerely,

AQUATERRA, INC.

William L. Stone

William L. Stone
Project Geologist

David L. Duncklee, P.G.
Project Manager

DLG/DLD/slg
Attachments
R700-89

10/12/89

UNDERGROUND STORAGE TANK CLOSURE
SOIL ASSESSMENT REPORT
SOUTHERN STATES COOPERATIVE, INC.
WILSON, NORTH CAROLINA
October 12, 1989

1.0 Introduction

The subject Southern States Cooperative, Inc. facility is located in Wilson, North Carolina as shown in Figure 1. Four Seasons Industrial Services, Inc. (Four Seasons) of Greensboro, North Carolina contracted Aquaterra, Inc. (Aquaterra) to perform soil quality assessment activities in conjunction with the removal of one 550 gallon underground #2 fuel oil storage tank owned by Southern States Cooperative, Inc. The general site layout and former location of the tank are shown in Figure 2 and in photographs included in Attachment A.

2.0 Objective and Scope of Work

Four Seasons requested that Aquaterra examine soils in the vicinity of the underground storage tank for evidence of petroleum hydrocarbon contamination.

In that regard, the project's scope of work included the following tasks:

- Subsequent to the removal of the 550 gallon #2 fuel oil underground storage tank, screen soils from the excavated areas for volatilized organic compounds with an organic vapor analyzer (OVA);
- Assist Four Seasons personnel in excavating and stockpiling any petroleum hydrocarbon contaminated soils by scanning soil samples with an OVA; and,
- Collect soil samples from the in-situ soils upon termination of the excavation and have them analyzed for total petroleum hydrocarbons in accordance with state and federal standards.

3.0 Soil Assessment Methods and Site Conditions

This section of the report describes the methodology and results of the field activities performed to assess the soil quality in the vicinity of the excavation.

3.1 Soil Description

In general, soils in the vicinity of the underground tank pit excavation consisted of tan to orange clayey silty medium to fine sand according to the Unified Soil Classification System (ASTM D 2488-84). The ground water table depth in the area could not be determined by observations in the excavation.

3.2 Screening of Soils During the Excavation

Underground storage tank removal operations were performed by Four Seasons. An Aquaterra project geologist was mobilized to the site on September 19, 1989 after Four Seasons personnel had removed the waste fuel, any waste water, the fuel tank and lines. The geologist evaluated the soils in the open excavation for evidence of petroleum hydrocarbon contamination by screening the soils for volatilized organic compounds (VOC's) with an OVA. The soil screening results were used to approximate the concentration of total petroleum hydrocarbons in the soils. Each soil sample screened was placed in a plastic bag and allowed to volatilize for about 10 to 15 minutes. The headspace of the container was then measured by the OVA and the result recorded with the sample location. The OVA measurements collected during soil screening are presented in Table 1 and the corresponding sampling locations are shown in Figure 2.

Soil screening measurements taken on September 19, 1989 indicated that the soils beneath the removed underground storage tank appeared to be contaminated with petroleum hydrocarbons. Mr. Jim Lillard of Southern States Cooperative, Inc. was immediately notified of the suspected soil degradation and advised to contact the North Carolina Department of Environment, Health and Natural Resources, (DEHNR), Division of Environmental Management

Based on the OVA screening results, the excavation was advanced until the final dimensions of the pit reached approximately 12 feet by 6.5 feet by 9 feet deep as shown in Figure 2. At this juncture, OVA screening measurements, as shown in Table 1, indicated that petroleum hydrocarbon contaminated soils with probable TPH concentrations greater than 100 ppm had not been successfully removed from the excavation.

3.3 Soil Sample Collection and Analysis

After the tank was removed and the underlying soils were scanned with the OVA, soil samples were obtained for laboratory analysis to document the quality of the soils remaining in-situ. Each soil sample was collected from a freshly excavated surface. The soil sample locations and depths from ground surface are shown in Table 2 and are illustrated in Figure 2.

The samples were collected and stored in glass jars, labeled, logged onto a chain-of-custody form and stored and transported in an insulated cooler filled with ice until delivery to the analytical laboratory. The samples were analyzed by Industrial and Environmental Analysts, Inc. of Cary, North Carolina for total petroleum hydrocarbons by EPA SW-846 Methods 3550 and 5030 with GC-FID analysis.

Subsequent to sample collection, the excavation was filled with clean fill and the tank backfill soils.

As shown in Table 2, laboratory analysis indicates that each of the three soil samples collected from the pit contained more than 100 mg/Kg (parts per million) total petroleum hydrocarbons. The samples contained a petroleum hydrocarbon blend with a distillation range similar to #2 fuel oil. Copies of the analytical report and chain-of-custody form are included in Attachment B.

4.0 Conclusions and Recommendations

Based on OVA soil screening and soil sample analytical results, soils contaminated with greater than 100 mg/kg total petroleum hydrocarbons are evident in the vicinity of the former location of the underground storage tank. The petroleum has been analyzed and found to contain a distillation range similar to #2 fuel oil.

Aquaterra recommends the petroleum hydrocarbon contaminated soils be excavated from the former tank area. A soil cleanup level between 10 and 100 mg/kg (ppm) should be negotiated with DEHNR prior to the commencement of remediation activities. In addition, soil treatment or disposal options should be evaluated by Southern States Cooperative, Inc. and Aquaterra prior to any remedial work.

Aquaterra also recommends the results of the tank removal and soil quality assessment be forwarded to Mr. Richard Powers of the DEHNR Washington Regional Office as required by 40 CFR Part 280.34.

TABLES

TABLE 1

Tank Closure Soil Screening Results
Southern States Cooperative, Inc.
Wilson, North Carolina Facility
Aquaterra Job #233

Sample	Date	Location	Depth	OVA Measurement(ppm)	Action Taken
1	9-19-89	Bottom,NW	9'	450	Soil Sample Collected
2	9-19-89	Bottom, SE	9'	450	Soil Sample Collected
3	9-19-89	Side, NW & SE	6'	300	Composite Soil Sample Collected

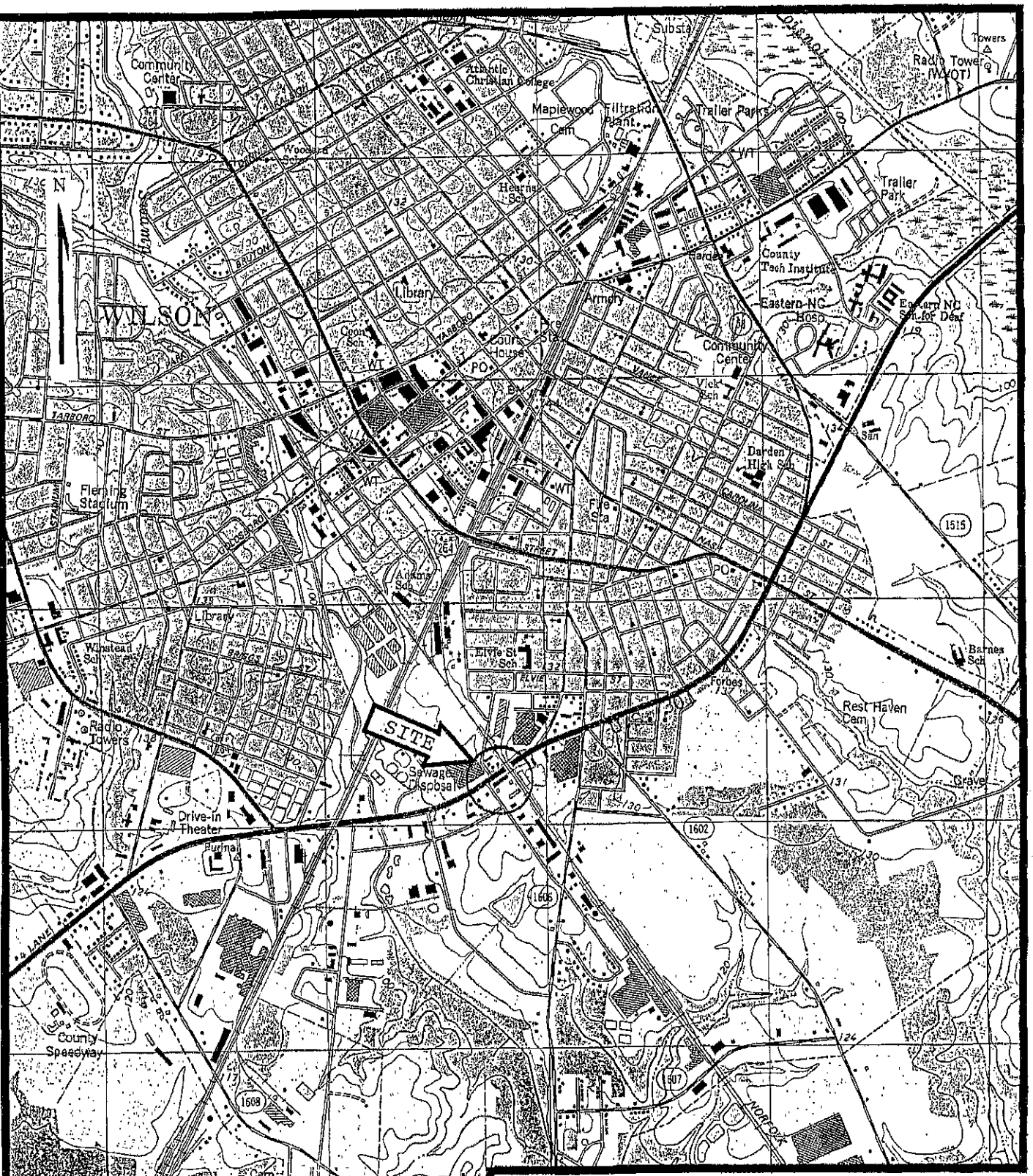
TABLE 2

Tank Closure Soil Sample Analytical Results
Southern States Cooperative, Inc.
Wilson, North Carolina Facility
Aquaterra Job #233

			Total Petroleum Hydrocarbon(ppm)	
Sample	Date	Depth	Extraction Method 3550	Extraction Method 5030
1	9-19-89	9'	618 mg/Kg	<200 mg/Kg
2	9-19-89	9'	590 mg/Kg	<100 mg/Kg
3	9-19-89	6'	1100 mg/Kg	<200 mg/Kg

Note: The samples reportedly contained a petroleum hydrocarbon blend with a distillation range similar to #2 fuel oil.

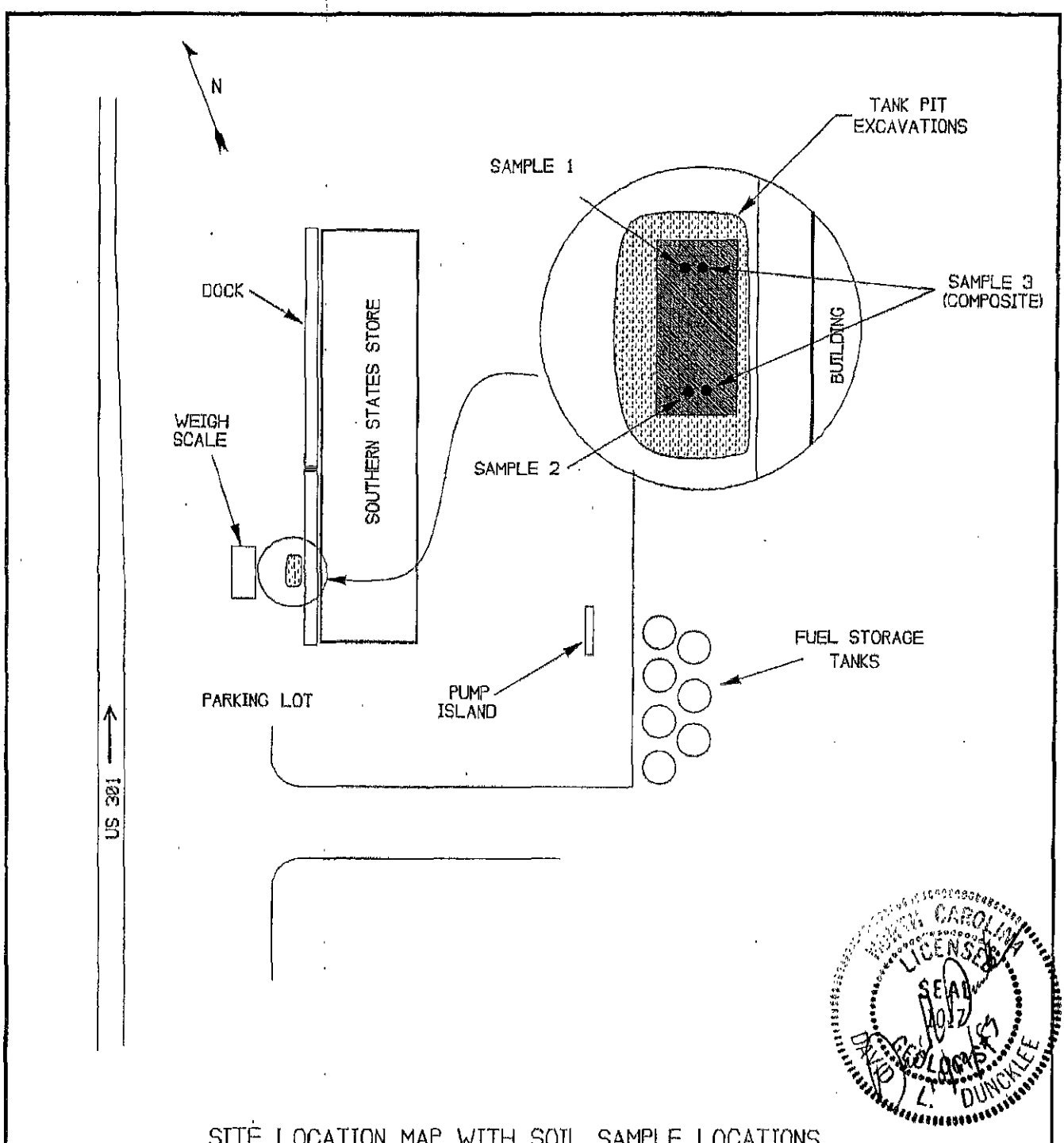
FIGURES



AQUATERRA, INC.
RALEIGH, NORTH CAROLINA

Job: SOUTHERN STATES COOPERATIVE, INC.
WILSON, NORTH CAROLINA

Job Number:	Figure Number:	Scale:
233	1	1"=2000'



SITE LOCATION MAP WITH SOIL SAMPLE LOCATIONS

LEGEND:

● SOIL SAMPLE LOCATION

AQUATERRA, INC.
RALEIGH, NORTH CAROLINA

SOUTHERN STATES
WILSON, N.C.

Job Number:	Figure Number:	Scale:
233	2	N.T.S.

DRAFT COMPREHENSIVE SITE ASSESSMENT AND CORRECTIVE ACTION PLAN SOUTHERN STATES COOPERATIVE, INC. WILSON, NORTH CAROLINA SERVICE

April 6, 1990

Prepared For:

Southern States Cooperative, Inc.
Richmond, Virginia

Prepared By:

Aquaterra, Inc.
Raleigh, North Carolina

Aquaterra, Inc.

AQUATERRA
Aquaterra, Inc. • P.O. Box 50328 • Raleigh, NC 27650 • 919-839-0199

April 6, 1990

Southern States Cooperative, Inc.
6606 West Broad Street
Richmond, Virginia 23230

Attention: Mr. James M. Lillard

Reference: Draft Comprehensive Site Assessment and
Corrective Action Plan
Southern States Cooperative, Inc.
Wilson, North Carolina Service
Aquaterra Job No. 233

Dear Mr. Lillard:

As requested by Southern States Cooperative, Inc., Aquaterra, Inc. (Aquaterra) is pleased to present this draft Comprehensive Site Assessment and Corrective Action Plan (CAP) for the above referenced facility. This draft CAP is intended for submittal to the North Carolina Department of Environment, Health, and Natural Resources, Division of Environmental Management (DEM) for pre-approval.

Upon agency approval, Southern States Cooperative, Inc. may proceed with the assessment and corrective action. Then, DEM has stated the owner/operator may request reimbursement from the Raleigh Regional Office by way of the Non-Commercial State Trust Fund. Once approval for remediation is granted by DEM, Aquaterra plans to prepare a bid document package as requested by Southern States Cooperative, Inc.

Draft Comprehensive Site Assessment and Correction Action Plan
Southern States Cooperative, Inc.
Wilson, North Carolina Service

Aquaterra is pleased to be of service to Southern States Cooperative, Inc. If there are any questions or comments, please do not hesitate to call.

Sincerely,

AQUATERRA, INC.

Mark E. Hosler
Staff Geologist

David L. Duncklee, P.G.
Project Geologist/Project Manager

Peer Review:

Bryson D. Trexler, Jr., Ph.D., P.G.
Senior Hydrogeologist/Program Manager

MEH/DLD/mdy

R906-90

4-6-90

Aquaterra, Inc.

DRAFT COMPREHENSIVE SITE ASSESSMENT AND CORRECTIVE ACTION PLAN SOUTHERN STATES COOPERATIVE, INC. WILSON, NORTH CAROLINA SERVICE April 6, 1990

1.0 Introduction

The subject Southern States Cooperative, Inc. - Wilson Service facility is located in Wilson, North Carolina as shown in Figure 1. Four Seasons Industrial Services, Inc. (Four Seasons) of Greensboro, North Carolina contracted Aquaterra, Inc. (Aquaterra) to perform soil quality assessment activities in conjunction with the removal of one 550 gallon underground #2 fuel oil (heating oil) storage tank owned by Southern States Cooperative, Inc.. The general site layout and former location of the tank are shown in Figure 2 and in photographs included in Attachment A. The underground storage tank (UST) was removed on September 19, 1989.

Soil screening measurements taken on September 19, 1989 indicated that the soils beneath the removed underground storage tank appeared to be contaminated with petroleum hydrocarbons. Mr. Jim Lillard of Southern States Cooperative, Inc. was immediately notified of the suspected soil degradation and advised to contact the North Carolina Department of Environment, Health and Natural Resources, Division of Environmental Management (DEM).

Laboratory analysis of the in situ soil samples collected from the excavation indicate petroleum hydrocarbon contamination of 590 to 618 mg/Kg (parts per million) total petroleum hydrocarbon (TPH) is present at a depth of nine feet below grade. The analytical laboratory reported the samples contained a petroleum hydrocarbon blend with a distillation range similar to #2 fuel oil. Subsequent to sample collection, the pit was backfilled with the excavated soils and clean fill pending receipt of laboratory analyses and the formulation of remedial alternatives. Further details of the activities completed to date can be found in the Aquaterra "Underground Storage Tank Closure Soil Assessment Report" dated October 12, 1989. Based on the results of the preliminary site assessment, Aquaterra does not believe further soil assessment is necessary prior to excavating the petroleum affected soils.

This Draft Comprehensive Site Assessment and Corrective Action Plan (CAP) has been prepared for Southern States Cooperative, Inc.'s review and submittal to DEM. Upon agency approval, Southern States Cooperative, Inc. may proceed with the assessment and corrective action. Then, DEM has stated the owner/operator may request reimbursement from the Raleigh Regional Office by way of the Non-Commercial State Trust Fund. The rights and obligations of the owner/operator of a non-commercial leaking UST have been outlined in correspondence from DEM dated March 19, 1990 and included in Attachment B. Aquaterra has previously provided Southern States Cooperative, Inc. with copies of the ratified legislation that created the fund.

2.0 Site Assessment and Corrective Action Plan

This CAP is designed to remove and remediate certain petroleum hydrocarbon contaminated soils from the subsurface in the former location of the UST. Details of the proposed scope of work are shown below.

2.1 Phase 1 Remedial Activities

2.1.1 Petroleum Contaminated Soil Removal

Southern States Cooperative, Inc. proposes to excavate the petroleum hydrocarbon contaminated soils from the former tank area. A soil cleanup level will be established by DEM utilizing a Site Sensitivity Evaluation (SSE) form. A qualified remedial contractor will perform the excavation and stockpiling of the excavated soils. The limits of the excavation will be determined by scanning soil samples for volatilized organic compounds with an organic vapor analyzer (OVA) and by collecting soil samples of the material left in situ for laboratory analysis to document the closure.

As soil is removed from the excavation, an Aquaterra geologist will be present to perform soil screening for volatilized organic compounds. For each sample, an amount of soil will be placed in a sealed container and allowed to volatilize for approximately 10 to 15 minutes. Once this length of time has passed, the headspace of the containerized sample will be scanned with the OVA. As the excavation proceeds, soil screening procedures will be used to segregate the obviously contaminated soils from those unaffected by the release.

Those soils exhibiting less than 10 parts per million (ppm) total volatilized organic compounds will be segregated out from the contaminated soils and placed on polyethylene sheeting. A composite sample will later be collected for every 50 cubic yards of these soils and tested for total petroleum hydrocarbons by GC. If the laboratory results confirm total petroleum hydrocarbon concentrations less than the clean up level set by DEM, then these soils will be mixed with additional fill brought in to backfill the excavation to grade.

Soils exhibiting greater than 10 ppm on the OVA will be segregated from the soils exhibiting less than 10 ppm and stockpiled on and covered by plastic sheeting of at least 6 mils thick. The contaminated soils will be stockpiled to minimize the possibility of surface water or soil contamination due to runoff or surface water drainage.

Once soil screening measurements and visual observations during the excavation process indicate the soil clean up level may have been reached, approximately six in situ soil samples will be collected for TPH analysis. Soil sample collection for TPH analysis will be performed in a manner that minimizes the loss of volatile constituents. EPA chain-of-custody procedures will be strictly applied from the time of sample collection until delivery to the analytical laboratory. Soil sample analysis will be performed by Industrial & Environmental Analysts, Inc. of Cary, North Carolina. The samples will be extracted by EPA Methods 3550 and 5030 and analyzed by a gas chromatograph flame ionization detector. The laboratory analyses will be performed on a 24-hour turnaround. The 24-hour laboratory turnaround minimizes delays in the field and the chance of the excavation filling with rainwater. This also reduces liabilities associated with an open pit at the facility. When laboratory testing indicates soils remaining in situ are lower than the DEM cleanup level, clean fill dirt will be ordered and placed in the pit and the stockpiled soils disposed of appropriately.

2.1.2 Soil Characterization Requirements

Acceptance of the petroleum hydrocarbon contaminated soils into any of the remediation options summarized later in this CAP is dependent upon a non-hazardous waste classification. To ensure that the waste is not regulated as a hazardous waste as defined in 40 CFR Part 261, a detailed analytical characterization of the soil will be performed. Specifically, one composite sample for each 75 tons of petroleum contaminated soils will be collected and submitted to an EPA certified laboratory and analyzed for volatile organic compounds, base/neutral/acid extractable compounds, polychlorinated biphenyls (PCBs), pesticides, EP Toxicity for the RCRA primary metals, and ignitability.

These excavated soils will be analyzed by the following EPA approved methods:

- SW-846 8240, Volatiles;
- SW-846 8270, Base/Neutral/Acid Extractables, Semi-volatiles;
- SW-846 8080, Pesticides/PCBs by GC;
- SW-846 1010, Ignitability;
- 600/4-79-020, RCRA Metals by EP Toxicity (SW-846 Method 1310); and,
- Total Petroleum Hydrocarbons by GC.

2.1.3 Site Sensitivity Evaluation

Aquaterra believes that the Southern States Cooperative, Inc. - Wilson Service site meets the criteria for using the DEM Site Sensitivity Evaluation (SSE) to establish a TPH cleanup level for in situ soils in the vicinity of the former UST. An SSE form completed by an Aquaterra geologist is included in Attachment C. DEM has indicated they will review the SSE and set a cleanup level.

2.1.4 Petroleum Contaminated Soils Disposal/Treatment Options

Aquaterra has estimated that approximately 150 tons of contaminated soils will be excavated. Three soil disposal/treatment options are under consideration for the remediation of these soils, excavated petroleum contaminated soils. These options include:

- disposal in a chemically secure landfill;
- treatment and disposal by land application; and,
- thermal treatment in a rotary kiln with subsequent disposal.

The major determining factors in the selection of a disposal/treatment method are availability, cost, and effectiveness. These options are outlined below.

Other options available for consideration are incineration at a brick kiln and in situ remediation by vacuum extraction. However, these options are deemed impractical due to poor clay content and poor pigment for brick kiln treatment and the vapor pressures of the petroleum contaminants are not suitable for efficient remediation by vacuum extraction technologies.

2.1.4(a) Landfill Disposal

Southern States Cooperative, Inc. and Aquaterra are considering the disposal option of hauling the contaminated soils to the chemically secure GSX landfill in Pinewood, South Carolina. Loading, transportation, and disposal of 150 tons of petroleum contaminated soils, excluding the

excavation activities and the soil characterization analyses, is estimated to cost between $23,500 and $28,500. The total estimated cost for the excavation activities, soil characterization analyses, and landfill disposal is $45,500 to $50,500. Further details of the cost estimate excluding soil characterization costs are presented in Section 4.0.

2.1.4(b) Land Application

Land application of the excavated petroleum contaminated soils is also being considered by Southern States Cooperative, Inc. and Aquaterra. The Southern States Cooperative, Inc., Wilson Service facility currently has limited space available at the site for bioremediation and volatilization of the soils. However, if laboratory analysis shows total petroleum hydrocarbon (TPH) levels are below 100 parts per million (ppm), a permit will be applied for land application of the soils at a Southern States Cooperative, Inc. property located in Mebane, North Carolina.

In addition to the soil quality assessment, the samples will also be analyzed for pH to determine the proper amount of lime to be added. If TPH analysis shows concentration levels below 100 ppm and the soils characterized as a non-hazardous waste, the soils will be hauled to the Mebane, North Carolina site, spread to an approximate thickness of six inches, lime applied to adjust the pH as necessary, and rototilled to incorporate the contaminated soil and lime into the top six to eight inches of the native soils. Nitrogen and phosphorus fertilizers will be applied two weeks subsequent to disposal. The soils will be retilled to provide extra oxygen for waste biodegradation at periods of one month, two months, and six months following disposal. Three composite soil samples will be collected from the site at intervals of six and twelve months following disposal. The samples will be analyzed for total petroleum hydrocarbons by EPA SW-846 Methods 3550 and 5030 and for purgeable aromatic compounds (BTEX) by EPA SW-846 Method 8020. A portion of each sample will be composited for pH analysis during the six month sampling event. Further details regarding soil treatment and monitoring requirements are presented in the DEM guidelines for land application included in Attachment D.

Estimated costs for the land application option (loading, transportation, and spreading of the soils, eight tilling events, fertilizing, and soil sample analysis) excluding excavation activities and soil characterization, totals approximately $15,600. The total cost for the excavation activities, soil characterization, and land application is estimated to be approximately $37,600. Further cost information is detailed in Section 4.0 of this report.

2.1.4(c) Rotary Kiln

Remediation of the petroleum contaminated soils by thermal treatment in a rotary kiln is also being considered by Southern States Cooperative, Inc. and Aquaterra. A mobile rotary kiln is owned and operated by Four Seasons Industrial Services, Inc. (Four Seasons) of Greensboro, North Carolina. According to Four Seasons, the kiln reaches temperatures of between 600 degrees and 700 degrees Fahrenheit and can process approximately 10 tons of petroleum contaminated soils per hour dependent on the clay and moisture content of the soil. TPH concentrations in the soils can reportedly be reduced to less than 10 mg/Kg (ppm).

A non-discharge permit will be applied for and the contaminated soils transported offsite to the Southern States Cooperative, Inc. property located in Mebane, North Carolina. The rotary kiln will process the soils until TPH concentrations are lowered to less than 10 ppm. A composite sample will be collected for every 50 tons processed. The samples will be analyzed for TPH by

GC on a 24-hour turnaround. When laboratory analysis confirms TPH concentrations below 10 ppm, the soils will be disposed of at a location approved by DEM.

Estimated cost of remediation by rotary kiln, including transportation and three laboratory analyses for TPH on 24-hour turnaround, is approximately $26,000. Estimated cost of remediation utilizing the rotary kiln, including excavation activities and soil characterization, is $48,000. A breakdown of the estimated costs is detailed in Section 4.0.

2.2 Phase II Remedial Activities

If the full extent of petroleum affected soils with TPH greater than the cleanup level cannot be removed from the former vicinity of the UST or, if it is determined that ground water may have been impacted by the petroleum hydrocarbon release, then Southern States Cooperative, Inc. will perform a preliminary ground water assessment. This assessment will include the installation of one ground water monitoring well in the downgradient vicinity of the excavation. Ground water samples will be collected and analyzed for semi-volatile organic compounds by EPA SW-846 Method 8270 Base/Neutral Extractables plus library search.

If ground water contamination is not evident, the monitoring well will be sampled on a quarterly basis for six months. The well will be abandoned at the end of this time frame if laboratory analyses fail to confirm ground water contamination. However, if contamination is confirmed, Southern States Cooperative, Inc. will submit a preliminary site assessment report and update this CAP to include a comprehensive ground water assessment.

The estimated cost of this phase of the remediation and site assessment is $3,800. The breakdown of costs for the preliminary ground water assessment is detailed in Section 4.0 of this report.

3.0 Data and Report Submittal

A detailed Site Assessment and Remediation Report will be prepared by Aquaterra for Southern States Cooperative, Inc.'s submittal to DEM. This report will include a description of the soil excavation, transport, and disposal/treatment activities. This will include data regarding OVA measurements and copies of all analytical results. Invoices itemizing costs of each step of the plan will be submitted with the report.

4.0 Cost Estimates

4.1 Accuracy

As requested by DEM, included below are time and materials cost estimates for each stage of the site assessment and remediation. Aquaterra attempts to provide accurate cost estimates. However, because of the numerous unknown project parameters such as the extent of contamination, depth to ground water, and depth to bedrock, these costs should be recognized as estimates based on the information available at this time.

4.2 Excavation of Contaminated Soils

The estimated costs for excavation of contaminated soils (excludes costs of disposal/treatment) are as follows:

Aquaterra: geologist field work, equipment, and report	$ 4,200
Contractor: heavy equipment and operator, mobilize, excavate, stockpile and backfill	$10,000
Laboratory Analysis: 6 Total Petroleum Hydrocarbons by GC, 24-hour turnaround	$ 2,500
SUBTOTAL	$16,700
15% Contingency	$ 2,500
ESTIMATED COST OF EXCAVATION ACTIVITIES	**$19,200**

4.3 Contaminated Soil Quality Characterization

Composite soil samples will be collected from the contaminated stockpiled soils and analyzed by EPA approved methods for volatile and semi-volatile organic compounds, pesticides and PCBs, ignitability, RCRA metals by EP Toxicity, and total petroleum hydrocarbons.

Laboratory Analysis: 2 samples @ $1,400/each	
ESTIMATED COST OF SOIL CHARACTERIZATION	**$ 2,800**

4.4 Landfill Disposal

Cost estimates for landfill disposal are based upon the assumptions that approximately 150 tons of contaminated soil are removed and the dump trailers will carry an estimated 18 to 20 tons of soil per load. The estimated costs for landfill disposal, as described in Section 2.1.4(a), are as follows:

Contractor: 150 tons of soil to Pinewood, SC, mobilization, load, transport and disposal	$23,500 to $28,500
ESTIMATED COST OF LANDFILL DISPOSAL	**$23,500 to $28,500**

4.5 Land Application

Cost estimates for land application are based on same transportation assumptions as those described for landfill disposal above. Also, due to the nature of the petroleum contaminants and possible unfavorable weather conditions, bioremediation of the contaminated soils is estimated to take up to two years. Actual costs may be lower depending upon the progress of biodegradation. The estimated costs for land application, as described in Section 2.1.4(b), are as follows:

Contractor: 150 tons of soil to Mebane, North Carolina, mobilization, load, transport and spreading	$ 5,000
Lime, fertilizer, and tilling (two years, $2,500 each year)	$ 5,000
Laboratory Analyses: Each year - one pH, six Total Petroleum Hydrocarbons by GC, six Purgeable Aromatics sample collection (two years, $1,800 each year)	$ 3,600
SUBTOTAL	$ 13,600
15% Contingency	$ 2,000
ESTIMATED COST OF LAND APPLICATION	**$15,600**

4.6 Rotary Kiln Thermal Treatment

Cost estimates are based upon transporting the contaminated soils to the Southern States Cooperative, Inc. property located in Mebane, North Carolina. The estimated costs for rotary kiln treatment, as described in Section 2.1.4(c), are as follows:

Contractor: 150 tons of soil to Mebane, North Carolina, mobilization, load, and transport	$ 3,800
Four Seasons Industrial Services, Inc. Mobile Treatment Unit: mobilization, permitting and treatment	$ 17,500
Laboratory Analyses: three Total Petroleum Hydrocarbons by GC (24-hour turnaround), sample collection	$ 1,300
SUBTOTAL	$22,600
15% Contingency	$ 3,400
ESTIMATED COST OF ROTARY KILN TREATMENT	**$26,000**

Note: Rotary treatment costs are estimated to be $90/ton for the Wilson site soils, treatment costs may be reduced contingent on possible additional treatment of similarly contaminated soils from other Southern States Cooperative, Inc. sites in North Carolina.

4.7 Preliminary Ground Water Assessment

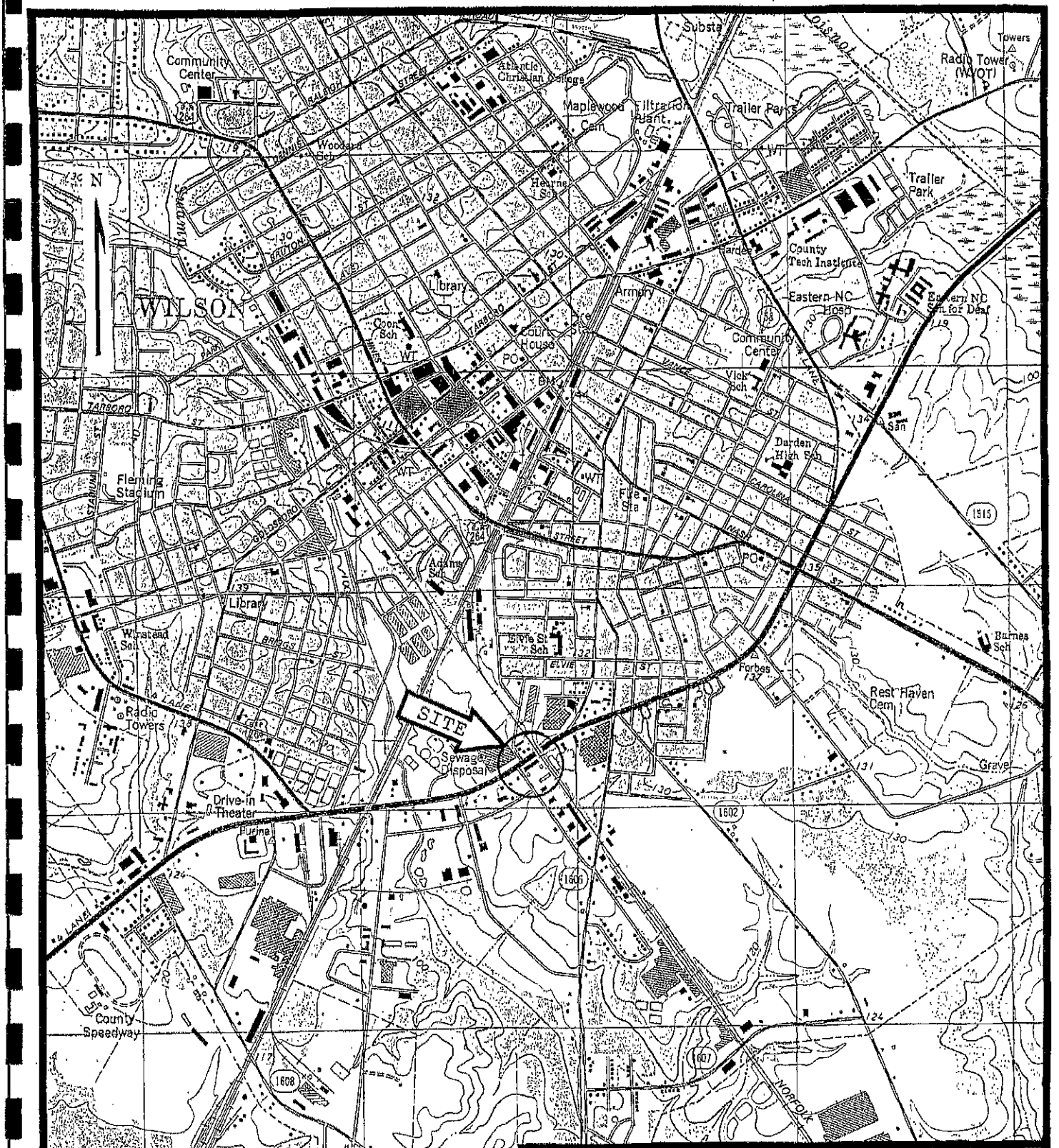
The cost estimate is based upon the installation of one 2-inch ground water monitoring well to a depth of 25 feet using a truck-mounted drill rig equipped with hollow stem augers.

Aquaterra: log borehole, supervise well installation, sample ground water, report	$ 1,400
Contractor: rig mobilization and well construction	$ 2,100
Laboratory Analysis: EPA SW-846 8270 B/N Extractables plus library search	$ 440
SUBTOTAL	$ 3,940
15% Contingency	$ 590
ESTIMATED COST OF PRELIMINARY GROUND WATER ASSESSMENT	**$ 4,530**

5.0 Health and Safety

Aquaterra is committed to the utilization of sound health and safety practices as a means of protecting employee health, maintaining compliance with federal standards, and reducing liability factors for ourselves and our clients. A health and safety plan will be developed for the projects in accordance with 29 CFR Part 1910 (Federal Register Vol. 51, No. 244, pp. 45654 to 45675, December 19, 1986). The plan will address safety and standard operating procedures, anticipated hazards, exposure limits, levels of dermal and respiratory protection, emergency medical care of personnel, and ambient air monitoring. Level D safety procedures will be followed at the sites at all times as described in the health and safety plan.

All Aquaterra personnel and subcontractors are under an approved medical monitoring program including baseline and annual physical examinations. All personnel will have 40 hours of hazardous waste health and safety training including negative pressure respirator fit testing.

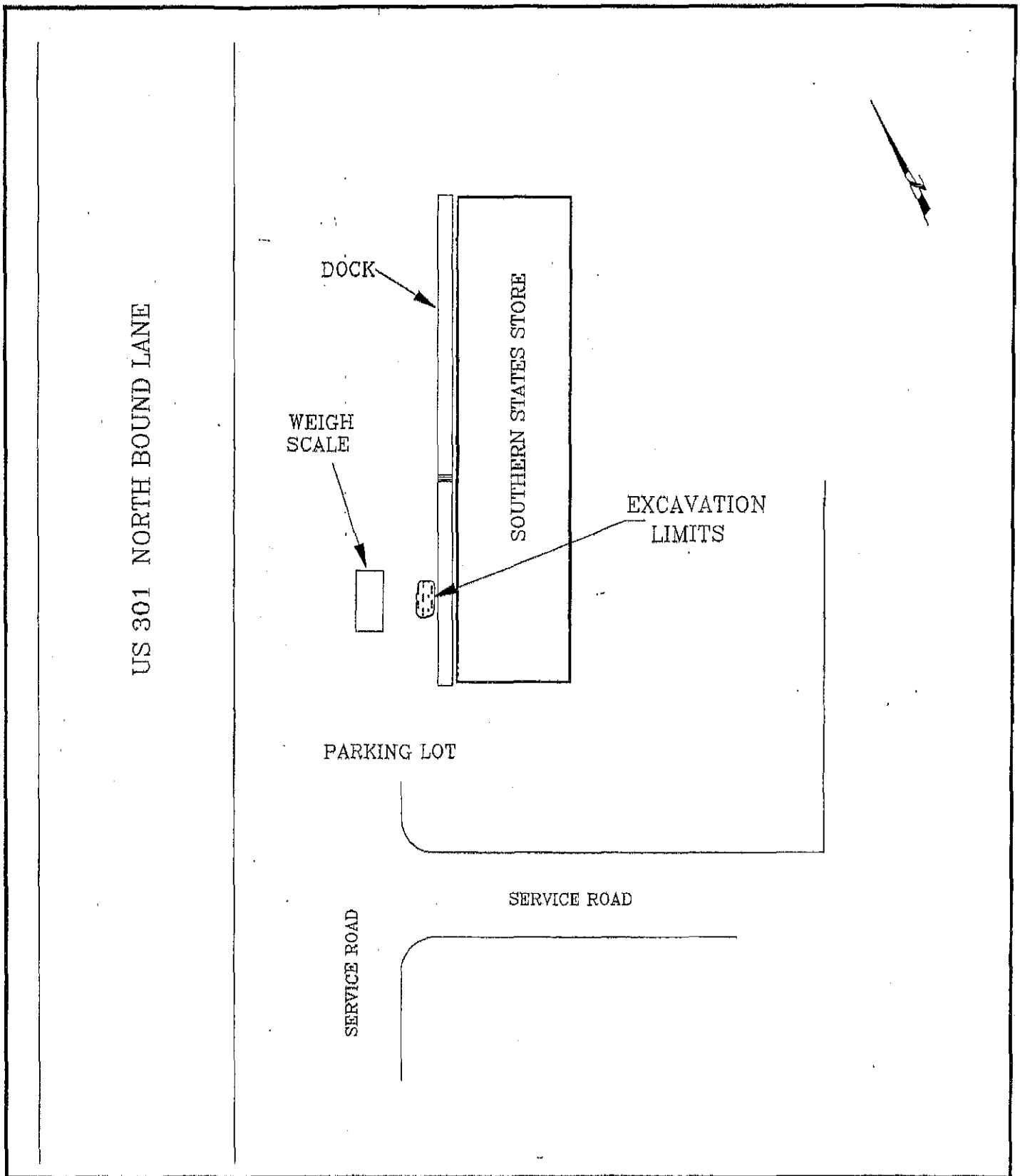


AQUATERRA, INC.

RALEIGH, NORTH CAROLINA

Job: SOUTHERN STATES COOPERATIVE, INC.
WILSON, NORTH CAROLINA

Job Number:	Figure Number:	Scale:
233	1	1"=2000'



PROJECT:	TITLE:			
SOUTHERN STATES COOPERATIVE, INC. WILSON SERVICE	SITE PLAN			
	JOB: 233	DRAWING: 233-3	FIGURE: 2	SCALE: N.T.S.

AQUATERRA, INC.
RALEIGH, GREENSBORO, CHARLOTTE
NORTH CAROLINA

Soil Remediation Report
Southern States Cooperative, Inc.
Wilson, North Carolina Service
January 17, 1991

Prepared For

Southern States Cooperative, Inc.
Richmond, Virginia

Prepared By

Aquaterra, Inc.
Raleigh, North Carolina

AQUATERRA

Environmental Consultants

January 17, 1991

Southern States Cooperative, Inc.
6606 West Broad Street
Richmond, Virginia 23230

Attention: Mr. Tony Parnell
Manager/Safety and Environmental Projects

Reference: Soil Remediation Report
Southern States Cooperative, Inc.
Wilson, North Carolina Service
Incident No. 5313
Aquaterra Job No. 233

Dear Mr. Parnell:

As requested by Southern States Cooperative, Inc. (Southern States), Aquaterra, Inc. (Aquaterra) is pleased to submit this report regarding soil remediation activities at the Wilson, North Carolina Service.

Aquaterra appreciates this opportunity to be of service to Southern States and the Wilson, North Carolina Service. If you have any questions or require any additional information, please contact us at (919) 859-9987.

Sincerely,

AQUATERRA, INC.

Thomas S. Dunham
Project Geologist

David L. Duncklee
David L. Duncklee, P.G.
Senior Project Manager

Senior Peer Review:

Bruce D. Reilly
Bruce D. Reilly, P.E.
Senior Chemical Engineer

TSD/DLD/pjc
R1213-91

Corporate Office:
PO Box 50328
Raleigh, NC 27650
(919) 859-9987
FAX (919) 859-9930

Charlotte Office:
PO Box 668107
Charlotte, NC 28266-8107
(704) 525-8680
FAX (704) 527-2792

Greensboro Office:
PO Box 16241
Greensboro, NC 27416-0241
(919) 273-5003
FAX (919) 271-8138

Soil Remediation Report
Southern States Cooperative, Inc.
Wilson, North Carolina Service
January 17, 1991

1 Background

On September 19, 1989, Southern States Cooperative, Inc. (Southern States) contracted Four Seasons Industrial Services, Inc. (Four Seasons), of Greensboro, North Carolina, to excavate one 550-gallon #2 fuel oil underground storage tank (UST) at the Wilson, North Carolina Service in Wilson, North Carolina (see Figure 1).

Four Seasons contracted Aquaterra, Inc. (Aquaterra) to perform soil quality assessment activities after the 550-gallon UST was removed. Soil screening measurements indicated that the soil beneath the removed UST appeared to be contaminated with petroleum hydrocarbons. Laboratory analysis of the in situ soil samples collected from the excavation indicated petroleum hydrocarbon contamination of 590 mg/kg (parts per million, ppm) and 618 mg/kg (ppm) total petroleum hydrocarbons (TPH) present at a depth of 9 feet below grade. Subsequent to sample collection, the pit was backfilled with the excavated soils and clean fill pending the formulation of remedial alternatives. Further details of the activities completed can be found in the Aquaterra *Underground Storage Tank Closure Soil Assessment Report*, dated October 12, 1989.

On February 7, 1990, Southern States requested that Aquaterra develop a comprehensive site assessment and corrective action plan for the Wilson Service. It was also requested that the plan include soil disposal options and cost estimates to remediate the site. Further information can be found in the *Comprehensive Site Assessment and Corrective Action Plan*, dated April 6, 1990.

On October 30, 1990, the North Carolina Department of Environment, Health, and Natural Resources, Division of Environmental Management (DEM) approved the comprehensive site assessment and corrective action plan. This plan included a site sensitivity evaluation which set the cleanup level for the site at 36 mg/kg (ppm) TPH. With this approval, Southern States requested that Aquaterra proceed with the soil remediation plan for the site.

2 Objective and Scope of Work

The objective of this phase of work was to excavate petroleum hydrocarbon contaminated soils containing greater than 36 mg/kg (ppm) TPH from the area surrounding the former UST. In that regard, the project scope of work included the following tasks:

- When excavation activities began, screen soil samples from the excavation for volatile organic compounds (VOCs) with an organic vapor analyzer (OVA).

- Collect soil samples from the in situ soil and have them analyzed for TPH according to EPA SW-846 Extraction Methods 3550 and 5030 by gas chromatograph with flame ionization detection (GC-FID) analysis.
- Prepare a report that documents the methods used, results obtained, and presents Aquaterra's conclusions and recommendations for the site.

3 Soil Assessment Methods and Site Conditions

This section of the report describes the methodology and results of the field activities performed to assess the soil quality in the vicinity of the excavation.

3.1 Soil Description

In general, soil in the vicinity of the excavation consisted of a medium brownish red to brownish grey slightly sandy clayey silt to a depth of approximately 10 feet. From 10 feet to approximately 13 feet the soil encountered consisted of light brown slightly clayey silty medium to fine sand. The soils were classified according to the United Soil Classification System (ASTM D 2488-84). Ground water was not encountered during the excavation activities.

3.2 Soil Sample Collection, Analytical Methodology

Aquaterra and Four Seasons personnel began to remove the petroleum contaminated soils on December 11, 1990. As soil was removed from the excavation, an Aquaterra geologist screened the material for VOCs with an OVA. The samples for the OVA screening were collected from freshly exposed sidewalls and the pit floor. Each sample was placed in a sealed container and allowed to volatilize for approximately 10 to 15 minutes. The VOCs in the headspace of the container were then measured using the OVA and the results were recorded with the sample location. The OVA measurements collected during soil screening are summarized in Table 1 with the respective sample locations shown in Figure 2.

Based on the OVA screening results, five in situ soil samples were collected from freshly excavated surfaces within the pit to minimize contaminant volatilization and obtain a representative sample. The soil sample locations and depths are shown in Table 1 and Figure 2.

The soils samples were collected and stored in glass jars, labelled, logged onto a chain-of-custody form, stored and transported in an insulated cooler filled with ice until delivery to the analytical laboratory. The samples were analyzed by Industrial & Environmental Analysts, Inc. (IEA) of Cary, North Carolina, for TPH according to EPA SW-846 Extraction Methods 3550 and 5030 with GC-FID analysis. Extraction Method 3550 is used to extract medium weight hydrocarbons such as diesel, #2 fuel oil, and kerosene. Extraction Method 5030 is used to extract lighter weight hydrocarbons such as gasoline.

3.3 Soil Screening and Analytical Results

In general, OVA screening results indicate that as the excavation was advanced outward from the location of the former UST, the concentration of total VOCs decreased. This is exhibited in Table 1 and corresponding sample locations in Figure 2. The excavation was advanced until OVA measurements indicated less than 10 mg/kg (ppm) total VOCs. At this time an in situ soil sample was collected for laboratory analysis for each of the sidewalls and pit bottom. In addition, one composite soil sample (SS6) was collected from a mixture of UST backfill material, parking area gravel and excavation backfill material. This sample indicated 1.0 mg/kg (ppm) VOCs on the OVA.

The soil sample analytical results indicated a below quantitation limit of 2.0 mg/kg (ppm) TPH for all soil samples except SS4 taken from the south wall and SS6 taken as a composite backfill sample. Soil analytical results for these samples indicated 310 mg/kg (ppm) and 370 mg/kg (ppm) TPH with a distillation range similar to #2 fuel oil, respectively. Laboratory analytical results are summarized in Table 2, and a copy of the analytical reports and chain-of-custody forms are included in Attachment A.

Therefore, based on the analytical results for soil samples SS4 and SS6, the south wall and base of the pit where SS6 was collected were reexcavated on January 3, 1991. The excavation was advanced an additional 5 feet south and 12 feet deep. When the OVA indicated VOCs less than ambient background, two additional soil samples were collected. The laboratory analytical results indicated a below quantitation limit of 2.0 mg/kg (ppm) TPH for both samples.

4 Soil Disposal

Approximately 83 tons of soil was removed from the excavation and transported to the Southern States Mebane facility in Mebane, North Carolina. The soils are stockpiled on and covered with polyethylene sheeting pending the approval of a *Non-Discharge Permit Application and Soil Bioremediation Plan* submitted to the DEM on December 18, 1990. The excavation was then backfilled to its original topographic condition with clean fill. Transportation and disposal manifests are included in Attachment B.

5 Conclusions

On December 11, 1990, and January 3, 1991, excavation activities were performed to remove petroleum hydrocarbon contaminated soils from the location of a former UST. Approximately 83 tons of soil were removed from the excavation and transported to the Mebane, North Carolina facility for land application and bioremediation. Aquaterra concludes that soils containing greater than the designated cleanup level of 36 mg/kg (ppm) TPH have been successfully removed from the subsurface and the UST system meets the requirements for permanent closure according to North Carolina regulations.

Table 1. Soil Screening for Southern States Cooperative, Inc., Wilson, North Carolina Facility.

Location	Date	Depth Below Grade (ft.)	Soil Descriptions	OVA Measurement (ppm)	Action Taken
T1	12-11-90	3	Brown red to gray silty CLAY	8.8	Excavation Advanced
T2	12-11-90	4	Brown red to gray silty CLAY	9.2	Excavation Advanced
T3	12-11-90	5	Brown red to gray silty CLAY	65	Excavation Advanced
T4	12-11-90	8	Brown red to gray silty CLAY	440	Excavation Advanced
C1	12-11-90	9	Brown red to gray silty CLAY	590	Excavation Advanced
C2	12-11-90	9	Brown red to gray silty CLAY	390	Excavation Advanced
C3	12-11-90	12	Tan clayey silty fine SAND	250	Excavation Advanced
C4	12-11-90	12	Tan clayey silty fine SAND	140	Excavation Advanced
C5	12-11-90	13	Tan clayey silty fine SAND	1.0	Excavation Advanced
SS1	12-11-90	13	Tan clayey silty fine SAND	BAB	Collected Sample SS1
N1	12-11-90	7	Brown red to gray silty CLAY	810	Excavation Advanced
N2	12-11-90	9	Brown red to gray silty CLAY	510	Excavation Advanced
N3	12-11-90	9	Brown red to gray silty CLAY	450	Excavation Advanced
N4	12-11-90	9	Brown red to gray silty CLAY	500	Excavation Advanced
N5	12-11-90	10	Brown red to gray silty CLAY	220	Excavation Advanced
N6	12-11-90	10	Brown red to gray silty CLAY	180	Excavation Advanced
N7	12-11-90	10	Brown red to gray silty CLAY	290	Excavation Advanced
N8	12-11-90	10	Brown red to gray silty CLAY	160	Excavation Advanced
N9	12-11-90	12	Tan clayey silty fine SAND	100	Excavation Advanced
N10	12-11-90	11	Tan clayey silty fine SAND	520	Excavation Advanced
N11	12-11-90	11	Tan clayey silty fine SAND	4.5	Excavation Advanced

BAB = Below Ambient Background

Aquaterra Job No. 233
R1213-91

Table 1 (cont.). Soil Screening for Southern States Cooperative, Inc., Wilson, North Carolina Facility.

Location	Date	Depth Below Grade (ft.)	Soil Descriptions	OVA Measurement (ppm)	Action Taken
SS2	12-11-90	11	Tan clayey silty fine SAND	2.5	Collected Sample SS2
W1	12-11-90	12	Tan clayey silty fine SAND	38	Excavation Advanced
W2	12-11-90	10	Brown red to gray silty CLAY	56	Excavation Advanced
W3	12-11-90	11	Tan clayey silty fine SAND	30	Excavation Advanced
SS3	12-11-90	11	Tan clayey silty fine SAND	0.5	Collected Sample SS3
S1	12-11-90	9	Brown red to gray silty CLAY	680	Excavation Advanced
S2	12-11-90	11	Tan clayey silty fine SAND	350	Excavation Advanced
S3	12-11-90	11	Tan clayey silty fine SAND	350	Excavation Advanced
SS4	12-11-90	11	Tan clayey silty fine SAND	8.2	Collected Sample SS4
SS5	12-11-90	11	Tan clayey silty fine SAND	6.5	Collected Sample SS5
SS6	12-11-90	8	Brown red to gray silty CLAY to Tan clayey silty fine SAND	8.0	Collected Sample SS6
S4	1-3-91	5	Brown red to gray silty CLAY	BAB	Excavation Advanced
S5	1-3-91	10	Brown red to gray silty CLAY	12	Excavation Advanced
S6	1-3-91	--	Tan clayey silty fine SAND	1.0	Backfill Material
S7	1-3-91	6	Brown red to gray silty CLAY	48	Excavation Advanced
S8	1-3-91	10	Brown red to gray silty CLAY	10	Excavation Advanced
S9	1-3-91	13	Tan clayey silty fine SAND	BAB	Excavation Advanced
SS7	1-3-91	11	Tan clayey silty fine SAND	BAB	Collected Sample SS7
SS8	1-3-91	11	Tan clayey silty fine SAND	BAB	Collected Sample SS8

BAB = Below Ambient Background

Table 2. **Soil Sample Analytical Results for Southern States Cooperative, Inc., Wilson, North Carolina Facility.**

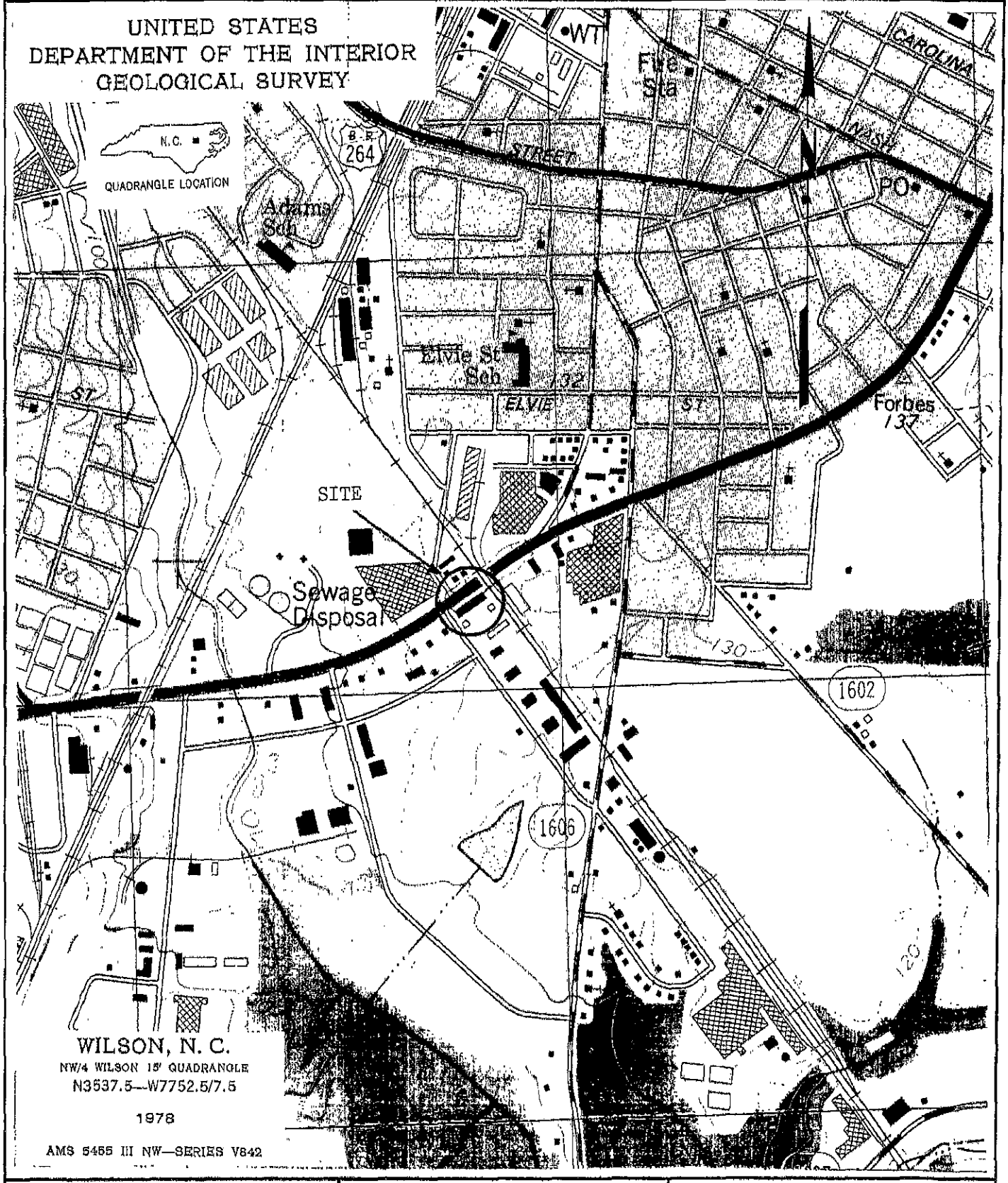
Sample	Date	Depth Below Grade (ft.)	TOTAL PETROLEUM HYDROCARBONS (ppm) Extraction Method 3550	Extraction Method 5030
SS1	12-11-90	13	BQL	BQL
SS2	12-11-90	11	BQL	BQL
SS3	12-11-90	11	BQL	BQL
SS4	12-11-90	11	310	BQL
SS5	12-11-90	11	BQL	BQL
SS6	12-11-90	8	370	BQL
SS7	1-3-91	12	BQL	BQL
SS8	1-3-91	12	BQL	BQL

BQL =Below Quantitation Limit of 2.0 mg/kg (ppm).

Note: Soil samples SS4 and SS6 contain a petroleum hydrocarbon blend with a distillation range similar to #2 fuel oil.

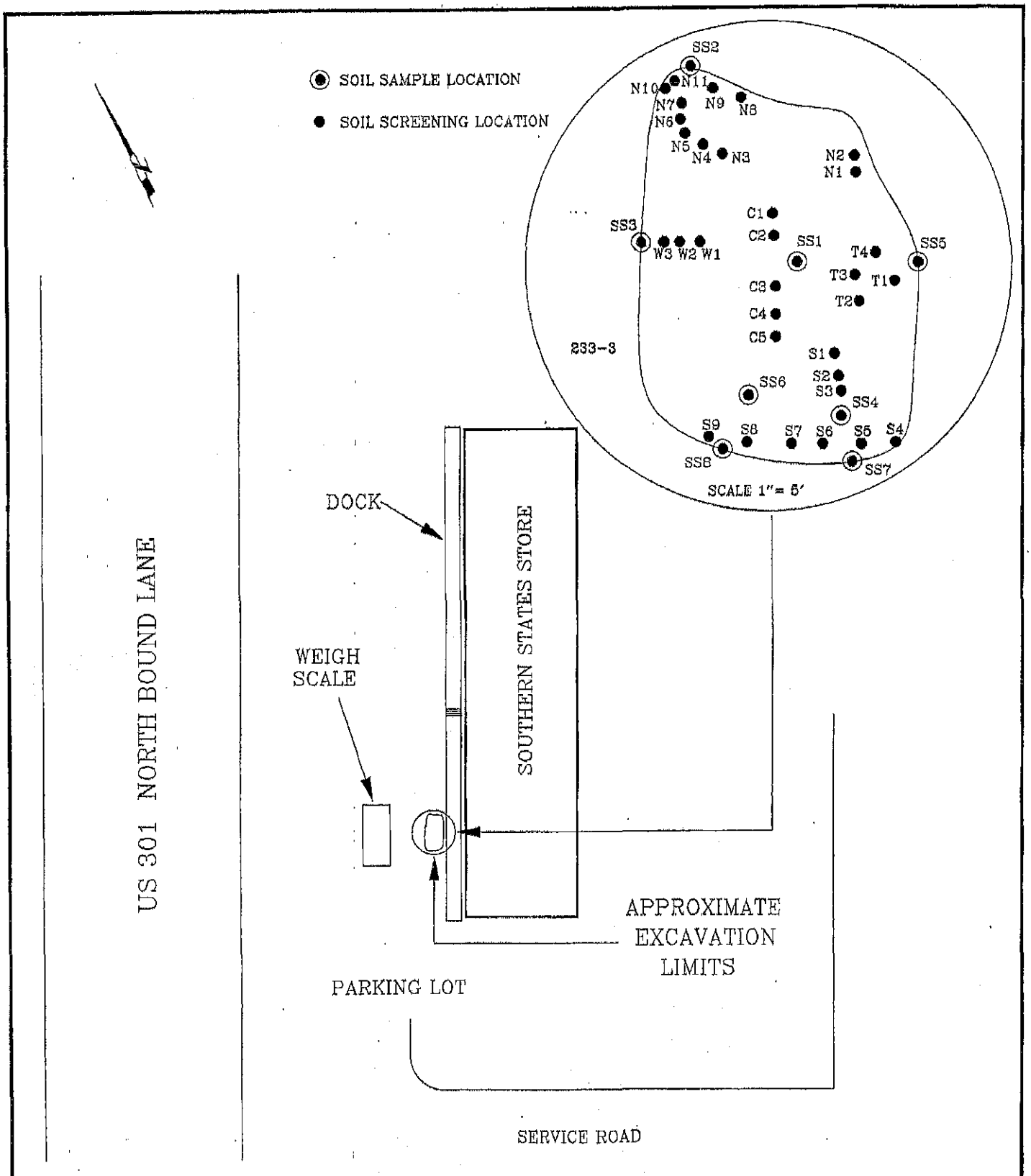
Analytical Laboratory: Industrial & Environmental Analysts, Inc.
Cary, North Carolina

Aquaterra Job No. 233
R1213-91



PROJECT: SOUTHERN STATES COOPERATIVE, INC. WILSON SERVICE WILSON, NORTH CAROLINA	TITLE: SITE LOCATION MAP			
	JOB: 233	DRAWING:	FIGURE: 1	APPROX. SCALE 1" = 1000'

AQUATERRA, INC.
RALEIGH, GREENSBORO, CHARLOTTE
NORTH CAROLINA



PROJECT:	TITLE:				
SOUTHERN STATES COOPERATIVE, INC. WILSON, NORTH CAROLINA SERVICE	SAMPLE LOCATION MAP				AQUATERRA, INC. RALEIGH, GREENSBORO, CHARLOTTE NORTH CAROLINA
	JOB: 233	DRAWING: 233-2	FIGURE: 2	APPROX. SCALE 1' = 25'	

Industrial & Environmental Analysts, Inc.
P.O. Box 12846
Research Triangle Park, North Carolina 27709
(919) 677-0090
FAX (919) 677-0427

December 19, 1990



Tom Dunham
Aquaterra, Inc.
P.O. Box 50328
Raleigh, NC 27650

Reference IEA Report No.: 196157
Project ID: 233

Dear Mr. Dunham,

Transmitted herewith are the results of analyses on six samples submitted to our laboratory.

Please see the enclosed reports for your results.

Very truly yours,

INDUSTRIAL & ENVIRONMENTAL ANALYSTS, INC.

Linda F. Mitchell
Director, Technical Support Services

State Certification:

Alabama - #40210	New Jersey - #67719	South Carolina - #99021
Georgia - #816	Tennessee - #00296	North Carolina - #37720
Kansas - #E-158	Virginia - #00179	#84

Total Petroleum Hydrocarbon Analysis

IEA Sample No: 196-157-1 Date Received: 12-12-90

Client Sample No: SS-1 Date Extracted: 12-12-90

Client Project No: 233

Extraction (SW 846 - 3550) / GC-FID analysis (for #2 fuel oil,kerosene,varsol)
Date Analyzed: 12-14-90

The sample does not contain a petroleum hydrocarbon blend in the distillation range referenced above. The quantitation limit is 2.0 mg/kg.

Comment:

==========

Purge and Trap (SW 846 - 5030) / GC-FID analysis (for gasoline only)
Date Analyzed: 12-13-90

The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 2.0 mg/kg.

Comment:

iea

Total Petroleum Hydrocarbon Analysis

IEA Sample No: 196-157-2 Date Received: 12-12-90

Client Sample No: SS-2 Date Extracted: 12-12-90

Client Project No: 233

Extraction (SW 846 - 3550) / GC-FID analysis (for #2 fuel oil,kerosene,varsol)
Date Analyzed: 12-14-90

The sample does not contain a petroleum hydrocarbon blend in the distillation range referenced above. The quantitation limit is 2.0 mg/kg.

Comment:

Purge and Trap (SW 846 - 5030) / GC-FID analysis (for gasoline only)
Date Analyzed: 12-13-90

The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 2.0 mg/kg.

Comment:

iea

Total Petroleum Hydrocarbon Analysis

IEA Sample No:	196-157-3	Date Received:	12-12-90
Client Sample No:	SS-3	Date Extracted:	12-12-90
Client Project No:	233		

Extraction (SW 846 - 3550) / GC-FID analysis (for #2 fuel oil,kerosene,varsol)
Date Analyzed: 12-14-90

The sample does not contain a petroleum hydrocarbon blend in the distillation range referenced above. The quantitation limit is 2.0 mg/kg.

Comment:

==========

Purge and Trap (SW 846 - 5030) / GC-FID analysis (for gasoline only)
Date Analyzed: 12-13-90

The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 2.0 mg/kg.

Comment:

iea

Total Petroleum Hydrocarbon Analysis

IEA Sample No: 196-157-4 Date Received: 12-12-90

Client Sample No: SS-4 Date Extracted: 12-12-90

Client Project No: 233

Extraction (SW 846 - 3550) / GC-FID analysis (for #2 fuel oil,kerosene,varsol)
Date Analyzed: 12-14-90

The sample contains a petroleum hydrocarbon blend with a distillation range similar to #2 fuel oil. The concentration is 310 mg/kg. The quantitation limit is 2.0 mg/kg.

Comment:

==========

Purge and Trap (SW 846 - 5030) / GC-FID analysis (for gasoline only)
Date Analyzed: 12-13-90

The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 2.0 mg/kg.

Comment:

Comment:

Total Petroleum Hydrocarbon Analysis

IEA Sample No: 196-157-6 Date Received: 12-12-90

Client Sample No: SS-6 Date Extracted: 12-12-90

Client Project No: 233

Extraction (SW 846 - 3550) / GC-FID analysis (for #2 fuel oil,kerosene,varsol)
Date Analyzed: 12-14-90

The sample contains a petroleum hydrocarbon blend with a distillation range similar to #2 fuel oil. The concentration is 370 mg/kg. The quantitation limit is 2.0 mg/kg.

Comment:

==========

Purge and Trap (SW 846 - 5030) / GC-FID analysis (for gasoline only)
Date Analyzed: 12-13-90

The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 2.0 mg/kg.

Comment:

AQUATERRA, INC.

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
233	S.S. Wilson

SAMPLERS: (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	TPH by GC	REMARKS
SS1	12/11/90	11:20		X	Center Bottom of Pit Depth 13'	3	X	OVA – BAR
SS2	12/11/90	11:30		X	North wall of Pit - Depth 11'	3	X	OVA – 2.5
SS3	12/11/90	11:40		X	West wall of Pit Depth 11'	3	X	OVA – 0.5 (Soil
SS4	12/11/90	12:00		X	South wall of Pit - Depth 11'	3	X	OVA – 8.2 Matrix
SS5	12/11/90	12:15		X	East Wall of Pit - Depth 11'	3	X	OVA – 6.5
SS6	12/11/90	12:30	X		Composite of backfill	3	X	OVA – 8.0)
								Send Results to Tom Dunham
								Raleigh
								* 48 hr turnaround
								Rush

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
	12/11/90 15:35		12/11/90 15:35	P.O.# R 3655	

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory: Pink copy retained by laboratory: Yellow copy retained by samplers.

Industrial & Environmental Analysts, Inc.
P.O. Box 12846
Research Triangle Park, North Carolina 27709
(919) 677-0090
FAX (919) 677-0427

January 11, 1991



Tom Dunham
Aquaterra, Inc.
P.O. Box 50328
Raleigh, NC 27650

Reference IEA Report No.: 196176
Project I.D.: 233

Dear Mr. Dunham,

Transmitted herewith are the results of analyses on two samples submitted to our laboratory.

Please see the enclosed reports for your results.

Very truly yours,

INDUSTRIAL & ENVIRONMENTAL ANALYSTS, INC.

Linda F. Mitchell
Director, Technical Support Services

State Certification:

Alabama - #40210	New Jersey - #67719	South Carolina - #99021
Georgia - #816	Tennessee - #00296	North Carolina - #37720
Kansas - #E-158	Virginia - #00179	#84

iea

Total Petroleum Hydrocarbon Analysis

IEA Sample No: 196-176-1 Date Received: Ø1-Ø3-91

Client Sample No: SS-7 Date Extracted: Ø1-Ø4-91

Client Project No: 233

Extraction (SW 846 - 355Ø) / GC-FID analysis (for #2 fuel oil,kerosene,varsol)
Date Analyzed: Ø1-Ø6-91

The sample does not contain a petroleum hydrocarbon blend in the distillation range referenced above. The quantitation limit is 2.Ø mg/kg.

Comment:

==========

Purge and Trap (SW 846 - 5Ø3Ø) / GC-FID analysis (for gasoline only)
Date Analyzed: Ø1-Ø7-91

The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 2.Ø mg/kg.

Comment:

iea

Total Petroleum Hydrocarbon Analysis

IEA Sample No: 196-176-2 Date Received: Ø1-Ø3-91

Client Sample No: SS-8 Date Extracted: Ø1-Ø4-91

Client Project No: 233

Extraction (SW 846 - 3550) / GC-FID analysis (for #2 fuel oil,kerosene,varsol)
Date Analyzed: Ø1-Ø6-91

The sample does not contain a petroleum hydrocarbon blend in the distillation range referenced above. The quantitation limit is 2.Ø mg/kg.

Comment:

==========

Purge and Trap (SW 846 - 5Ø3Ø) / GC-FID analysis (for gasoline only)
Date Analyzed: Ø1-Ø7-91

The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 2.Ø mg/kg.

Comment:

AQUATERRA, INC.

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
233	S.S. Wilson, NC

SAMPLERS: (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	TPH-GC						REMARKS
SS-7	11/3/91	11:45		X	Sat. ext. wall @ 11'	3	X						Soil matrix
													Structural fwr. Above
													grade to
													Top of slab
													Retained

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
	11/3/91 13:52		11-3-91 13:52		

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory: Pink copy retained by laboratory: Yellow copy retained by samplers.

AQUATERRA, INC.

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
253	55 Wilson NC

SAMPLERS: (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	TPH-GC	REMARKS
SS-8	11/3/91	17[00]			Soil at pt behind [illegible]	3		Soil sample
								Stanford Labs Analysis
								results to
								Tom Outlaw
								Raleigh

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
	11/3/91 18[20]		11-3-91 13:50		

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory: Pink copy retained by laboratory: Yellow copy retained by samplers.

MANIFEST LOG

AQUATERRA, INC.
SOUTHERN STATES COOPERATIVE
WILSON, NORTH CAROLINA

MANIFEST LOG

AQUATERRA, INC.
SOUTHERN STATES COOPERATIVE
WILSON, NORTH CAROLINA
FSIS JOB NUMBER: 90-55224/91-50006

DELIVERY DATE	MANIFEST NUMBER	ORDER NUMBER	NET POUNDAGE	NET TONNAGE
Tuesday				
12/11/90	3169	3169	45,480	22.74
12/11/90	3170	3170	39,740	19.87
12/11/90	3171	3171	37,840	18.92
Project Total			**123,060**	**61.53**
Thursday				
1/3/91	3224	3224	43,360	21.68
Daily Total			**43,360**	**21.68**

Project Summary	
Total Poundage:	166,420
Total Tonnage:	83.21
Total Loads:	4

SPECIAL TRANSPORTATION MANIFEST

3169

Four Seasons Industrial Services, Inc.
Post Office Box 16590
Greensboro, North Carolina 27416

Generator:

Project Number:

Material Code:

GENERATOR INFORMATION

Generator: Southern States
Hwy 301
Wilson, NC

Project: # 90.6224
Phone: 919-237-5231
Contact: Wallace Ellis

I certify that the materials being shipped under this special transportation manifest are properly described, classified, packaged, marked, labeled, and are in proper condition for transported in commerce under the applicable regulations of the state, U.S. Department of Transportation, and the U.S. Environmental Protection Agency. I further certify that this material is not a "hazardous waste", and has been delivered to the transporter designated below, for shipment to the treatment or disposal facility as indicated on this manifest document.

Generator Signature: [signature] Date: 12-11-90

Material Description	Contaminant	Quantity	Unit
Petroleum Contaminated Non-RCRA Regulated	Heating Oil	74680 19200 Tetron	P

Non-Hazardous

22.74

TRANSPORTER INFORMATION

Transporter: Carl T. Durham Trucking
3720 12 Mile Creek Rd.
Greensboro NC 27406

Date: 12-11-90
Phone: 919-674-7164
Contact: Todd Durham

As the transporter I certify that the materials described above being shipped under this special transportation manifest are properly classified, packaged, labeled, secured, and are in proper condition for transport in commerce under the applicable regulations governing transportation, and I hereby receive this material for delivery to the facility designated.

Transporter Signature: [signature] Date: 12-11-90

FACILITY INFORMATION

Facility: Smith Shirley
Melbourne NC

Date: 12-11-90
Phone: 919 859 9987
Contact: Tim Dunham

I certify that the transporter has delivered the materials described above to this facility, and I hereby accept this material for treatment and/or disposal in a manner that has been authorized by the State of North Carolina.

Facility Signature: Date:

Top copy / Facility; 2nd copy / Return to Generator; 3rd Copy / Transporter; Back Copy / Generator

SPECIAL TRANSPORTATION MANIFEST 3170

Four Seasons Industrial Services, Inc.
Post Office Box 16590
Greensboro, North Carolina 27416

GENERATOR INFORMATION

Generator: Southern States — Project: # 90-55224

[illegible] — Phone: 919-239-5231

Wilson, NC — Contact: Willie Ellis

I certify that the materials being shipped under this special transportation manifest are properly described, classified, packaged, marked, labeled, and are in proper condition for transported in commerce under the applicable regulations of the state, U.S. Department of Transportation, and the U.S. Environmental Protection Agency. I further certify that this material is not a "hazardous waste", and has been delivered to the transporter designated below, for shipment to the treatment or disposal facility as indicated on this manifest document.

Generator Signature: [signature] Date: 12-11-90

Material Description	Contaminant	Quantity	Unit
Petroleum Contaminated Soil Non-RCRA Regulated	Motor Oil	07420 25630 33050	P

Non-Hazardous 1987

TRANSPORTER INFORMATION

Transporter: C.J.T. Durham Trucking — Date: 12-11-90

[illegible] Dr. Rd. — Phone: 919-684-7164

Greensboro, N.C. 27406 — Contact: T.J. Durham

As the transporter I certify that the materials described above being shipped under this special transportation manifest are properly classified, packaged, labeled, secured, and are in proper condition for transport in commerce under the applicable regulations governing transportation, and I hereby receive this material for delivery to the facility designated.

Transporter Signature: [signature] Date: 12/11/90

FACILITY INFORMATION

Facility: Southern States — Date: 12-11-90

Wilson, N.C. — Phone: 919-759-9987

Contact: Tim Durham

I certify that the transporter has delivered the materials described above to this facility, and I hereby accept this material for treatment and/or disposal in a manner that has been authorized by the State of North Carolina.

Facility Signature: _____ Date: _____

Top copy / Facility; 2nd copy / Return to Generator; 3rd Copy / Transporter; Back Copy / Generator

Generator:

Project Number:

Material Code:

SPECIAL TRANSPORTATION MANIFEST

3171

Generator:

Project Number:

Material Code:

Four Seasons Industrial Services, Inc.
Post Office Box 16590
Greensboro, North Carolina 27416

GENERATOR INFORMATION

Generator: Southern States

Hwy 301

Wilson N.C.

Project: # 90-55224

Phone: 919-237-5231

Contact: W. Wade Ellis

I certify that the materials being shipped under this special transportation manifest are properly described, classified, packaged, marked, labeled, and are in proper condition for transported in commerce under the applicable regulations of the state, U.S. Department of Transportation, and the U.S. Environmental Protection Agency. I further certify that this material is not a "hazardous waste", and has been delivered to the transporter designated below, for shipment to the treatment or disposal facility as indicated on this manifest document.

Generator Signature: W. Wade Ellis

Date: 12-11-90

Material Description	Contaminant	Quantity	Unit
Petroleum Contaminated Soil Non-RCRA regulated	Heating oil	67260 29920	P
Non Hazardous		97180	18.92

TRANSPORTER INFORMATION

Transporter: C and T Durham Trucking

920 Williams Dairy Rd.

Greensboro N.C. 27406

Date: 12-11-90

Phone: 910-674-7164

Contact: Todd Durham

As the transporter I certify that the materials described above being shipped under this special transportation manifest are properly classified, packaged, labeled, secured, and are in proper condition for transport in commerce under the applicable regulations governing transportation, and I hereby receive this material for delivery to the facility designated.

Transporter Signature: [signature]

Date: 12-11-90

FACILITY INFORMATION

Facility: Southern States

Wilson N.C.

Date: 12-11-90

Phone: 919-859-4927

Contact:

I certify that the transporter has delivered the materials described above to this facility, and I hereby accept this material for treatment and/or disposal in a manner that has been authorized by the State of North Carolina.

Facility Signature:

Date:

Top copy / Facility; 2nd copy / Return to Generator; 3rd Copy / Transporter; Back Copy / Generator

SPECIAL TRANSPORTATION MANIFEST

3224

Four Seasons Industrial Services, Inc.
Post Office Box 16590
Greensboro, North Carolina 27416

Generator:

Project Number:

Material Code:

GENERATOR INFORMATION

91-50006

Generator: Southern States
Hwy 301
Wilson, NC

Project: # ~~90-55224~~

Phone: 919-237-5231

Contact: Wallace Ellis.

I certify that the materials being shipped under this special transportation manifest are properly described, classified, packaged, marked, labeled, and are in proper condition for transported in commerce under the applicable regulations of the state, U.S. Department of Transportation, and the U.S. Environmental Protection Agency. I further certify that this material is not a "hazardous waste", and has been delivered to the transporter designated below, for shipment to the treatment or disposal facility as indicated on this manifest document.

Generator Signature: Wallace Ellis

Date: 1-3-91

Material Description	Contaminant	Quantity	Unit
Petroleum Contaminated Soil Non-RCRA Regulated	Heating O.L	~~74,890~~ 74,820 -31,460	P
Non-Hazardous		~~43,370~~ 43,360	

TRANSPORTER INFORMATION

Transporter: C & T Durham Trucking Co.
3720 Williams Dairy Rd.
Greensboro NC 27406

Date: 03 Jan 91

Phone: 919-674-7164

Contact: Todd Durham

As the transporter I certify that the materials described above being shipped under this special transportation manifest are properly classified, packaged, labeled, secured, and are in proper condition for transport in commerce under the applicable regulations governing transportation, and I hereby receive this material for delivery to the facility designated.

Transporter Signature: Donald Stanley DS-1

Date: 03-1-91

FACILITY INFORMATION

Facility: Southern States
Mebane, NC

Date:

Phone: 919-859-9987

Contact: Tom Durham.

I certify that the transporter has delivered the materials described above to this facility, and I hereby accept this material for treatment and/or disposal in a manner that has been authorized by the State of North Carolina.

Facility Signature:

Date:

Top copy / Facility; 2nd copy / Return to Generator; 3rd Copy / Transporter; Back Copy / Generator

DIVISION OF ENVIRONMENTAL MANAGEMENT
March 13, 1991
Groundwater Section

M E M O R A N D U M

TO: Burrie Boshoff

THROUGH: Jay Zimmerman
Arthur Mouberry
FROM: Tom Arrington

SUBJECT: Incident 5313 Closeout of Southern States Wilson, Wilson County

Attached is the final closeout report for Southern States Wilson. Based on the findings in the report and the supporting analytical data, it appears as though all contaminated soils have been removed and the site is now within current acceptable limits. The soil is now stored in an acceptable manner awaiting issuance of a non-discharge permit. Since pit excavation floor soil analyses showed no contamination and the groundwater was greater than five feet below the pit bottom, it is highly unlikely that groundwater has been affected.

The RRO believes the site has been successfully remediated consistent with applicable rules and regulations. Soil has been successfully remediated and groundwater is not believed to be threatened or impacted due to the site hydrogeological factors. The site should not pose a threat to human health, safety or the environment.

Your expeditious review and approval for closeout are eagerly anticipated.

STA:cs

APPENDIX B

LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY RECORD FOR SOIL SAMPLES

Mid Atlantic
Engineering & Environmental Solutions

PRISM LABORATORIES, INC.
Full-Service Analytical & Environmental Solutions

NC Certification No. 402
SC Certification No. 99012
NC Drinking Water Cert No. 37735
VA Certification No. 460211
DoD ELAP: L-A-B Accredited Certificate No. L2307
ISO/IEC 17025: L-A-B Accredited Certificate No. L2307

Case Narrative

07/24/2013

Mid-Atlantic Associates, Inc.
Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields
Project No.: R2377.01
Lab Submittal Date: 06/28/2013
Prism Work Order: 3060664

This data package contains the analytical results for the project identified above and includes a Case Narrative, Sample Results and Chain of Custody. Unless otherwise noted, all samples were received in acceptable condition and processed according to the referenced methods.

Data qualifiers are flagged individually on each sample. A key reference for the data qualifiers appears at the end of this case narrative.

Please call if you have any questions relating to this analytical report.

Respectfully,

PRISM LABORATORIES, INC.

Steven H. Guptill
Project Manager

Reviewed By Robbi A. Jones For Steven H. Guptill
President/Project Manager

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Data Qualifiers Key Reference:

A	Analysis performed 1 day outside of the recommended 7 day holding time.
Aa	Sample diluted due to high sulfate concentration.
Ab	Sample was re-analyzed due to high CCV recovery of this compound. CCV recovery high on reanalysis.
CCV	CCV result is above the control limits. Analyte not detected in the sample. No further action taken.
DM	Sample diluted due to the matrix.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
L2	LCSD recovery outside of the QC limits. LCS recovery within the limits. No further action taken.
M	Matrix spike outside of the control limits.
MC	Sample concentration too high for recovery evaluation.
MI	Matrix spike outside of the control limits. Matrix interference suspected.
SR	Surrogate recovery outside the QC limits.
BRL	Below Reporting Limit
MDL	Method Detection Limit
RPD	Relative Percent Difference
*	Results reported to the reporting limit. All other results are reported to the MDL with values between MDL and reporting limit indicated with a J.

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Sample Receipt Summary

07/24/2013

Prism Work Order: 3060664

Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
SB-1B (.5'-1')	3060664-01	Soil	06/24/13	06/28/13
AOC-1 (.5'-1')	3060664-02	Soil	06/24/13	06/28/13
SB-1E (.5'-1')	3060664-03	Solid	06/24/13	06/28/13
SB-2B (.5'-1')	3060664-04	Soil	06/24/13	06/28/13
AOC-2 (.5'-1')	3060664-05	Soil	06/24/13	06/28/13
SB-3A (.5'-1')	3060664-06	Soil	06/24/13	06/28/13
AOC-3 (.5'-1')	3060664-07	Soil	06/24/13	06/28/13
SB-4B (.5'-1')	3060664-08	Solid	06/24/13	06/28/13
AOC-4 (.5'-1')	3060664-09	Soil	06/24/13	06/28/13
SB-5 (.5'-1')	3060664-10	Soil	06/25/13	06/28/13
SB-6D (.5'-1')	3060664-11	Soil	06/24/13	06/28/13
Duplicate #1 (.5'-1')	3060664-12	Soil	06/24/13	06/28/13
AOC-6 (.5'-1')	3060664-13	Soil	06/24/13	06/28/13
Duplicate #2 (.5'-1')	3060664-14	Soil	06/24/13	06/28/13
SB-7A (.5'-1')	3060664-15	Soil	06/24/13	06/28/13
AOC-7 (.5'-1')	3060664-16	Soil	06/24/13	06/28/13
BG (.5'-1')	3060664-17	Solid	06/25/13	06/28/13

Samples received in good condition at 3.8 degrees C unless otherwise noted.

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Summary of Detections

07/24/2013

Prism Work Order: 3060664

Prism ID	Client ID	Parameter	Method	Result		Units
3060664-01	SB-1B (.5'-1')	1,2,4-Trimethylbenzene	8260B	5.9		mg/kg dry
3060664-01	SB-1B (.5'-1')	1,3,5-Trimethylbenzene	8260B	2.2		mg/kg dry
3060664-01	SB-1B (.5'-1')	4-Isopropyltoluene	8260B	0.18		mg/kg dry
3060664-01	SB-1B (.5'-1')	Benzene	8260B	0.085	J	mg/kg dry
3060664-01	SB-1B (.5'-1')	Ethylbenzene	8260B	1.0		mg/kg dry
3060664-01	SB-1B (.5'-1')	Isopropylbenzene (Cumene)	8260B	0.16		mg/kg dry
3060664-01	SB-1B (.5'-1')	m,p-Xylenes	8260B	5.1		mg/kg dry
3060664-01	SB-1B (.5'-1')	Naphthalene	8260B	1.6		mg/kg dry
3060664-01	SB-1B (.5'-1')	n-Butylbenzene	8260B	0.78		mg/kg dry
3060664-01	SB-1B (.5'-1')	n-Propylbenzene	8260B	0.59		mg/kg dry
3060664-01	SB-1B (.5'-1')	o-Xylene	8260B	0.052	J	mg/kg dry
3060664-01	SB-1B (.5'-1')	sec-Butylbenzene	8260B	0.15	J	mg/kg dry
3060664-01	SB-1B (.5'-1')	Xylenes, total	8260B	5.2		mg/kg dry
3060664-02	AOC-1 (.5'-1')	Nitrate as N	*9056A	18		mg/kg dry
3060664-02	AOC-1 (.5'-1')	Phosphorus-Total	*SM4500-P F	770		mg/kg dry
3060664-02	AOC-1 (.5'-1')	4,4'-DDD	8081B	9400	Ab	ug/kg dry
3060664-02	AOC-1 (.5'-1')	4,4'-DDE	8081B	260		ug/kg dry
3060664-02	AOC-1 (.5'-1')	Aldrin	8081B	35		ug/kg dry
3060664-02	AOC-1 (.5'-1')	1-Methylnaphthalene	8270D	4.2		mg/kg dry
3060664-02	AOC-1 (.5'-1')	2-Methylnaphthalene	8270D	4.3		mg/kg dry
3060664-02	AOC-1 (.5'-1')	Arsenic	*6010C	3.2		mg/kg dry
3060664-02	AOC-1 (.5'-1')	Cadmium	*6010C	0.41		mg/kg dry
3060664-02	AOC-1 (.5'-1')	Chromium	*6010C	7.8		mg/kg dry
3060664-02	AOC-1 (.5'-1')	Copper	*6010C	7.2		mg/kg dry
3060664-02	AOC-1 (.5'-1')	Lead	*6010C	30		mg/kg dry
3060664-02	AOC-1 (.5'-1')	Nickel	*6010C	2.7		mg/kg dry
3060664-02	AOC-1 (.5'-1')	Zinc	*6010C	140		mg/kg dry
3060664-03	SB-1E (.5'-1')	Nitrate as N	*9056A	41		mg/kg dry
3060664-03	SB-1E (.5'-1')	Phosphorus-Total	*SM4500-P F	1300		mg/kg dry
3060664-03	SB-1E (.5'-1')	Mercury	*7471B	0.027		mg/kg dry
3060664-03	SB-1E (.5'-1')	Antimony	*6010C	0.52		mg/kg dry
3060664-03	SB-1E (.5'-1')	Arsenic	*6010C	4.6		mg/kg dry
3060664-03	SB-1E (.5'-1')	Beryllium	*6010C	0.35		mg/kg dry
3060664-03	SB-1E (.5'-1')	Chromium	*6010C	27		mg/kg dry
3060664-03	SB-1E (.5'-1')	Copper	*6010C	3.9		mg/kg dry
3060664-03	SB-1E (.5'-1')	Lead	*6010C	13		mg/kg dry
3060664-03	SB-1E (.5'-1')	Nickel	*6010C	3.5		mg/kg dry
3060664-03	SB-1E (.5'-1')	Zinc	*6010C	38		mg/kg dry
3060664-03	SB-1E (.5'-1')	Acetone	8260B	0.022	J	mg/kg dry
3060664-04	SB-2B (.5'-1')	Acetone	8260B	0.090		mg/kg dry
3060664-05	AOC-2 (.5'-1')	Nitrate as N	*9056A	11		mg/kg dry
3060664-05	AOC-2 (.5'-1')	Phosphorus-Total	*SM4500-P F	130		mg/kg dry
3060664-05	AOC-2 (.5'-1')	4,4'-DDD	8081B	4.3	Ab	ug/kg dry
3060664-05	AOC-2 (.5'-1')	4,4'-DDE	8081B	5.9		ug/kg dry

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Summary of Detections

07/24/2013

Prism Work Order: 3060664

Prism ID	Client ID	Parameter	Method	Result		Units
3060664-05	AOC-2 (.5'-1')	4,4'-DDT	8081B	13		ug/kg dry
3060664-05	AOC-2 (.5'-1')	Arsenic	*6010C	2.7		mg/kg dry
3060664-05	AOC-2 (.5'-1')	Chromium	*6010C	12		mg/kg dry
3060664-05	AOC-2 (.5'-1')	Copper	*6010C	39		mg/kg dry
3060664-05	AOC-2 (.5'-1')	Lead	*6010C	13		mg/kg dry
3060664-05	AOC-2 (.5'-1')	Nickel	*6010C	2.0		mg/kg dry
3060664-05	AOC-2 (.5'-1')	Zinc	*6010C	35		mg/kg dry
3060664-06	SB-3A (.5'-1')	Acetone	8260B	0.079		mg/kg dry
3060664-06	SB-3A (.5'-1')	m,p-Xylenes	8260B	0.0017	J	mg/kg dry
3060664-06	SB-3A (.5'-1')	Xylenes, total	8260B	0.0017	J	mg/kg dry
3060664-07	AOC-3 (.5'-1')	Phosphorus-Total	*SM4500-P F	100		mg/kg dry
3060664-07	AOC-3 (.5'-1')	4,4'-DDD	8081B	13	Ab	ug/kg dry
3060664-07	AOC-3 (.5'-1')	4,4'-DDE	8081B	4.3		ug/kg dry
3060664-07	AOC-3 (.5'-1')	4,4'-DDT	8081B	2.0	J	ug/kg dry
3060664-07	AOC-3 (.5'-1')	Dieldrin	8081B	4.7		ug/kg dry
3060664-07	AOC-3 (.5'-1')	Antimony	*6010C	0.41		mg/kg dry
3060664-07	AOC-3 (.5'-1')	Arsenic	*6010C	3.8		mg/kg dry
3060664-07	AOC-3 (.5'-1')	Chromium	*6010C	18		mg/kg dry
3060664-07	AOC-3 (.5'-1')	Copper	*6010C	1.9		mg/kg dry
3060664-07	AOC-3 (.5'-1')	Lead	*6010C	13		mg/kg dry
3060664-07	AOC-3 (.5'-1')	Nickel	*6010C	5.1		mg/kg dry
3060664-07	AOC-3 (.5'-1')	Zinc	*6010C	18		mg/kg dry
3060664-08	SB-4B (.5'-1')	Acetone	8260B	0.075		mg/kg dry
3060664-09	AOC-4 (.5'-1')	Nitrate as N	*9056A	11		mg/kg dry
3060664-09	AOC-4 (.5'-1')	Phosphorus-Total	*SM4500-P F	1100		mg/kg dry
3060664-09	AOC-4 (.5'-1')	Mercury	*7471B	0.030		mg/kg dry
3060664-09	AOC-4 (.5'-1')	Antimony	*6010C	0.42		mg/kg dry
3060664-09	AOC-4 (.5'-1')	Arsenic	*6010C	3.8		mg/kg dry
3060664-09	AOC-4 (.5'-1')	Chromium	*6010C	19		mg/kg dry
3060664-09	AOC-4 (.5'-1')	Copper	*6010C	0.86		mg/kg dry
3060664-09	AOC-4 (.5'-1')	Lead	*6010C	9.5		mg/kg dry
3060664-09	AOC-4 (.5'-1')	Nickel	*6010C	4.1		mg/kg dry
3060664-09	AOC-4 (.5'-1')	Zinc	*6010C	7.7		mg/kg dry
3060664-10	SB-5 (.5'-1')	Phosphorus-Total	*SM4500-P F	47		mg/kg dry
3060664-10	SB-5 (.5'-1')	Mercury	*7471B	0.030		mg/kg dry
3060664-10	SB-5 (.5'-1')	Antimony	*6010C	0.51		mg/kg dry
3060664-10	SB-5 (.5'-1')	Arsenic	*6010C	3.8		mg/kg dry
3060664-10	SB-5 (.5'-1')	Chromium	*6010C	25		mg/kg dry
3060664-10	SB-5 (.5'-1')	Copper	*6010C	0.94		mg/kg dry
3060664-10	SB-5 (.5'-1')	Lead	*6010C	15		mg/kg dry
3060664-10	SB-5 (.5'-1')	Nickel	*6010C	1.8		mg/kg dry
3060664-10	SB-5 (.5'-1')	Zinc	*6010C	4.7		mg/kg dry
3060664-10	SB-5 (.5'-1')	Acetone	8260B	0.058	J	mg/kg dry
3060664-11	SB-6D (.5'-1')	Acetone	8260B	0.044		mg/kg dry
3060664-12	Duplicate #1 (.5'-1')	Acetone	8260B	0.071		mg/kg dry

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Summary of Detections

07/24/2013

Prism Work Order: 3060664

Prism ID	Client ID	Parameter	Method	Result		Units
3060664-13	AOC-6 (.5'-1')	Nitrate as N	*9056A	1000		mg/kg dry
3060664-13	AOC-6 (.5'-1')	Phosphorus-Total	*SM4500-P F	64		mg/kg dry
3060664-13	AOC-6 (.5'-1')	Arsenic	*6010C	2.5		mg/kg dry
3060664-13	AOC-6 (.5'-1')	Chromium	*6010C	15		mg/kg dry
3060664-13	AOC-6 (.5'-1')	Lead	*6010C	8.5		mg/kg dry
3060664-13	AOC-6 (.5'-1')	Nickel	*6010C	2.7		mg/kg dry
3060664-13	AOC-6 (.5'-1')	Zinc	*6010C	12		mg/kg dry
3060664-14	Duplicate #2 (.5'-1')	Nitrate as N	*9056A	590		mg/kg dry
3060664-14	Duplicate #2 (.5'-1')	Phosphorus-Total	*SM4500-P F	62		mg/kg dry
3060664-14	Duplicate #2 (.5'-1')	Mercury	*7471B	0.023		mg/kg dry
3060664-14	Duplicate #2 (.5'-1')	Antimony	*6010C	0.33		mg/kg dry
3060664-14	Duplicate #2 (.5'-1')	Arsenic	*6010C	2.7		mg/kg dry
3060664-14	Duplicate #2 (.5'-1')	Chromium	*6010C	16		mg/kg dry
3060664-14	Duplicate #2 (.5'-1')	Lead	*6010C	9.2		mg/kg dry
3060664-14	Duplicate #2 (.5'-1')	Nickel	*6010C	2.2		mg/kg dry
3060664-14	Duplicate #2 (.5'-1')	Zinc	*6010C	9.5		mg/kg dry
3060664-15	SB-7A (.5'-1')	Acetone	8260B	0.025	J	mg/kg dry
3060664-16	AOC-7 (.5'-1')	Nitrate as N	*9056A	870		mg/kg dry
3060664-16	AOC-7 (.5'-1')	Phosphorus-Total	*SM4500-P F	820		mg/kg dry
3060664-16	AOC-7 (.5'-1')	Di-n-butyl phthalate	8270D	0.098	J	mg/kg dry
3060664-16	AOC-7 (.5'-1')	Arsenic	*6010C	3.5		mg/kg dry
3060664-16	AOC-7 (.5'-1')	Chromium	*6010C	16		mg/kg dry
3060664-16	AOC-7 (.5'-1')	Copper	*6010C	9.7		mg/kg dry
3060664-16	AOC-7 (.5'-1')	Lead	*6010C	8.0		mg/kg dry
3060664-16	AOC-7 (.5'-1')	Nickel	*6010C	5.8		mg/kg dry
3060664-16	AOC-7 (.5'-1')	Silver	*6010C	17		mg/kg dry
3060664-16	AOC-7 (.5'-1')	Zinc	*6010C	24		mg/kg dry
3060664-17	BG (.5'-1')	Nitrate as N	*9056A	17		mg/kg dry
3060664-17	BG (.5'-1')	Phosphorus-Total	*SM4500-P F	28		mg/kg dry
3060664-17	BG (.5'-1')	Arsenic	*6010C	1.8		mg/kg dry
3060664-17	BG (.5'-1')	Chromium	*6010C	7.0		mg/kg dry
3060664-17	BG (.5'-1')	Lead	*6010C	6.0		mg/kg dry

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: SB-1B (.5'-1')
Prism Sample ID: 3060664-01
Prism Work Order: 3060664
Time Collected: 06/24/13 10:00
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**86.4 A**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**7/2/13 15:15**	**MJO**	**P3G0067**
Volatile Organic Compounds by GC/MS (Medium Level)									
1,1,1-Trichloroethane	BRL	mg/kg dry	0.16	0.059	50	8260B	7/8/13 16:32	MSC	P3G0142
1,1,2,2-Tetrachloroethane	BRL	mg/kg dry	0.16	0.045	50	8260B	7/8/13 16:32	MSC	P3G0142
1,1,2-Trichloroethane	BRL	mg/kg dry	0.16	0.022	50	8260B	7/8/13 16:32	MSC	P3G0142
1,1-Dichloroethane	BRL	mg/kg dry	0.16	0.040	50	8260B	7/8/13 16:32	MSC	P3G0142
1,1-Dichloroethylene	BRL	mg/kg dry	0.16	0.070	50	8260B	7/8/13 16:32	MSC	P3G0142
1,1-Dichloropropylene	BRL	mg/kg dry	0.16	0.062	50	8260B	7/8/13 16:32	MSC	P3G0142
1,2,3-Trichlorobenzene	BRL	mg/kg dry	0.33	0.024	50	8260B	7/8/13 16:32	MSC	P3G0142
1,2,3-Trichloropropane	BRL	mg/kg dry	0.16	0.019	50	8260B	7/8/13 16:32	MSC	P3G0142
1,2,4-Trichlorobenzene	BRL	mg/kg dry	0.33	0.028	50	8260B	7/8/13 16:32	MSC	P3G0142
1,2,4-Trimethylbenzene	**5.9**	**mg/kg dry**	**0.16**	**0.039**	**50**	**8260B**	**7/8/13 16:32**	**MSC**	**P3G0142**
1,2-Dibromoethane	BRL	mg/kg dry	0.16	0.015	50	8260B	7/8/13 16:32	MSC	P3G0142
1,2-Dichlorobenzene	BRL	mg/kg dry	0.16	0.035	50	8260B	7/8/13 16:32	MSC	P3G0142
1,2-Dichloroethane	BRL	mg/kg dry	0.16	0.024	50	8260B	7/8/13 16:32	MSC	P3G0142
1,2-Dichloropropane	BRL	mg/kg dry	0.16	0.027	50	8260B	7/8/13 16:32	MSC	P3G0142
1,3,5-Trimethylbenzene	**2.2**	**mg/kg dry**	**0.16**	**0.054**	**50**	**8260B**	**7/8/13 16:32**	**MSC**	**P3G0142**
1,3-Dichlorobenzene	BRL	mg/kg dry	0.16	0.033	50	8260B	7/8/13 16:32	MSC	P3G0142
1,3-Dichloropropane	BRL	mg/kg dry	0.16	0.018	50	8260B	7/8/13 16:32	MSC	P3G0142
1,4-Dichlorobenzene	BRL	mg/kg dry	0.16	0.029	50	8260B	7/8/13 16:32	MSC	P3G0142
2,2-Dichloropropane	BRL	mg/kg dry	0.16	0.064	50	8260B	7/8/13 16:32	MSC	P3G0142
2-Chlorotoluene	BRL	mg/kg dry	0.16	0.044	50	8260B	7/8/13 16:32	MSC	P3G0142
4-Chlorotoluene	BRL	mg/kg dry	0.16	0.034	50	8260B	7/8/13 16:32	MSC	P3G0142
4-Isopropyltoluene	**0.18**	**mg/kg dry**	**0.16**	**0.062**	**50**	**8260B**	**7/8/13 16:32**	**MSC**	**P3G0142**
Acetone	BRL	mg/kg dry	0.66	0.023	50	8260B	7/8/13 16:32	MSC	P3G0142
Benzene	**0.085 J**	**mg/kg dry**	**0.16**	**0.040**	**50**	**8260B**	**7/8/13 16:32**	**MSC**	**P3G0142**
Bromobenzene	BRL	mg/kg dry	0.16	0.032	50	8260B	7/8/13 16:32	MSC	P3G0142
Bromochloromethane	BRL	mg/kg dry	0.16	0.021	50	8260B	7/8/13 16:32	MSC	P3G0142
Bromodichloromethane	BRL	mg/kg dry	0.16	0.031	50	8260B	7/8/13 16:32	MSC	P3G0142
Bromoform	BRL	mg/kg dry	0.16	0.023	50	8260B	7/8/13 16:32	MSC	P3G0142
Bromomethane	BRL	mg/kg dry	0.33	0.085	50	8260B	7/8/13 16:32	MSC	P3G0142
Carbon Tetrachloride	BRL	mg/kg dry	0.16	0.042	50	8260B	7/8/13 16:32	MSC	P3G0142
Chlorobenzene	BRL	mg/kg dry	0.16	0.027	50	8260B	7/8/13 16:32	MSC	P3G0142
Chloroethane	BRL	mg/kg dry	0.33	0.059	50	8260B	7/8/13 16:32	MSC	P3G0142
Chloroform	BRL	mg/kg dry	0.16	0.038	50	8260B	7/8/13 16:32	MSC	P3G0142
Chloromethane	BRL	mg/kg dry	0.33	0.046	50	8260B	7/8/13 16:32	MSC	P3G0142
cis-1,2-Dichloroethylene	BRL	mg/kg dry	0.16	0.044	50	8260B	7/8/13 16:32	MSC	P3G0142
cis-1,3-Dichloropropylene	BRL	mg/kg dry	0.16	0.030	50	8260B	7/8/13 16:32	MSC	P3G0142
Dibromochloromethane	BRL	mg/kg dry	0.16	0.019	50	8260B	7/8/13 16:32	MSC	P3G0142
Dichlorodifluoromethane	BRL	mg/kg dry	0.33	0.091	50	8260B	7/8/13 16:32	MSC	P3G0142
Ethylbenzene	**1.0**	**mg/kg dry**	**0.16**	**0.041**	**50**	**8260B**	**7/8/13 16:32**	**MSC**	**P3G0142**

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: SB-1B (.5'-1')
Prism Sample ID: 3060664-01
Prism Work Order: 3060664
Time Collected: 06/24/13 10:00
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Isopropyl Ether	BRL	mg/kg dry	0.16	0.034	50	8260B	7/8/13 16:32	MSC	P3G0142
Isopropylbenzene (Cumene)	**0.16**	**mg/kg dry**	**0.16**	**0.048**	**50**	**8260B**	**7/8/13 16:32**	**MSC**	**P3G0142**
m,p-Xylenes	**5.1**	**mg/kg dry**	**0.33**	**0.082**	**50**	**8260B**	**7/8/13 16:32**	**MSC**	**P3G0142**
Methyl Butyl Ketone (2-Hexanone)	BRL	mg/kg dry	0.66	0.024	50	8260B	7/8/13 16:32	MSC	P3G0142
Methyl Ethyl Ketone (2-Butanone)	BRL	mg/kg dry	0.66	0.041	50	8260B	7/8/13 16:32	MSC	P3G0142
Methyl Isobutyl Ketone	BRL	mg/kg dry	0.66	0.024	50	8260B	7/8/13 16:32	MSC	P3G0142
Methylene Chloride	BRL	mg/kg dry	0.16	0.036	50	8260B	7/8/13 16:32	MSC	P3G0142
Methyl-tert-Butyl Ether	BRL	mg/kg dry	0.16	0.018	50	8260B	7/8/13 16:32	MSC	P3G0142
Naphthalene	**1.6**	**mg/kg dry**	**0.33**	**0.025**	**50**	**8260B**	**7/8/13 16:32**	**MSC**	**P3G0142**
n-Butylbenzene	**0.78**	**mg/kg dry**	**0.16**	**0.056**	**50**	**8260B**	**7/8/13 16:32**	**MSC**	**P3G0142**
n-Propylbenzene	**0.59**	**mg/kg dry**	**0.16**	**0.048**	**50**	**8260B**	**7/8/13 16:32**	**MSC**	**P3G0142**
o-Xylene	**0.052 J**	**mg/kg dry**	**0.16**	**0.036**	**50**	**8260B**	**7/8/13 16:32**	**MSC**	**P3G0142**
sec-Butylbenzene	**0.15 J**	**mg/kg dry**	**0.16**	**0.064**	**50**	**8260B**	**7/8/13 16:32**	**MSC**	**P3G0142**
Styrene	BRL	mg/kg dry	0.16	0.026	50	8260B	7/8/13 16:32	MSC	P3G0142
tert-Butylbenzene	BRL	mg/kg dry	0.16	0.052	50	8260B	7/8/13 16:32	MSC	P3G0142
Tetrachloroethylene	BRL	mg/kg dry	0.16	0.050	50	8260B	7/8/13 16:32	MSC	P3G0142
Toluene	BRL	mg/kg dry	0.16	0.045	50	8260B	7/8/13 16:32	MSC	P3G0142
trans-1,2-Dichloroethylene	BRL	mg/kg dry	0.16	0.050	50	8260B	7/8/13 16:32	MSC	P3G0142
trans-1,3-Dichloropropylene	BRL	mg/kg dry	0.16	0.022	50	8260B	7/8/13 16:32	MSC	P3G0142
Trichloroethylene	BRL	mg/kg dry	0.16	0.047	50	8260B	7/8/13 16:32	MSC	P3G0142
Trichlorofluoromethane	BRL	mg/kg dry	0.33	0.10	50	8260B	7/8/13 16:32	MSC	P3G0142
Vinyl acetate	BRL	mg/kg dry	0.66	0.054	50	8260B	7/8/13 16:32	MSC	P3G0142
Vinyl chloride	BRL	mg/kg dry	0.33	0.070	50	8260B	7/8/13 16:32	MSC	P3G0142
Xylenes, total	**5.2**	**mg/kg dry**	**0.49**	**0.12**	**50**	**8260B**	**7/8/13 16:32**	**MSC**	**P3G0142**

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*81 %*	*70-130*
Dibromofluoromethane	*92 %*	*70-130*
Toluene-d8	*87 %*	*70-130*

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: AOC-1 (.5'-1')
Prism Sample ID: 3060664-02
Prism Work Order: 3060664
Time Collected: 06/24/13 10:10
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Anions by Ion Chromatography									
Nitrate as N	**18**	**mg/kg dry**	**2.2**	**0.046**	**1**	***9056A**	**7/4/13 18:39**	**CDE**	**P3G0110**
General Chemistry Parameters									
% Solids	**89.5 A**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**7/2/13 15:15**	**MJO**	**P3G0067**
Phosphorus-Total	**770**	**mg/kg dry**	**56**	**8.0**	**20**	***SM4500-P F**	**7/2/13 10:41**	**CLB**	**P3G0007**
Organochlorine Pesticides by GC/ECD									
4,4'-DDD	**9400 Ab**	**ug/kg dry**	**450**	**100**	**200**	**8081B**	**7/23/13 20:33**	**JMV**	**P3G0117**
4,4'-DDE	**260**	**ug/kg dry**	**11**	**2.0**	**5**	**8081B**	**7/20/13 3:15**	**JMV**	**P3G0117**
4,4'-DDT	BRL	ug/kg dry	17	3.5	5	8081B	7/20/13 3:15	JMV	P3G0117
Aldrin	**35**	**ug/kg dry**	**11**	**2.6**	**5**	**8081B**	**7/20/13 3:15**	**JMV**	**P3G0117**
alpha-BHC	BRL	ug/kg dry	11	1.6	5	8081B	7/20/13 3:15	JMV	P3G0117
cis-Chlordane	BRL	ug/kg dry	11	2.2	5	8081B	7/20/13 3:15	JMV	P3G0117
beta-BHC	BRL	ug/kg dry	11	2.2	5	8081B	7/20/13 3:15	JMV	P3G0117
Chlordane	BRL	ug/kg dry	56	5.7	1	8081B	7/18/13 21:16	JMV	P3G0117
delta-BHC	BRL	ug/kg dry	11	1.7	5	8081B	7/20/13 3:15	JMV	P3G0117
Dieldrin	BRL	ug/kg dry	11	2.0	5	8081B	7/20/13 3:15	JMV	P3G0117
Endosulfan I	BRL	ug/kg dry	11	2.5	5	8081B	7/20/13 3:15	JMV	P3G0117
Endosulfan II	BRL	ug/kg dry	11	2.7	5	8081B	7/20/13 3:15	JMV	P3G0117
Endosulfan Sulfate	BRL	ug/kg dry	11	3.6	5	8081B	7/20/13 3:15	JMV	P3G0117
Endrin	BRL CCV	ug/kg dry	11	2.5	5	8081B	7/20/13 3:15	JMV	P3G0117
Endrin Aldehyde	BRL	ug/kg dry	11	3.0	5	8081B	7/20/13 3:15	JMV	P3G0117
Endrin Ketone	BRL	ug/kg dry	11	2.8	5	8081B	7/20/13 3:15	JMV	P3G0117
gamma-BHC	BRL	ug/kg dry	11	2.2	5	8081B	7/20/13 3:15	JMV	P3G0117
trans-Chlordane	BRL	ug/kg dry	11	3.0	5	8081B	7/20/13 3:15	JMV	P3G0117
Heptachlor	BRL	ug/kg dry	11	3.5	5	8081B	7/20/13 3:15	JMV	P3G0117
Heptachlor Epoxide	BRL	ug/kg dry	11	3.1	5	8081B	7/20/13 3:15	JMV	P3G0117
Methoxychlor	BRL	ug/kg dry	11	6.4	5	8081B	7/20/13 3:15	JMV	P3G0117
Toxaphene	BRL	ug/kg dry	56	6.9	1	8081B	7/18/13 21:16	JMV	P3G0117

Surrogate	Recovery	Control Limits
Decachlorobiphenyl	*90 %*	*26-204*
Tetrachloro-m-xylene	*55 %*	*40-162*

Semivolatile Organic Compounds by GC/MS								DM	
1,2,4-Trichlorobenzene	BRL	mg/kg dry	3.7	1.4	10	8270D	7/1/13 23:42	KC	P3G0017
1,2-Dichlorobenzene	BRL	mg/kg dry	3.7	1.2	10	8270D	7/1/13 23:42	KC	P3G0017
1,3-Dichlorobenzene	BRL	mg/kg dry	3.7	1.2	10	8270D	7/1/13 23:42	KC	P3G0017
1,4-Dichlorobenzene	BRL	mg/kg dry	3.7	1.2	10	8270D	7/1/13 23:42	KC	P3G0017
1-Methylnaphthalene	**4.2**	**mg/kg dry**	**3.7**	**0.85**	**10**	**8270D**	**7/1/13 23:42**	**KC**	**P3G0017**
2,4,6-Trichlorophenol	BRL	mg/kg dry	3.7	1.2	10	8270D	7/1/13 23:42	KC	P3G0017
2,4-Dichlorophenol	BRL	mg/kg dry	3.7	1.3	10	8270D	7/1/13 23:42	KC	P3G0017
2,4-Dimethylphenol	BRL	mg/kg dry	3.7	1.5	10	8270D	7/1/13 23:42	KC	P3G0017
2,4-Dinitrophenol	BRL	mg/kg dry	3.7	0.58	10	8270D	7/1/13 23:42	KC	P3G0017

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: AOC-1 (.5'-1')
Prism Sample ID: 3060664-02
Prism Work Order: 3060664
Time Collected: 06/24/13 10:10
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
2,4-Dinitrotoluene	BRL	mg/kg dry	3.7	0.63	10	8270D	7/1/13 23:42	KC	P3G0017
2,6-Dinitrotoluene	BRL	mg/kg dry	3.7	0.56	10	8270D	7/1/13 23:42	KC	P3G0017
2-Chloronaphthalene	BRL	mg/kg dry	3.7	1.3	10	8270D	7/1/13 23:42	KC	P3G0017
2-Chlorophenol	BRL	mg/kg dry	3.7	1.4	10	8270D	7/1/13 23:42	KC	P3G0017
2-Methylnaphthalene	**4.3**	**mg/kg dry**	**3.7**	**1.4**	**10**	**8270D**	**7/1/13 23:42**	**KC**	**P3G0017**
2-Methylphenol	BRL	mg/kg dry	3.7	1.3	10	8270D	7/1/13 23:42	KC	P3G0017
2-Nitrophenol	BRL	mg/kg dry	3.7	1.4	10	8270D	7/1/13 23:42	KC	P3G0017
3,3'-Dichlorobenzidine	BRL	mg/kg dry	3.7	0.61	10	8270D	7/1/13 23:42	KC	P3G0017
3/4-Methylphenol	BRL	mg/kg dry	3.7	1.0	10	8270D	7/1/13 23:42	KC	P3G0017
4,6-Dinitro-2-methylphenol	BRL	mg/kg dry	3.7	0.40	10	8270D	7/1/13 23:42	KC	P3G0017
4-Bromophenyl phenyl ether	BRL	mg/kg dry	3.7	0.82	10	8270D	7/1/13 23:42	KC	P3G0017
4-Chloro-3-methylphenol	BRL	mg/kg dry	3.7	1.3	10	8270D	7/1/13 23:42	KC	P3G0017
4-Chloroaniline	BRL	mg/kg dry	3.7	1.3	10	8270D	7/1/13 23:42	KC	P3G0017
4-Chlorophenyl phenyl ether	BRL	mg/kg dry	3.7	1.1	10	8270D	7/1/13 23:42	KC	P3G0017
4-Nitrophenol	BRL	mg/kg dry	3.7	0.46	10	8270D	7/1/13 23:42	KC	P3G0017
Acenaphthene	BRL	mg/kg dry	3.7	1.1	10	8270D	7/1/13 23:42	KC	P3G0017
Acenaphthylene	BRL	mg/kg dry	3.7	1.2	10	8270D	7/1/13 23:42	KC	P3G0017
Anthracene	BRL	mg/kg dry	3.7	0.73	10	8270D	7/1/13 23:42	KC	P3G0017
Azobenzene	BRL	mg/kg dry	3.7	0.85	10	8270D	7/1/13 23:42	KC	P3G0017
Benzo(a)anthracene	BRL	mg/kg dry	3.7	0.76	10	8270D	7/1/13 23:42	KC	P3G0017
Benzo(a)pyrene	BRL	mg/kg dry	3.7	0.69	10	8270D	7/1/13 23:42	KC	P3G0017
Benzo(b)fluoranthene	BRL	mg/kg dry	3.7	0.50	10	8270D	7/1/13 23:42	KC	P3G0017
Benzo(g,h,i)perylene	BRL	mg/kg dry	3.7	1.2	10	8270D	7/1/13 23:42	KC	P3G0017
Benzo(k)fluoranthene	BRL	mg/kg dry	3.7	1.1	10	8270D	7/1/13 23:42	KC	P3G0017
Benzoic Acid	BRL	mg/kg dry	3.7	0.49	10	8270D	7/1/13 23:42	KC	P3G0017
Benzyl alcohol	BRL	mg/kg dry	3.7	1.2	10	8270D	7/1/13 23:42	KC	P3G0017
bis(2-Chloroethoxy)methane	BRL	mg/kg dry	3.7	1.9	10	8270D	7/1/13 23:42	KC	P3G0017
Bis(2-Chloroethyl)ether	BRL	mg/kg dry	3.7	1.4	10	8270D	7/1/13 23:42	KC	P3G0017
Bis(2-chloroisopropyl)ether	BRL	mg/kg dry	3.7	1.5	10	8270D	7/1/13 23:42	KC	P3G0017
Bis(2-Ethylhexyl)phthalate	BRL	mg/kg dry	3.7	0.71	10	8270D	7/1/13 23:42	KC	P3G0017
Butyl benzyl phthalate	BRL	mg/kg dry	3.7	0.82	10	8270D	7/1/13 23:42	KC	P3G0017
Chrysene	BRL	mg/kg dry	3.7	0.82	10	8270D	7/1/13 23:42	KC	P3G0017
Dibenzo(a,h)anthracene	BRL	mg/kg dry	3.7	1.2	10	8270D	7/1/13 23:42	KC	P3G0017
Dibenzofuran	BRL	mg/kg dry	3.7	1.0	10	8270D	7/1/13 23:42	KC	P3G0017
Diethyl phthalate	BRL	mg/kg dry	3.7	0.66	10	8270D	7/1/13 23:42	KC	P3G0017
Dimethyl phthalate	BRL	mg/kg dry	3.7	0.69	10	8270D	7/1/13 23:42	KC	P3G0017
Di-n-butyl phthalate	BRL	mg/kg dry	3.7	0.87	10	8270D	7/1/13 23:42	KC	P3G0017
Di-n-octyl phthalate	BRL	mg/kg dry	3.7	0.81	10	8270D	7/1/13 23:42	KC	P3G0017
Fluoranthene	BRL	mg/kg dry	3.7	0.78	10	8270D	7/1/13 23:42	KC	P3G0017
Fluorene	BRL	mg/kg dry	3.7	0.86	10	8270D	7/1/13 23:42	KC	P3G0017
Hexachlorobenzene	BRL	mg/kg dry	3.7	0.62	10	8270D	7/1/13 23:42	KC	P3G0017
Hexachlorobutadiene	BRL	mg/kg dry	3.7	1.4	10	8270D	7/1/13 23:42	KC	P3G0017
Hexachlorocyclopentadiene	BRL	mg/kg dry	3.7	1.1	10	8270D	7/1/13 23:42	KC	P3G0017

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: AOC-1 (.5'-1')
Prism Sample ID: 3060664-02
Prism Work Order: 3060664
Time Collected: 06/24/13 10:10
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Hexachloroethane	BRL	mg/kg dry	3.7	1.2	10	8270D	7/1/13 23:42	KC	P3G0017
Indeno(1,2,3-cd)pyrene	BRL	mg/kg dry	3.7	0.98	10	8270D	7/1/13 23:42	KC	P3G0017
Isophorone	BRL	mg/kg dry	3.7	1.4	10	8270D	7/1/13 23:42	KC	P3G0017
Naphthalene	BRL	mg/kg dry	3.7	1.4	10	8270D	7/1/13 23:42	KC	P3G0017
Nitrobenzene	BRL	mg/kg dry	3.7	1.2	10	8270D	7/1/13 23:42	KC	P3G0017
N-Nitroso-di-n-propylamine	BRL	mg/kg dry	3.7	1.3	10	8270D	7/1/13 23:42	KC	P3G0017
N-Nitrosodiphenylamine	BRL	mg/kg dry	3.7	0.74	10	8270D	7/1/13 23:42	KC	P3G0017
Pentachlorophenol	BRL	mg/kg dry	3.7	0.30	10	8270D	7/1/13 23:42	KC	P3G0017
Phenanthrene	BRL	mg/kg dry	3.7	0.65	10	8270D	7/1/13 23:42	KC	P3G0017
Phenol	BRL	mg/kg dry	3.7	1.4	10	8270D	7/1/13 23:42	KC	P3G0017
Pyrene	BRL	mg/kg dry	3.7	1.0	10	8270D	7/1/13 23:42	KC	P3G0017

Surrogate	Recovery	Control Limits	
2,4,6-Tribromophenol	*107 %*	*37-131*	
2-Fluorobiphenyl	*101 %*	*47-130*	
2-Fluorophenol	*69 %*	*44-117*	
Nitrobenzene-d5	*196 %*	*45-121*	*SR*
Phenol-d5	*77 %*	*37-127*	
Terphenyl-d14	*86 %*	*38-135*	

Total Metals

Mercury	BRL	mg/kg dry	0.022	0.0075	1	*7471B	7/2/13 13:55	BGM	P3G0042
Antimony	BRL	mg/kg dry	0.28	0.055	1	*6010C	7/11/13 1:16	BGM	P3G0052
Arsenic	**3.2**	**mg/kg dry**	**0.28**	**0.065**	**1**	***6010C**	**7/11/13 1:16**	**BGM**	**P3G0052**
Beryllium	BRL	mg/kg dry	0.28	0.043	1	*6010C	7/9/13 22:29	BGM	P3G0052
Cadmium	**0.41**	**mg/kg dry**	**0.28**	**0.037**	**1**	***6010C**	**7/11/13 1:16**	**BGM**	**P3G0052**
Chromium	**7.8**	**mg/kg dry**	**0.28**	**0.0094**	**1**	***6010C**	**7/11/13 1:16**	**BGM**	**P3G0052**
Copper	**7.2**	**mg/kg dry**	**0.56**	**0.11**	**1**	***6010C**	**7/9/13 22:29**	**BGM**	**P3G0052**
Lead	**30**	**mg/kg dry**	**0.28**	**0.038**	**1**	***6010C**	**7/11/13 1:16**	**BGM**	**P3G0052**
Nickel	**2.7**	**mg/kg dry**	**1.1**	**0.010**	**1**	***6010C**	**7/9/13 22:29**	**BGM**	**P3G0052**
Selenium	BRL	mg/kg dry	0.56	0.13	1	*6010C	7/11/13 1:16	BGM	P3G0052
Silver	BRL	mg/kg dry	0.28	0.035	1	*6010C	7/9/13 22:29	BGM	P3G0052
Thallium	BRL	mg/kg dry	0.56	0.11	1	*6010C	7/9/13 22:29	BGM	P3G0052
Zinc	**140**	**mg/kg dry**	**2.8**	**0.38**	**1**	***6010C**	**7/11/13 1:16**	**BGM**	**P3G0052**

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Solid

Client Sample ID: SB-1E (.5'-1')
Prism Sample ID: 3060664-03
Prism Work Order: 3060664
Time Collected: 06/24/13 10:25
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Anions by Ion Chromatography									
Nitrate as N	**41**	**mg/kg dry**	**2.4**	**0.049**	**1**	***9056A**	**7/4/13 18:52**	**CDE**	**P3G0110**
General Chemistry Parameters									
% Solids	**83.6 A**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**7/2/13 15:15**	**MJO**	**P3G0067**
Phosphorus-Total	**1300**	**mg/kg dry**	**60**	**8.6**	**20**	***SM4500-P F**	**7/2/13 10:41**	**CLB**	**P3G0007**
Organochlorine Pesticides by GC/ECD									
4,4'-DDD	BRL CCV	ug/kg dry	2.4	0.56	1	8081B	7/19/13 20:08	JMV	P3G0117
4,4'-DDE	BRL	ug/kg dry	2.4	0.43	1	8081B	7/19/13 20:08	JMV	P3G0117
4,4'-DDT	BRL	ug/kg dry	3.6	0.75	1	8081B	7/19/13 20:08	JMV	P3G0117
Aldrin	BRL	ug/kg dry	2.4	0.55	1	8081B	7/19/13 20:08	JMV	P3G0117
alpha-BHC	BRL	ug/kg dry	2.4	0.34	1	8081B	7/19/13 20:08	JMV	P3G0117
cis-Chlordane	BRL	ug/kg dry	2.4	0.47	1	8081B	7/19/13 20:08	JMV	P3G0117
beta-BHC	BRL	ug/kg dry	2.4	0.46	1	8081B	7/19/13 20:08	JMV	P3G0117
Chlordane	BRL	ug/kg dry	60	6.1	1	8081B	7/18/13 21:59	JMV	P3G0117
delta-BHC	BRL	ug/kg dry	2.4	0.37	1	8081B	7/19/13 20:08	JMV	P3G0117
Dieldrin	BRL	ug/kg dry	2.4	0.42	1	8081B	7/19/13 20:08	JMV	P3G0117
Endosulfan I	BRL	ug/kg dry	2.4	0.53	1	8081B	7/19/13 20:08	JMV	P3G0117
Endosulfan II	BRL	ug/kg dry	2.4	0.57	1	8081B	7/19/13 20:08	JMV	P3G0117
Endosulfan Sulfate	BRL	ug/kg dry	2.4	0.77	1	8081B	7/19/13 20:08	JMV	P3G0117
Endrin	BRL CCV	ug/kg dry	2.4	0.53	1	8081B	7/19/13 20:08	JMV	P3G0117
Endrin Aldehyde	BRL	ug/kg dry	2.4	0.65	1	8081B	7/19/13 20:08	JMV	P3G0117
Endrin Ketone	BRL	ug/kg dry	2.4	0.59	1	8081B	7/19/13 20:08	JMV	P3G0117
gamma-BHC	BRL	ug/kg dry	2.4	0.46	1	8081B	7/19/13 20:08	JMV	P3G0117
trans-Chlordane	BRL	ug/kg dry	2.4	0.64	1	8081B	7/19/13 20:08	JMV	P3G0117
Heptachlor	BRL	ug/kg dry	2.4	0.76	1	8081B	7/19/13 20:08	JMV	P3G0117
Heptachlor Epoxide	BRL	ug/kg dry	2.4	0.67	1	8081B	7/19/13 20:08	JMV	P3G0117
Methoxychlor	BRL	ug/kg dry	2.4	1.4	1	8081B	7/19/13 20:08	JMV	P3G0117
Toxaphene	BRL	ug/kg dry	60	7.4	1	8081B	7/18/13 21:59	JMV	P3G0117

Surrogate	Recovery	Control Limits
Decachlorobiphenyl	*112 %*	*26-204*
Tetrachloro-m-xylene	*98 %*	*40-162*

Semivolatile Organic Compounds by GC/MS									
1,2,4-Trichlorobenzene	BRL	mg/kg dry	0.39	0.15	1	8270D	7/1/13 18:11	KC	P3G0017
1,2-Dichlorobenzene	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 18:11	KC	P3G0017
1,3-Dichlorobenzene	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 18:11	KC	P3G0017
1,4-Dichlorobenzene	BRL	mg/kg dry	0.39	0.12	1	8270D	7/1/13 18:11	KC	P3G0017
1-Methylnaphthalene	BRL	mg/kg dry	0.39	0.091	1	8270D	7/1/13 18:11	KC	P3G0017
2,4,6-Trichlorophenol	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 18:11	KC	P3G0017
2,4-Dichlorophenol	BRL	mg/kg dry	0.39	0.14	1	8270D	7/1/13 18:11	KC	P3G0017
2,4-Dimethylphenol	BRL	mg/kg dry	0.39	0.16	1	8270D	7/1/13 18:11	KC	P3G0017
2,4-Dinitrophenol	BRL	mg/kg dry	0.39	0.062	1	8270D	7/1/13 18:11	KC	P3G0017

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Solid

Client Sample ID: SB-1E (.5'-1')
Prism Sample ID: 3060664-03
Prism Work Order: 3060664
Time Collected: 06/24/13 10:25
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
2,4-Dinitrotoluene	BRL	mg/kg dry	0.39	0.067	1	8270D	7/1/13 18:11	KC	P3G0017
2,6-Dinitrotoluene	BRL	mg/kg dry	0.39	0.060	1	8270D	7/1/13 18:11	KC	P3G0017
2-Chloronaphthalene	BRL	mg/kg dry	0.39	0.14	1	8270D	7/1/13 18:11	KC	P3G0017
2-Chlorophenol	BRL	mg/kg dry	0.39	0.15	1	8270D	7/1/13 18:11	KC	P3G0017
2-Methylnaphthalene	BRL	mg/kg dry	0.39	0.15	1	8270D	7/1/13 18:11	KC	P3G0017
2-Methylphenol	BRL	mg/kg dry	0.39	0.14	1	8270D	7/1/13 18:11	KC	P3G0017
2-Nitrophenol	BRL	mg/kg dry	0.39	0.15	1	8270D	7/1/13 18:11	KC	P3G0017
3,3'-Dichlorobenzidine	BRL	mg/kg dry	0.39	0.066	1	8270D	7/1/13 18:11	KC	P3G0017
3/4-Methylphenol	BRL	mg/kg dry	0.39	0.11	1	8270D	7/1/13 18:11	KC	P3G0017
4,6-Dinitro-2-methylphenol	BRL	mg/kg dry	0.39	0.042	1	8270D	7/1/13 18:11	KC	P3G0017
4-Bromophenyl phenyl ether	BRL	mg/kg dry	0.39	0.088	1	8270D	7/1/13 18:11	KC	P3G0017
4-Chloro-3-methylphenol	BRL	mg/kg dry	0.39	0.14	1	8270D	7/1/13 18:11	KC	P3G0017
4-Chloroaniline	BRL	mg/kg dry	0.39	0.14	1	8270D	7/1/13 18:11	KC	P3G0017
4-Chlorophenyl phenyl ether	BRL	mg/kg dry	0.39	0.12	1	8270D	7/1/13 18:11	KC	P3G0017
4-Nitrophenol	BRL	mg/kg dry	0.39	0.049	1	8270D	7/1/13 18:11	KC	P3G0017
Acenaphthene	BRL	mg/kg dry	0.39	0.12	1	8270D	7/1/13 18:11	KC	P3G0017
Acenaphthylene	BRL	mg/kg dry	0.39	0.12	1	8270D	7/1/13 18:11	KC	P3G0017
Anthracene	BRL	mg/kg dry	0.39	0.077	1	8270D	7/1/13 18:11	KC	P3G0017
Azobenzene	BRL	mg/kg dry	0.39	0.091	1	8270D	7/1/13 18:11	KC	P3G0017
Benzo(a)anthracene	BRL	mg/kg dry	0.39	0.081	1	8270D	7/1/13 18:11	KC	P3G0017
Benzo(a)pyrene	BRL	mg/kg dry	0.39	0.073	1	8270D	7/1/13 18:11	KC	P3G0017
Benzo(b)fluoranthene	BRL	mg/kg dry	0.39	0.054	1	8270D	7/1/13 18:11	KC	P3G0017
Benzo(g,h,i)perylene	BRL	mg/kg dry	0.39	0.12	1	8270D	7/1/13 18:11	KC	P3G0017
Benzo(k)fluoranthene	BRL	mg/kg dry	0.39	0.12	1	8270D	7/1/13 18:11	KC	P3G0017
Benzoic Acid	BRL	mg/kg dry	0.39	0.052	1	8270D	7/1/13 18:11	KC	P3G0017
Benzyl alcohol	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 18:11	KC	P3G0017
bis(2-Chloroethoxy)methane	BRL	mg/kg dry	0.39	0.20	1	8270D	7/1/13 18:11	KC	P3G0017
Bis(2-Chloroethyl)ether	BRL	mg/kg dry	0.39	0.15	1	8270D	7/1/13 18:11	KC	P3G0017
Bis(2-chloroisopropyl)ether	BRL	mg/kg dry	0.39	0.16	1	8270D	7/1/13 18:11	KC	P3G0017
Bis(2-Ethylhexyl)phthalate	BRL	mg/kg dry	0.39	0.076	1	8270D	7/1/13 18:11	KC	P3G0017
Butyl benzyl phthalate	BRL	mg/kg dry	0.39	0.087	1	8270D	7/1/13 18:11	KC	P3G0017
Chrysene	BRL	mg/kg dry	0.39	0.087	1	8270D	7/1/13 18:11	KC	P3G0017
Dibenzo(a,h)anthracene	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 18:11	KC	P3G0017
Dibenzofuran	BRL	mg/kg dry	0.39	0.11	1	8270D	7/1/13 18:11	KC	P3G0017
Diethyl phthalate	BRL	mg/kg dry	0.39	0.071	1	8270D	7/1/13 18:11	KC	P3G0017
Dimethyl phthalate	BRL	mg/kg dry	0.39	0.073	1	8270D	7/1/13 18:11	KC	P3G0017
Di-n-butyl phthalate	BRL	mg/kg dry	0.39	0.093	1	8270D	7/1/13 18:11	KC	P3G0017
Di-n-octyl phthalate	BRL	mg/kg dry	0.39	0.087	1	8270D	7/1/13 18:11	KC	P3G0017
Fluoranthene	BRL	mg/kg dry	0.39	0.083	1	8270D	7/1/13 18:11	KC	P3G0017
Fluorene	BRL	mg/kg dry	0.39	0.091	1	8270D	7/1/13 18:11	KC	P3G0017
Hexachlorobenzene	BRL	mg/kg dry	0.39	0.066	1	8270D	7/1/13 18:11	KC	P3G0017
Hexachlorobutadiene	BRL	mg/kg dry	0.39	0.15	1	8270D	7/1/13 18:11	KC	P3G0017
Hexachlorocyclopentadiene	BRL	mg/kg dry	0.39	0.12	1	8270D	7/1/13 18:11	KC	P3G0017

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Solid

Client Sample ID: SB-1E (.5'-1')
Prism Sample ID: 3060664-03
Prism Work Order: 3060664
Time Collected: 06/24/13 10:25
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Hexachloroethane	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 18:11	KC	P3G0017
Indeno(1,2,3-cd)pyrene	BRL	mg/kg dry	0.39	0.10	1	8270D	7/1/13 18:11	KC	P3G0017
Isophorone	BRL	mg/kg dry	0.39	0.15	1	8270D	7/1/13 18:11	KC	P3G0017
Naphthalene	BRL	mg/kg dry	0.39	0.15	1	8270D	7/1/13 18:11	KC	P3G0017
Nitrobenzene	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 18:11	KC	P3G0017
N-Nitroso-di-n-propylamine	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 18:11	KC	P3G0017
N-Nitrosodiphenylamine	BRL	mg/kg dry	0.39	0.079	1	8270D	7/1/13 18:11	KC	P3G0017
Pentachlorophenol	BRL	mg/kg dry	0.39	0.032	1	8270D	7/1/13 18:11	KC	P3G0017
Phenanthrene	BRL	mg/kg dry	0.39	0.069	1	8270D	7/1/13 18:11	KC	P3G0017
Phenol	BRL	mg/kg dry	0.39	0.15	1	8270D	7/1/13 18:11	KC	P3G0017
Pyrene	BRL	mg/kg dry	0.39	0.11	1	8270D	7/1/13 18:11	KC	P3G0017

Surrogate	Recovery	Control Limits
2,4,6-Tribromophenol	*120 %*	*37-131*
2-Fluorobiphenyl	*84 %*	*47-130*
2-Fluorophenol	*74 %*	*44-117*
Nitrobenzene-d5	*83 %*	*45-121*
Phenol-d5	*77 %*	*37-127*
Terphenyl-d14	*82 %*	*38-135*

Total Metals

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Mercury	**0.027**	**mg/kg dry**	**0.024**	**0.0081**	**1**	***7471B**	**7/2/13 14:08**	**BGM**	**P3G0042**
Antimony	**0.52**	**mg/kg dry**	**0.30**	**0.058**	**1**	***6010C**	**7/11/13 1:43**	**BGM**	**P3G0052**
Arsenic	**4.6**	**mg/kg dry**	**0.30**	**0.069**	**1**	***6010C**	**7/11/13 1:43**	**BGM**	**P3G0052**
Beryllium	**0.35**	**mg/kg dry**	**0.30**	**0.045**	**1**	***6010C**	**7/9/13 22:56**	**BGM**	**P3G0052**
Cadmium	BRL	mg/kg dry	0.30	0.039	1	*6010C	7/11/13 1:43	BGM	P3G0052
Chromium	**27**	**mg/kg dry**	**0.30**	**0.0099**	**1**	***6010C**	**7/11/13 1:43**	**BGM**	**P3G0052**
Copper	**3.9**	**mg/kg dry**	**0.60**	**0.12**	**1**	***6010C**	**7/9/13 22:56**	**BGM**	**P3G0052**
Lead	**13**	**mg/kg dry**	**0.30**	**0.040**	**1**	***6010C**	**7/11/13 1:43**	**BGM**	**P3G0052**
Nickel	**3.5**	**mg/kg dry**	**1.2**	**0.011**	**1**	***6010C**	**7/9/13 22:56**	**BGM**	**P3G0052**
Selenium	BRL	mg/kg dry	0.60	0.14	1	*6010C	7/11/13 1:43	BGM	P3G0052
Silver	BRL	mg/kg dry	0.30	0.037	1	*6010C	7/9/13 22:56	BGM	P3G0052
Thallium	BRL	mg/kg dry	0.60	0.12	1	*6010C	7/9/13 22:56	BGM	P3G0052
Zinc	**38**	**mg/kg dry**	**3.0**	**0.40**	**1**	***6010C**	**7/11/13 1:43**	**BGM**	**P3G0052**

Volatile Organic Compounds by GC/MS

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,1,1-Trichloroethane	BRL	mg/kg dry	0.0036	0.00012	1	8260B	7/8/13 18:19	cgp	P3G0135
1,1,2,2-Tetrachloroethane	BRL	mg/kg dry	0.0036	0.00060	1	8260B	7/8/13 18:19	cgp	P3G0135
1,1,2-Trichloroethane	BRL	mg/kg dry	0.0036	0.00031	1	8260B	7/8/13 18:19	cgp	P3G0135
1,1-Dichloroethane	BRL	mg/kg dry	0.0036	0.00031	1	8260B	7/8/13 18:19	cgp	P3G0135
1,1-Dichloroethylene	BRL	mg/kg dry	0.0036	0.00022	1	8260B	7/8/13 18:19	cgp	P3G0135
1,1-Dichloropropylene	BRL	mg/kg dry	0.0036	0.00038	1	8260B	7/8/13 18:19	cgp	P3G0135
1,2,3-Trichlorobenzene	BRL	mg/kg dry	0.0036	0.00027	1	8260B	7/8/13 18:19	cgp	P3G0135
1,2,3-Trichloropropane	BRL	mg/kg dry	0.0036	0.00055	1	8260B	7/8/13 18:19	cgp	P3G0135
1,2,4-Trichlorobenzene	BRL	mg/kg dry	0.0036	0.00021	1	8260B	7/8/13 18:19	cgp	P3G0135

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Solid

Client Sample ID: SB-1E (.5'-1')
Prism Sample ID: 3060664-03
Prism Work Order: 3060664
Time Collected: 06/24/13 10:25
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,2,4-Trimethylbenzene	BRL	mg/kg dry	0.0036	0.00072	1	8260B	7/8/13 18:19	cgp	P3G0135
1,2-Dibromoethane	BRL	mg/kg dry	0.0036	0.00042	1	8260B	7/8/13 18:19	cgp	P3G0135
1,2-Dichlorobenzene	BRL	mg/kg dry	0.0036	0.00016	1	8260B	7/8/13 18:19	cgp	P3G0135
1,2-Dichloroethane	BRL	mg/kg dry	0.0036	0.00059	1	8260B	7/8/13 18:19	cgp	P3G0135
1,2-Dichloropropane	BRL	mg/kg dry	0.0036	0.00023	1	8260B	7/8/13 18:19	cgp	P3G0135
1,3,5-Trimethylbenzene	BRL	mg/kg dry	0.0036	0.00017	1	8260B	7/8/13 18:19	cgp	P3G0135
1,3-Dichlorobenzene	BRL	mg/kg dry	0.0036	0.000050	1	8260B	7/8/13 18:19	cgp	P3G0135
1,3-Dichloropropane	BRL	mg/kg dry	0.0036	0.00039	1	8260B	7/8/13 18:19	cgp	P3G0135
1,4-Dichlorobenzene	BRL	mg/kg dry	0.0036	0.00027	1	8260B	7/8/13 18:19	cgp	P3G0135
2,2-Dichloropropane	BRL	mg/kg dry	0.0036	0.00023	1	8260B	7/8/13 18:19	cgp	P3G0135
2-Chlorotoluene	BRL	mg/kg dry	0.0036	0.00022	1	8260B	7/8/13 18:19	cgp	P3G0135
4-Chlorotoluene	BRL	mg/kg dry	0.0036	0.00017	1	8260B	7/8/13 18:19	cgp	P3G0135
4-Isopropyltoluene	BRL	mg/kg dry	0.0036	0.00023	1	8260B	7/8/13 18:19	cgp	P3G0135
Acetone	**0.022 J**	**mg/kg dry**	**0.036**	**0.0019**	**1**	**8260B**	**7/8/13 18:19**	**cgp**	**P3G0135**
Benzene	BRL	mg/kg dry	0.0022	0.00022	1	8260B	7/8/13 18:19	cgp	P3G0135
Bromobenzene	BRL	mg/kg dry	0.0036	0.00016	1	8260B	7/8/13 18:19	cgp	P3G0135
Bromochloromethane	BRL	mg/kg dry	0.0036	0.00053	1	8260B	7/8/13 18:19	cgp	P3G0135
Bromodichloromethane	BRL	mg/kg dry	0.0036	0.00017	1	8260B	7/8/13 18:19	cgp	P3G0135
Bromoform	BRL	mg/kg dry	0.0036	0.00064	1	8260B	7/8/13 18:19	cgp	P3G0135
Bromomethane	BRL	mg/kg dry	0.0073	0.0010	1	8260B	7/8/13 18:19	cgp	P3G0135
Carbon Tetrachloride	BRL	mg/kg dry	0.0036	0.00020	1	8260B	7/8/13 18:19	cgp	P3G0135
Chlorobenzene	BRL	mg/kg dry	0.0036	0.00017	1	8260B	7/8/13 18:19	cgp	P3G0135
Chloroethane	BRL	mg/kg dry	0.0073	0.0028	1	8260B	7/8/13 18:19	cgp	P3G0135
Chloroform	BRL	mg/kg dry	0.0036	0.00015	1	8260B	7/8/13 18:19	cgp	P3G0135
Chloromethane	BRL	mg/kg dry	0.0036	0.0019	1	8260B	7/8/13 18:19	cgp	P3G0135
cis-1,2-Dichloroethylene	BRL	mg/kg dry	0.0036	0.00029	1	8260B	7/8/13 18:19	cgp	P3G0135
cis-1,3-Dichloropropylene	BRL	mg/kg dry	0.0036	0.00018	1	8260B	7/8/13 18:19	cgp	P3G0135
Dibromochloromethane	BRL	mg/kg dry	0.0036	0.00025	1	8260B	7/8/13 18:19	cgp	P3G0135
Dichlorodifluoromethane	BRL	mg/kg dry	0.0036	0.00039	1	8260B	7/8/13 18:19	cgp	P3G0135
Ethylbenzene	BRL	mg/kg dry	0.0036	0.00023	1	8260B	7/8/13 18:19	cgp	P3G0135
Isopropyl Ether	BRL	mg/kg dry	0.0036	0.00016	1	8260B	7/8/13 18:19	cgp	P3G0135
Isopropylbenzene (Cumene)	BRL	mg/kg dry	0.0036	0.00018	1	8260B	7/8/13 18:19	cgp	P3G0135
m,p-Xylenes	BRL	mg/kg dry	0.0073	0.00047	1	8260B	7/8/13 18:19	cgp	P3G0135
Methyl Butyl Ketone (2-Hexanone)	BRL	mg/kg dry	0.036	0.00075	1	8260B	7/8/13 18:19	cgp	P3G0135
Methyl Ethyl Ketone (2-Butanone)	BRL	mg/kg dry	0.073	0.0013	1	8260B	7/8/13 18:19	cgp	P3G0135
Methyl Isobutyl Ketone	BRL	mg/kg dry	0.036	0.00096	1	8260B	7/8/13 18:19	cgp	P3G0135
Methylene Chloride	BRL	mg/kg dry	0.0036	0.00027	1	8260B	7/8/13 18:19	cgp	P3G0135
Methyl-tert-Butyl Ether	BRL	mg/kg dry	0.0073	0.00028	1	8260B	7/8/13 18:19	cgp	P3G0135
Naphthalene	BRL	mg/kg dry	0.0073	0.00027	1	8260B	7/8/13 18:19	cgp	P3G0135
n-Butylbenzene	BRL	mg/kg dry	0.0036	0.00016	1	8260B	7/8/13 18:19	cgp	P3G0135
n-Propylbenzene	BRL	mg/kg dry	0.0036	0.00021	1	8260B	7/8/13 18:19	cgp	P3G0135
o-Xylene	BRL	mg/kg dry	0.0036	0.00023	1	8260B	7/8/13 18:19	cgp	P3G0135
sec-Butylbenzene	BRL	mg/kg dry	0.0036	0.00015	1	8260B	7/8/13 18:19	cgp	P3G0135

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Solid

Client Sample ID: SB-1E (.5'-1')
Prism Sample ID: 3060664-03
Prism Work Order: 3060664
Time Collected: 06/24/13 10:25
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Styrene	BRL	mg/kg dry	0.0036	0.00016	1	8260B	7/8/13 18:19	cgp	P3G0135
tert-Butylbenzene	BRL	mg/kg dry	0.0036	0.00019	1	8260B	7/8/13 18:19	cgp	P3G0135
Tetrachloroethylene	BRL	mg/kg dry	0.0036	0.00025	1	8260B	7/8/13 18:19	cgp	P3G0135
Toluene	BRL	mg/kg dry	0.0036	0.00022	1	8260B	7/8/13 18:19	cgp	P3G0135
trans-1,2-Dichloroethylene	BRL	mg/kg dry	0.0036	0.00042	1	8260B	7/8/13 18:19	cgp	P3G0135
trans-1,3-Dichloropropylene	BRL	mg/kg dry	0.0036	0.00018	1	8260B	7/8/13 18:19	cgp	P3G0135
Trichloroethylene	BRL	mg/kg dry	0.0036	0.00034	1	8260B	7/8/13 18:19	cgp	P3G0135
Trichlorofluoromethane	BRL	mg/kg dry	0.0036	0.00030	1	8260B	7/8/13 18:19	cgp	P3G0135
Vinyl acetate	BRL	mg/kg dry	0.018	0.0010	1	8260B	7/8/13 18:19	cgp	P3G0135
Vinyl chloride	BRL	mg/kg dry	0.0036	0.00047	1	8260B	7/8/13 18:19	cgp	P3G0135
Xylenes, total	BRL	mg/kg dry	0.011	0.00068	1	8260B	7/8/13 18:19	cgp	P3G0135

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*83 %*	*70-130*
Dibromofluoromethane	*94 %*	*84-123*
Toluene-d8	*85 %*	*76-129*

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: SB-2B (.5'-1')
Prism Sample ID: 3060664-04
Prism Work Order: 3060664
Time Collected: 06/24/13 14:25
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**87.0 A**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**7/2/13 15:15**	**MJO**	**P3G0067**
Volatile Organic Compounds by GC/MS									
1,1,1-Trichloroethane	BRL	mg/kg dry	0.0057	0.00019	1	8260B	7/8/13 18:48	cgp	P3G0135
1,1,2,2-Tetrachloroethane	BRL	mg/kg dry	0.0057	0.00094	1	8260B	7/8/13 18:48	cgp	P3G0135
1,1,2-Trichloroethane	BRL	mg/kg dry	0.0057	0.00048	1	8260B	7/8/13 18:48	cgp	P3G0135
1,1-Dichloroethane	BRL	mg/kg dry	0.0057	0.00048	1	8260B	7/8/13 18:48	cgp	P3G0135
1,1-Dichloroethylene	BRL	mg/kg dry	0.0057	0.00035	1	8260B	7/8/13 18:48	cgp	P3G0135
1,1-Dichloropropylene	BRL	mg/kg dry	0.0057	0.00060	1	8260B	7/8/13 18:48	cgp	P3G0135
1,2,3-Trichlorobenzene	BRL	mg/kg dry	0.0057	0.00042	1	8260B	7/8/13 18:48	cgp	P3G0135
1,2,3-Trichloropropane	BRL	mg/kg dry	0.0057	0.00086	1	8260B	7/8/13 18:48	cgp	P3G0135
1,2,4-Trichlorobenzene	BRL	mg/kg dry	0.0057	0.00034	1	8260B	7/8/13 18:48	cgp	P3G0135
1,2,4-Trimethylbenzene	BRL	mg/kg dry	0.0057	0.0011	1	8260B	7/8/13 18:48	cgp	P3G0135
1,2-Dibromoethane	BRL	mg/kg dry	0.0057	0.00066	1	8260B	7/8/13 18:48	cgp	P3G0135
1,2-Dichlorobenzene	BRL	mg/kg dry	0.0057	0.00026	1	8260B	7/8/13 18:48	cgp	P3G0135
1,2-Dichloroethane	BRL	mg/kg dry	0.0057	0.00092	1	8260B	7/8/13 18:48	cgp	P3G0135
1,2-Dichloropropane	BRL	mg/kg dry	0.0057	0.00036	1	8260B	7/8/13 18:48	cgp	P3G0135
1,3,5-Trimethylbenzene	BRL	mg/kg dry	0.0057	0.00027	1	8260B	7/8/13 18:48	cgp	P3G0135
1,3-Dichlorobenzene	BRL	mg/kg dry	0.0057	0.000079	1	8260B	7/8/13 18:48	cgp	P3G0135
1,3-Dichloropropane	BRL	mg/kg dry	0.0057	0.00062	1	8260B	7/8/13 18:48	cgp	P3G0135
1,4-Dichlorobenzene	BRL	mg/kg dry	0.0057	0.00042	1	8260B	7/8/13 18:48	cgp	P3G0135
2,2-Dichloropropane	BRL	mg/kg dry	0.0057	0.00036	1	8260B	7/8/13 18:48	cgp	P3G0135
2-Chlorotoluene	BRL	mg/kg dry	0.0057	0.00035	1	8260B	7/8/13 18:48	cgp	P3G0135
4-Chlorotoluene	BRL	mg/kg dry	0.0057	0.00027	1	8260B	7/8/13 18:48	cgp	P3G0135
4-Isopropyltoluene	BRL	mg/kg dry	0.0057	0.00036	1	8260B	7/8/13 18:48	cgp	P3G0135
Acetone	**0.090**	**mg/kg dry**	**0.057**	**0.0030**	**1**	**8260B**	**7/8/13 18:48**	**cgp**	**P3G0135**
Benzene	BRL	mg/kg dry	0.0034	0.00035	1	8260B	7/8/13 18:48	cgp	P3G0135
Bromobenzene	BRL	mg/kg dry	0.0057	0.00024	1	8260B	7/8/13 18:48	cgp	P3G0135
Bromochloromethane	BRL	mg/kg dry	0.0057	0.00083	1	8260B	7/8/13 18:48	cgp	P3G0135
Bromodichloromethane	BRL	mg/kg dry	0.0057	0.00026	1	8260B	7/8/13 18:48	cgp	P3G0135
Bromoform	BRL	mg/kg dry	0.0057	0.0010	1	8260B	7/8/13 18:48	cgp	P3G0135
Bromomethane	BRL	mg/kg dry	0.011	0.0016	1	8260B	7/8/13 18:48	cgp	P3G0135
Carbon Tetrachloride	BRL	mg/kg dry	0.0057	0.00031	1	8260B	7/8/13 18:48	cgp	P3G0135
Chlorobenzene	BRL	mg/kg dry	0.0057	0.00027	1	8260B	7/8/13 18:48	cgp	P3G0135
Chloroethane	BRL	mg/kg dry	0.011	0.0043	1	8260B	7/8/13 18:48	cgp	P3G0135
Chloroform	BRL	mg/kg dry	0.0057	0.00024	1	8260B	7/8/13 18:48	cgp	P3G0135
Chloromethane	BRL	mg/kg dry	0.0057	0.0029	1	8260B	7/8/13 18:48	cgp	P3G0135
cis-1,2-Dichloroethylene	BRL	mg/kg dry	0.0057	0.00046	1	8260B	7/8/13 18:48	cgp	P3G0135
cis-1,3-Dichloropropylene	BRL	mg/kg dry	0.0057	0.00028	1	8260B	7/8/13 18:48	cgp	P3G0135
Dibromochloromethane	BRL	mg/kg dry	0.0057	0.00039	1	8260B	7/8/13 18:48	cgp	P3G0135
Dichlorodifluoromethane	BRL	mg/kg dry	0.0057	0.00061	1	8260B	7/8/13 18:48	cgp	P3G0135
Ethylbenzene	BRL	mg/kg dry	0.0057	0.00037	1	8260B	7/8/13 18:48	cgp	P3G0135

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: SB-2B (.5'-1')
Prism Sample ID: 3060664-04
Prism Work Order: 3060664
Time Collected: 06/24/13 14:25
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Isopropyl Ether	BRL	mg/kg dry	0.0057	0.00024	1	8260B	7/8/13 18:48	cgp	P3G0135
Isopropylbenzene (Cumene)	BRL	mg/kg dry	0.0057	0.00029	1	8260B	7/8/13 18:48	cgp	P3G0135
m,p-Xylenes	BRL	mg/kg dry	0.011	0.00073	1	8260B	7/8/13 18:48	cgp	P3G0135
Methyl Butyl Ketone (2-Hexanone)	BRL	mg/kg dry	0.057	0.0012	1	8260B	7/8/13 18:48	cgp	P3G0135
Methyl Ethyl Ketone (2-Butanone)	BRL	mg/kg dry	0.11	0.0020	1	8260B	7/8/13 18:48	cgp	P3G0135
Methyl Isobutyl Ketone	BRL	mg/kg dry	0.057	0.0015	1	8260B	7/8/13 18:48	cgp	P3G0135
Methylene Chloride	BRL	mg/kg dry	0.0057	0.00042	1	8260B	7/8/13 18:48	cgp	P3G0135
Methyl-tert-Butyl Ether	BRL	mg/kg dry	0.011	0.00044	1	8260B	7/8/13 18:48	cgp	P3G0135
Naphthalene	BRL	mg/kg dry	0.011	0.00042	1	8260B	7/8/13 18:48	cgp	P3G0135
n-Butylbenzene	BRL	mg/kg dry	0.0057	0.00025	1	8260B	7/8/13 18:48	cgp	P3G0135
n-Propylbenzene	BRL	mg/kg dry	0.0057	0.00033	1	8260B	7/8/13 18:48	cgp	P3G0135
o-Xylene	BRL	mg/kg dry	0.0057	0.00036	1	8260B	7/8/13 18:48	cgp	P3G0135
sec-Butylbenzene	BRL	mg/kg dry	0.0057	0.00023	1	8260B	7/8/13 18:48	cgp	P3G0135
Styrene	BRL	mg/kg dry	0.0057	0.00025	1	8260B	7/8/13 18:48	cgp	P3G0135
tert-Butylbenzene	BRL	mg/kg dry	0.0057	0.00030	1	8260B	7/8/13 18:48	cgp	P3G0135
Tetrachloroethylene	BRL	mg/kg dry	0.0057	0.00040	1	8260B	7/8/13 18:48	cgp	P3G0135
Toluene	BRL	mg/kg dry	0.0057	0.00034	1	8260B	7/8/13 18:48	cgp	P3G0135
trans-1,2-Dichloroethylene	BRL	mg/kg dry	0.0057	0.00066	1	8260B	7/8/13 18:48	cgp	P3G0135
trans-1,3-Dichloropropylene	BRL	mg/kg dry	0.0057	0.00028	1	8260B	7/8/13 18:48	cgp	P3G0135
Trichloroethylene	BRL	mg/kg dry	0.0057	0.00053	1	8260B	7/8/13 18:48	cgp	P3G0135
Trichlorofluoromethane	BRL	mg/kg dry	0.0057	0.00046	1	8260B	7/8/13 18:48	cgp	P3G0135
Vinyl acetate	BRL	mg/kg dry	0.029	0.0016	1	8260B	7/8/13 18:48	cgp	P3G0135
Vinyl chloride	BRL	mg/kg dry	0.0057	0.00074	1	8260B	7/8/13 18:48	cgp	P3G0135
Xylenes, total	BRL	mg/kg dry	0.017	0.0011	1	8260B	7/8/13 18:48	cgp	P3G0135

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*84 %*	*70-130*
Dibromofluoromethane	*94 %*	*84-123*
Toluene-d8	*82 %*	*76-129*

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: AOC-2 (.5'-1')
Prism Sample ID: 3060664-05
Prism Work Order: 3060664
Time Collected: 06/24/13 14:35
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Anions by Ion Chromatography									
Nitrate as N	**11**	**mg/kg dry**	**2.4**	**0.048**	**1**	***9056A**	**7/4/13 19:05**	**CDE**	**P3G0110**
General Chemistry Parameters									
% Solids	**84.1 A**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**7/2/13 15:15**	**MJO**	**P3G0067**
Phosphorus-Total	**130**	**mg/kg dry**	**3.0**	**0.43**	**1**	***SM4500-P F**	**7/2/13 10:41**	**CLB**	**P3G0007**
Organochlorine Pesticides by GC/ECD									
4,4'-DDD	**4.3 Ab**	**ug/kg dry**	**2.4**	**0.55**	**1**	**8081B**	**7/23/13 18:25**	**JMV**	**P3G0117**
4,4'-DDE	**5.9**	**ug/kg dry**	**2.4**	**0.43**	**1**	**8081B**	**7/19/13 20:51**	**JMV**	**P3G0117**
4,4'-DDT	**13**	**ug/kg dry**	**3.5**	**0.75**	**1**	**8081B**	**7/19/13 20:51**	**JMV**	**P3G0117**
Aldrin	BRL	ug/kg dry	2.4	0.55	1	8081B	7/19/13 20:51	JMV	P3G0117
alpha-BHC	BRL	ug/kg dry	2.4	0.33	1	8081B	7/19/13 20:51	JMV	P3G0117
cis-Chlordane	BRL	ug/kg dry	2.4	0.47	1	8081B	7/19/13 20:51	JMV	P3G0117
beta-BHC	BRL	ug/kg dry	2.4	0.46	1	8081B	7/19/13 20:51	JMV	P3G0117
Chlordane	BRL	ug/kg dry	59	6.0	1	8081B	7/18/13 22:41	JMV	P3G0117
delta-BHC	BRL	ug/kg dry	2.4	0.37	1	8081B	7/19/13 20:51	JMV	P3G0117
Dieldrin	BRL	ug/kg dry	2.4	0.42	1	8081B	7/19/13 20:51	JMV	P3G0117
Endosulfan I	BRL	ug/kg dry	2.4	0.52	1	8081B	7/19/13 20:51	JMV	P3G0117
Endosulfan II	BRL	ug/kg dry	2.4	0.57	1	8081B	7/19/13 20:51	JMV	P3G0117
Endosulfan Sulfate	BRL	ug/kg dry	2.4	0.77	1	8081B	7/19/13 20:51	JMV	P3G0117
Endrin	BRL CCV	ug/kg dry	2.4	0.53	1	8081B	7/19/13 20:51	JMV	P3G0117
Endrin Aldehyde	BRL	ug/kg dry	2.4	0.65	1	8081B	7/19/13 20:51	JMV	P3G0117
Endrin Ketone	BRL	ug/kg dry	2.4	0.59	1	8081B	7/19/13 20:51	JMV	P3G0117
gamma-BHC	BRL	ug/kg dry	2.4	0.46	1	8081B	7/19/13 20:51	JMV	P3G0117
trans-Chlordane	BRL	ug/kg dry	2.4	0.64	1	8081B	7/19/13 20:51	JMV	P3G0117
Heptachlor	BRL	ug/kg dry	2.4	0.75	1	8081B	7/19/13 20:51	JMV	P3G0117
Heptachlor Epoxide	BRL	ug/kg dry	2.4	0.66	1	8081B	7/19/13 20:51	JMV	P3G0117
Methoxychlor	BRL	ug/kg dry	2.4	1.4	1	8081B	7/19/13 20:51	JMV	P3G0117
Toxaphene	BRL	ug/kg dry	59	7.3	1	8081B	7/18/13 22:41	JMV	P3G0117

Surrogate	Recovery	Control Limits
Decachlorobiphenyl	*110 %*	*26-204*
Tetrachloro-m-xylene	*84 %*	*40-162*

Semivolatile Organic Compounds by GC/MS									
1,2,4-Trichlorobenzene	BRL	mg/kg dry	0.39	0.15	1	8270D	7/1/13 22:11	KC	P3G0017
1,2-Dichlorobenzene	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 22:11	KC	P3G0017
1,3-Dichlorobenzene	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 22:11	KC	P3G0017
1,4-Dichlorobenzene	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 22:11	KC	P3G0017
1-Methylnaphthalene	BRL	mg/kg dry	0.39	0.091	1	8270D	7/1/13 22:11	KC	P3G0017
2,4,6-Trichlorophenol	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 22:11	KC	P3G0017
2,4-Dichlorophenol	BRL	mg/kg dry	0.39	0.14	1	8270D	7/1/13 22:11	KC	P3G0017
2,4-Dimethylphenol	BRL	mg/kg dry	0.39	0.16	1	8270D	7/1/13 22:11	KC	P3G0017
2,4-Dinitrophenol	BRL	mg/kg dry	0.39	0.062	1	8270D	7/1/13 22:11	KC	P3G0017

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: AOC-2 (.5'-1')
Prism Sample ID: 3060664-05
Prism Work Order: 3060664
Time Collected: 06/24/13 14:35
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
2,4-Dinitrotoluene	BRL	mg/kg dry	0.39	0.067	1	8270D	7/1/13 22:11	KC	P3G0017
2,6-Dinitrotoluene	BRL	mg/kg dry	0.39	0.060	1	8270D	7/1/13 22:11	KC	P3G0017
2-Chloronaphthalene	BRL	mg/kg dry	0.39	0.14	1	8270D	7/1/13 22:11	KC	P3G0017
2-Chlorophenol	BRL	mg/kg dry	0.39	0.15	1	8270D	7/1/13 22:11	KC	P3G0017
2-Methylnaphthalene	BRL	mg/kg dry	0.39	0.15	1	8270D	7/1/13 22:11	KC	P3G0017
2-Methylphenol	BRL	mg/kg dry	0.39	0.14	1	8270D	7/1/13 22:11	KC	P3G0017
2-Nitrophenol	BRL	mg/kg dry	0.39	0.15	1	8270D	7/1/13 22:11	KC	P3G0017
3,3'-Dichlorobenzidine	BRL	mg/kg dry	0.39	0.066	1	8270D	7/1/13 22:11	KC	P3G0017
3/4-Methylphenol	BRL	mg/kg dry	0.39	0.11	1	8270D	7/1/13 22:11	KC	P3G0017
4,6-Dinitro-2-methylphenol	BRL	mg/kg dry	0.39	0.042	1	8270D	7/1/13 22:11	KC	P3G0017
4-Bromophenyl phenyl ether	BRL	mg/kg dry	0.39	0.088	1	8270D	7/1/13 22:11	KC	P3G0017
4-Chloro-3-methylphenol	BRL	mg/kg dry	0.39	0.14	1	8270D	7/1/13 22:11	KC	P3G0017
4-Chloroaniline	BRL	mg/kg dry	0.39	0.14	1	8270D	7/1/13 22:11	KC	P3G0017
4-Chlorophenyl phenyl ether	BRL	mg/kg dry	0.39	0.12	1	8270D	7/1/13 22:11	KC	P3G0017
4-Nitrophenol	BRL	mg/kg dry	0.39	0.049	1	8270D	7/1/13 22:11	KC	P3G0017
Acenaphthene	BRL	mg/kg dry	0.39	0.12	1	8270D	7/1/13 22:11	KC	P3G0017
Acenaphthylene	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 22:11	KC	P3G0017
Anthracene	BRL	mg/kg dry	0.39	0.077	1	8270D	7/1/13 22:11	KC	P3G0017
Azobenzene	BRL	mg/kg dry	0.39	0.091	1	8270D	7/1/13 22:11	KC	P3G0017
Benzo(a)anthracene	BRL	mg/kg dry	0.39	0.081	1	8270D	7/1/13 22:11	KC	P3G0017
Benzo(a)pyrene	BRL	mg/kg dry	0.39	0.073	1	8270D	7/1/13 22:11	KC	P3G0017
Benzo(b)fluoranthene	BRL	mg/kg dry	0.39	0.054	1	8270D	7/1/13 22:11	KC	P3G0017
Benzo(g,h,i)perylene	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 22:11	KC	P3G0017
Benzo(k)fluoranthene	BRL	mg/kg dry	0.39	0.12	1	8270D	7/1/13 22:11	KC	P3G0017
Benzoic Acid	BRL	mg/kg dry	0.39	0.052	1	8270D	7/1/13 22:11	KC	P3G0017
Benzyl alcohol	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 22:11	KC	P3G0017
bis(2-Chloroethoxy)methane	BRL	mg/kg dry	0.39	0.20	1	8270D	7/1/13 22:11	KC	P3G0017
Bis(2-Chloroethyl)ether	BRL	mg/kg dry	0.39	0.15	1	8270D	7/1/13 22:11	KC	P3G0017
Bis(2-chloroisopropyl)ether	BRL	mg/kg dry	0.39	0.16	1	8270D	7/1/13 22:11	KC	P3G0017
Bis(2-Ethylhexyl)phthalate	BRL	mg/kg dry	0.39	0.076	1	8270D	7/1/13 22:11	KC	P3G0017
Butyl benzyl phthalate	BRL	mg/kg dry	0.39	0.087	1	8270D	7/1/13 22:11	KC	P3G0017
Chrysene	BRL	mg/kg dry	0.39	0.088	1	8270D	7/1/13 22:11	KC	P3G0017
Dibenzo(a,h)anthracene	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 22:11	KC	P3G0017
Dibenzofuran	BRL	mg/kg dry	0.39	0.11	1	8270D	7/1/13 22:11	KC	P3G0017
Diethyl phthalate	BRL	mg/kg dry	0.39	0.071	1	8270D	7/1/13 22:11	KC	P3G0017
Dimethyl phthalate	BRL	mg/kg dry	0.39	0.073	1	8270D	7/1/13 22:11	KC	P3G0017
Di-n-butyl phthalate	BRL	mg/kg dry	0.39	0.093	1	8270D	7/1/13 22:11	KC	P3G0017
Di-n-octyl phthalate	BRL	mg/kg dry	0.39	0.087	1	8270D	7/1/13 22:11	KC	P3G0017
Fluoranthene	BRL	mg/kg dry	0.39	0.083	1	8270D	7/1/13 22:11	KC	P3G0017
Fluorene	BRL	mg/kg dry	0.39	0.091	1	8270D	7/1/13 22:11	KC	P3G0017
Hexachlorobenzene	BRL	mg/kg dry	0.39	0.066	1	8270D	7/1/13 22:11	KC	P3G0017
Hexachlorobutadiene	BRL	mg/kg dry	0.39	0.15	1	8270D	7/1/13 22:11	KC	P3G0017
Hexachlorocyclopentadiene	BRL	mg/kg dry	0.39	0.12	1	8270D	7/1/13 22:11	KC	P3G0017

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: AOC-2 (.5'-1')
Prism Sample ID: 3060664-05
Prism Work Order: 3060664
Time Collected: 06/24/13 14:35
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Hexachloroethane	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 22:11	KC	P3G0017
Indeno(1,2,3-cd)pyrene	BRL	mg/kg dry	0.39	0.10	1	8270D	7/1/13 22:11	KC	P3G0017
Isophorone	BRL	mg/kg dry	0.39	0.15	1	8270D	7/1/13 22:11	KC	P3G0017
Naphthalene	BRL	mg/kg dry	0.39	0.15	1	8270D	7/1/13 22:11	KC	P3G0017
Nitrobenzene	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 22:11	KC	P3G0017
N-Nitroso-di-n-propylamine	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 22:11	KC	P3G0017
N-Nitrosodiphenylamine	BRL	mg/kg dry	0.39	0.079	1	8270D	7/1/13 22:11	KC	P3G0017
Pentachlorophenol	BRL	mg/kg dry	0.39	0.032	1	8270D	7/1/13 22:11	KC	P3G0017
Phenanthrene	BRL	mg/kg dry	0.39	0.069	1	8270D	7/1/13 22:11	KC	P3G0017
Phenol	BRL	mg/kg dry	0.39	0.15	1	8270D	7/1/13 22:11	KC	P3G0017
Pyrene	BRL	mg/kg dry	0.39	0.11	1	8270D	7/1/13 22:11	KC	P3G0017

Surrogate	Recovery	Control Limits
2,4,6-Tribromophenol	*123 %*	*37-131*
2-Fluorobiphenyl	*90 %*	*47-130*
2-Fluorophenol	*75 %*	*44-117*
Nitrobenzene-d5	*86 %*	*45-121*
Phenol-d5	*77 %*	*37-127*
Terphenyl-d14	*83 %*	*38-135*

Total Metals

Mercury	BRL	mg/kg dry	0.024	0.0080	1	*7471B	7/2/13 14:13	BGM	P3G0042
Antimony	BRL	mg/kg dry	0.30	0.058	1	*6010C	7/11/13 1:51	BGM	P3G0052
Arsenic	**2.7**	**mg/kg dry**	**0.30**	**0.069**	**1**	***6010C**	**7/11/13 1:51**	**BGM**	**P3G0052**
Beryllium	BRL	mg/kg dry	0.30	0.045	1	*6010C	7/9/13 23:03	BGM	P3G0052
Cadmium	BRL	mg/kg dry	0.30	0.039	1	*6010C	7/11/13 1:51	BGM	P3G0052
Chromium	**12**	**mg/kg dry**	**0.30**	**0.010**	**1**	***6010C**	**7/11/13 1:51**	**BGM**	**P3G0052**
Copper	**39**	**mg/kg dry**	**0.60**	**0.12**	**1**	***6010C**	**7/9/13 23:03**	**BGM**	**P3G0052**
Lead	**13**	**mg/kg dry**	**0.30**	**0.040**	**1**	***6010C**	**7/11/13 1:51**	**BGM**	**P3G0052**
Nickel	**2.0**	**mg/kg dry**	**1.2**	**0.011**	**1**	***6010C**	**7/9/13 23:03**	**BGM**	**P3G0052**
Selenium	BRL	mg/kg dry	0.60	0.14	1	*6010C	7/11/13 1:51	BGM	P3G0052
Silver	BRL	mg/kg dry	0.30	0.037	1	*6010C	7/9/13 23:03	BGM	P3G0052
Thallium	BRL	mg/kg dry	0.60	0.12	1	*6010C	7/9/13 23:03	BGM	P3G0052
Zinc	**35**	**mg/kg dry**	**3.0**	**0.41**	**1**	***6010C**	**7/11/13 1:51**	**BGM**	**P3G0052**

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: SB-3A (.5'-1')
Prism Sample ID: 3060664-06
Prism Work Order: 3060664
Time Collected: 06/24/13 16:10
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**90.5 A**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**7/2/13 15:15**	**MJO**	**P3G0067**
Volatile Organic Compounds by GC/MS									
1,1,1-Trichloroethane	BRL	mg/kg dry	0.0035	0.00012	1	8260B	7/8/13 19:17	cgp	P3G0135
1,1,2,2-Tetrachloroethane	BRL	mg/kg dry	0.0035	0.00059	1	8260B	7/8/13 19:17	cgp	P3G0135
1,1,2-Trichloroethane	BRL	mg/kg dry	0.0035	0.00030	1	8260B	7/8/13 19:17	cgp	P3G0135
1,1-Dichloroethane	BRL	mg/kg dry	0.0035	0.00030	1	8260B	7/8/13 19:17	cgp	P3G0135
1,1-Dichloroethylene	BRL	mg/kg dry	0.0035	0.00022	1	8260B	7/8/13 19:17	cgp	P3G0135
1,1-Dichloropropylene	BRL	mg/kg dry	0.0035	0.00037	1	8260B	7/8/13 19:17	cgp	P3G0135
1,2,3-Trichlorobenzene	BRL	mg/kg dry	0.0035	0.00026	1	8260B	7/8/13 19:17	cgp	P3G0135
1,2,3-Trichloropropane	BRL	mg/kg dry	0.0035	0.00053	1	8260B	7/8/13 19:17	cgp	P3G0135
1,2,4-Trichlorobenzene	BRL	mg/kg dry	0.0035	0.00021	1	8260B	7/8/13 19:17	cgp	P3G0135
1,2,4-Trimethylbenzene	BRL	mg/kg dry	0.0035	0.00070	1	8260B	7/8/13 19:17	cgp	P3G0135
1,2-Dibromoethane	BRL	mg/kg dry	0.0035	0.00041	1	8260B	7/8/13 19:17	cgp	P3G0135
1,2-Dichlorobenzene	BRL	mg/kg dry	0.0035	0.00016	1	8260B	7/8/13 19:17	cgp	P3G0135
1,2-Dichloroethane	BRL	mg/kg dry	0.0035	0.00057	1	8260B	7/8/13 19:17	cgp	P3G0135
1,2-Dichloropropane	BRL	mg/kg dry	0.0035	0.00022	1	8260B	7/8/13 19:17	cgp	P3G0135
1,3,5-Trimethylbenzene	BRL	mg/kg dry	0.0035	0.00017	1	8260B	7/8/13 19:17	cgp	P3G0135
1,3-Dichlorobenzene	BRL	mg/kg dry	0.0035	0.000049	1	8260B	7/8/13 19:17	cgp	P3G0135
1,3-Dichloropropane	BRL	mg/kg dry	0.0035	0.00038	1	8260B	7/8/13 19:17	cgp	P3G0135
1,4-Dichlorobenzene	BRL	mg/kg dry	0.0035	0.00026	1	8260B	7/8/13 19:17	cgp	P3G0135
2,2-Dichloropropane	BRL	mg/kg dry	0.0035	0.00022	1	8260B	7/8/13 19:17	cgp	P3G0135
2-Chlorotoluene	BRL	mg/kg dry	0.0035	0.00022	1	8260B	7/8/13 19:17	cgp	P3G0135
4-Chlorotoluene	BRL	mg/kg dry	0.0035	0.00017	1	8260B	7/8/13 19:17	cgp	P3G0135
4-Isopropyltoluene	BRL	mg/kg dry	0.0035	0.00022	1	8260B	7/8/13 19:17	cgp	P3G0135
Acetone	**0.079**	**mg/kg dry**	**0.035**	**0.0019**	**1**	**8260B**	**7/8/13 19:17**	**cgp**	**P3G0135**
Benzene	BRL	mg/kg dry	0.0021	0.00021	1	8260B	7/8/13 19:17	cgp	P3G0135
Bromobenzene	BRL	mg/kg dry	0.0035	0.00015	1	8260B	7/8/13 19:17	cgp	P3G0135
Bromochloromethane	BRL	mg/kg dry	0.0035	0.00051	1	8260B	7/8/13 19:17	cgp	P3G0135
Bromodichloromethane	BRL	mg/kg dry	0.0035	0.00016	1	8260B	7/8/13 19:17	cgp	P3G0135
Bromoform	BRL	mg/kg dry	0.0035	0.00063	1	8260B	7/8/13 19:17	cgp	P3G0135
Bromomethane	BRL	mg/kg dry	0.0071	0.0010	1	8260B	7/8/13 19:17	cgp	P3G0135
Carbon Tetrachloride	BRL	mg/kg dry	0.0035	0.00019	1	8260B	7/8/13 19:17	cgp	P3G0135
Chlorobenzene	BRL	mg/kg dry	0.0035	0.00016	1	8260B	7/8/13 19:17	cgp	P3G0135
Chloroethane	BRL	mg/kg dry	0.0071	0.0027	1	8260B	7/8/13 19:17	cgp	P3G0135
Chloroform	BRL	mg/kg dry	0.0035	0.00015	1	8260B	7/8/13 19:17	cgp	P3G0135
Chloromethane	BRL	mg/kg dry	0.0035	0.0018	1	8260B	7/8/13 19:17	cgp	P3G0135
cis-1,2-Dichloroethylene	BRL	mg/kg dry	0.0035	0.00029	1	8260B	7/8/13 19:17	cgp	P3G0135
cis-1,3-Dichloropropylene	BRL	mg/kg dry	0.0035	0.00018	1	8260B	7/8/13 19:17	cgp	P3G0135
Dibromochloromethane	BRL	mg/kg dry	0.0035	0.00024	1	8260B	7/8/13 19:17	cgp	P3G0135
Dichlorodifluoromethane	BRL	mg/kg dry	0.0035	0.00038	1	8260B	7/8/13 19:17	cgp	P3G0135
Ethylbenzene	BRL	mg/kg dry	0.0035	0.00023	1	8260B	7/8/13 19:17	cgp	P3G0135

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: SB-3A (.5'-1')
Prism Sample ID: 3060664-06
Prism Work Order: 3060664
Time Collected: 06/24/13 16:10
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Isopropyl Ether	BRL	mg/kg dry	0.0035	0.00015	1	8260B	7/8/13 19:17	cgp	P3G0135
Isopropylbenzene (Cumene)	BRL	mg/kg dry	0.0035	0.00018	1	8260B	7/8/13 19:17	cgp	P3G0135
m,p-Xylenes	**0.0017 J**	**mg/kg dry**	**0.0071**	**0.00045**	**1**	**8260B**	**7/8/13 19:17**	**cgp**	**P3G0135**
Methyl Butyl Ketone (2-Hexanone)	BRL	mg/kg dry	0.035	0.00073	1	8260B	7/8/13 19:17	cgp	P3G0135
Methyl Ethyl Ketone (2-Butanone)	BRL	mg/kg dry	0.071	0.0013	1	8260B	7/8/13 19:17	cgp	P3G0135
Methyl Isobutyl Ketone	BRL	mg/kg dry	0.035	0.00093	1	8260B	7/8/13 19:17	cgp	P3G0135
Methylene Chloride	BRL	mg/kg dry	0.0035	0.00026	1	8260B	7/8/13 19:17	cgp	P3G0135
Methyl-tert-Butyl Ether	BRL	mg/kg dry	0.0071	0.00027	1	8260B	7/8/13 19:17	cgp	P3G0135
Naphthalene	BRL	mg/kg dry	0.0071	0.00026	1	8260B	7/8/13 19:17	cgp	P3G0135
n-Butylbenzene	BRL	mg/kg dry	0.0035	0.00016	1	8260B	7/8/13 19:17	cgp	P3G0135
n-Propylbenzene	BRL	mg/kg dry	0.0035	0.00020	1	8260B	7/8/13 19:17	cgp	P3G0135
o-Xylene	BRL	mg/kg dry	0.0035	0.00022	1	8260B	7/8/13 19:17	cgp	P3G0135
sec-Butylbenzene	BRL	mg/kg dry	0.0035	0.00014	1	8260B	7/8/13 19:17	cgp	P3G0135
Styrene	BRL	mg/kg dry	0.0035	0.00015	1	8260B	7/8/13 19:17	cgp	P3G0135
tert-Butylbenzene	BRL	mg/kg dry	0.0035	0.00018	1	8260B	7/8/13 19:17	cgp	P3G0135
Tetrachloroethylene	BRL	mg/kg dry	0.0035	0.00025	1	8260B	7/8/13 19:17	cgp	P3G0135
Toluene	BRL	mg/kg dry	0.0035	0.00021	1	8260B	7/8/13 19:17	cgp	P3G0135
trans-1,2-Dichloroethylene	BRL	mg/kg dry	0.0035	0.00041	1	8260B	7/8/13 19:17	cgp	P3G0135
trans-1,3-Dichloropropylene	BRL	mg/kg dry	0.0035	0.00017	1	8260B	7/8/13 19:17	cgp	P3G0135
Trichloroethylene	BRL	mg/kg dry	0.0035	0.00033	1	8260B	7/8/13 19:17	cgp	P3G0135
Trichlorofluoromethane	BRL	mg/kg dry	0.0035	0.00029	1	8260B	7/8/13 19:17	cgp	P3G0135
Vinyl acetate	BRL	mg/kg dry	0.018	0.0010	1	8260B	7/8/13 19:17	cgp	P3G0135
Vinyl chloride	BRL	mg/kg dry	0.0035	0.00046	1	8260B	7/8/13 19:17	cgp	P3G0135
Xylenes, total	**0.0017 J**	**mg/kg dry**	**0.011**	**0.00066**	**1**	**8260B**	**7/8/13 19:17**	**cgp**	**P3G0135**

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*83 %*	*70-130*
Dibromofluoromethane	*99 %*	*84-123*
Toluene-d8	*85 %*	*76-129*

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: AOC-3 (.5'-1')
Prism Sample ID: 3060664-07
Prism Work Order: 3060664
Time Collected: 06/24/13 16:20
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Anions by Ion Chromatography									
Nitrate as N	BRL Aa	mg/kg dry	12	0.24	5	*9056A	7/5/13 10:19	CDE	P3G0110
General Chemistry Parameters									
% Solids	**85.3 A**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**7/2/13 15:15**	**MJO**	**P3G0067**
Phosphorus-Total	**100**	**mg/kg dry**	**2.9**	**0.42**	**1**	***SM4500-P F**	**7/2/13 10:41**	**CLB**	**P3G0007**
Organochlorine Pesticides by GC/ECD									
4,4'-DDD	**13 Ab**	**ug/kg dry**	**2.3**	**0.55**	**1**	**8081B**	**7/23/13 19:07**	**JMV**	**P3G0117**
4,4'-DDE	**4.3**	**ug/kg dry**	**2.3**	**0.42**	**1**	**8081B**	**7/19/13 21:33**	**JMV**	**P3G0117**
4,4'-DDT	**2.0 J**	**ug/kg dry**	**3.5**	**0.74**	**1**	**8081B**	**7/19/13 21:33**	**JMV**	**P3G0117**
Aldrin	BRL	ug/kg dry	2.3	0.54	1	8081B	7/19/13 21:33	JMV	P3G0117
alpha-BHC	BRL	ug/kg dry	2.3	0.33	1	8081B	7/19/13 21:33	JMV	P3G0117
cis-Chlordane	BRL	ug/kg dry	2.3	0.46	1	8081B	7/19/13 21:33	JMV	P3G0117
beta-BHC	BRL	ug/kg dry	2.3	0.45	1	8081B	7/19/13 21:33	JMV	P3G0117
Chlordane	BRL	ug/kg dry	59	6.0	1	8081B	7/19/13 2:15	JMV	P3G0117
delta-BHC	BRL	ug/kg dry	2.3	0.37	1	8081B	7/19/13 21:33	JMV	P3G0117
Dieldrin	**4.7**	**ug/kg dry**	**2.3**	**0.42**	**1**	**8081B**	**7/19/13 21:33**	**JMV**	**P3G0117**
Endosulfan I	BRL	ug/kg dry	2.3	0.52	1	8081B	7/19/13 21:33	JMV	P3G0117
Endosulfan II	BRL	ug/kg dry	2.3	0.56	1	8081B	7/19/13 21:33	JMV	P3G0117
Endosulfan Sulfate	BRL	ug/kg dry	2.3	0.76	1	8081B	7/19/13 21:33	JMV	P3G0117
Endrin	BRL CCV	ug/kg dry	2.3	0.52	1	8081B	7/19/13 21:33	JMV	P3G0117
Endrin Aldehyde	BRL	ug/kg dry	2.3	0.64	1	8081B	7/19/13 21:33	JMV	P3G0117
Endrin Ketone	BRL	ug/kg dry	2.3	0.58	1	8081B	7/19/13 21:33	JMV	P3G0117
gamma-BHC	BRL	ug/kg dry	2.3	0.45	1	8081B	7/19/13 21:33	JMV	P3G0117
trans-Chlordane	BRL	ug/kg dry	2.3	0.63	1	8081B	7/19/13 21:33	JMV	P3G0117
Heptachlor	BRL	ug/kg dry	2.3	0.74	1	8081B	7/19/13 21:33	JMV	P3G0117
Heptachlor Epoxide	BRL	ug/kg dry	2.3	0.65	1	8081B	7/19/13 21:33	JMV	P3G0117
Methoxychlor	BRL	ug/kg dry	2.3	1.3	1	8081B	7/19/13 21:33	JMV	P3G0117
Toxaphene	BRL	ug/kg dry	59	7.3	1	8081B	7/19/13 2:15	JMV	P3G0117

Surrogate	Recovery	Control Limits
Decachlorobiphenyl	*91 %*	*26-204*
Tetrachloro-m-xylene	*74 %*	*40-162*

Semivolatile Organic Compounds by GC/MS									
1,2,4-Trichlorobenzene	BRL	mg/kg dry	0.39	0.14	1	8270D	7/1/13 22:41	KC	P3G0017
1,2-Dichlorobenzene	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 22:41	KC	P3G0017
1,3-Dichlorobenzene	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 22:41	KC	P3G0017
1,4-Dichlorobenzene	BRL	mg/kg dry	0.39	0.12	1	8270D	7/1/13 22:41	KC	P3G0017
1-Methylnaphthalene	BRL	mg/kg dry	0.39	0.090	1	8270D	7/1/13 22:41	KC	P3G0017
2,4,6-Trichlorophenol	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 22:41	KC	P3G0017
2,4-Dichlorophenol	BRL	mg/kg dry	0.39	0.14	1	8270D	7/1/13 22:41	KC	P3G0017
2,4-Dimethylphenol	BRL	mg/kg dry	0.39	0.16	1	8270D	7/1/13 22:41	KC	P3G0017
2,4-Dinitrophenol	BRL	mg/kg dry	0.39	0.061	1	8270D	7/1/13 22:41	KC	P3G0017

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: AOC-3 (.5'-1')
Prism Sample ID: 3060664-07
Prism Work Order: 3060664
Time Collected: 06/24/13 16:20
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
2,4-Dinitrotoluene	BRL	mg/kg dry	0.39	0.066	1	8270D	7/1/13 22:41	KC	P3G0017
2,6-Dinitrotoluene	BRL	mg/kg dry	0.39	0.059	1	8270D	7/1/13 22:41	KC	P3G0017
2-Chloronaphthalene	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 22:41	KC	P3G0017
2-Chlorophenol	BRL	mg/kg dry	0.39	0.15	1	8270D	7/1/13 22:41	KC	P3G0017
2-Methylnaphthalene	BRL	mg/kg dry	0.39	0.14	1	8270D	7/1/13 22:41	KC	P3G0017
2-Methylphenol	BRL	mg/kg dry	0.39	0.14	1	8270D	7/1/13 22:41	KC	P3G0017
2-Nitrophenol	BRL	mg/kg dry	0.39	0.14	1	8270D	7/1/13 22:41	KC	P3G0017
3,3'-Dichlorobenzidine	BRL	mg/kg dry	0.39	0.065	1	8270D	7/1/13 22:41	KC	P3G0017
3/4-Methylphenol	BRL	mg/kg dry	0.39	0.11	1	8270D	7/1/13 22:41	KC	P3G0017
4,6-Dinitro-2-methylphenol	BRL	mg/kg dry	0.39	0.042	1	8270D	7/1/13 22:41	KC	P3G0017
4-Bromophenyl phenyl ether	BRL	mg/kg dry	0.39	0.086	1	8270D	7/1/13 22:41	KC	P3G0017
4-Chloro-3-methylphenol	BRL	mg/kg dry	0.39	0.14	1	8270D	7/1/13 22:41	KC	P3G0017
4-Chloroaniline	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 22:41	KC	P3G0017
4-Chlorophenyl phenyl ether	BRL	mg/kg dry	0.39	0.11	1	8270D	7/1/13 22:41	KC	P3G0017
4-Nitrophenol	BRL	mg/kg dry	0.39	0.048	1	8270D	7/1/13 22:41	KC	P3G0017
Acenaphthene	BRL	mg/kg dry	0.39	0.12	1	8270D	7/1/13 22:41	KC	P3G0017
Acenaphthylene	BRL	mg/kg dry	0.39	0.12	1	8270D	7/1/13 22:41	KC	P3G0017
Anthracene	BRL	mg/kg dry	0.39	0.076	1	8270D	7/1/13 22:41	KC	P3G0017
Azobenzene	BRL	mg/kg dry	0.39	0.089	1	8270D	7/1/13 22:41	KC	P3G0017
Benzo(a)anthracene	BRL	mg/kg dry	0.39	0.079	1	8270D	7/1/13 22:41	KC	P3G0017
Benzo(a)pyrene	BRL	mg/kg dry	0.39	0.072	1	8270D	7/1/13 22:41	KC	P3G0017
Benzo(b)fluoranthene	BRL	mg/kg dry	0.39	0.053	1	8270D	7/1/13 22:41	KC	P3G0017
Benzo(g,h,i)perylene	BRL	mg/kg dry	0.39	0.12	1	8270D	7/1/13 22:41	KC	P3G0017
Benzo(k)fluoranthene	BRL	mg/kg dry	0.39	0.11	1	8270D	7/1/13 22:41	KC	P3G0017
Benzoic Acid	BRL	mg/kg dry	0.39	0.051	1	8270D	7/1/13 22:41	KC	P3G0017
Benzyl alcohol	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 22:41	KC	P3G0017
bis(2-Chloroethoxy)methane	BRL	mg/kg dry	0.39	0.20	1	8270D	7/1/13 22:41	KC	P3G0017
Bis(2-Chloroethyl)ether	BRL	mg/kg dry	0.39	0.14	1	8270D	7/1/13 22:41	KC	P3G0017
Bis(2-chloroisopropyl)ether	BRL	mg/kg dry	0.39	0.15	1	8270D	7/1/13 22:41	KC	P3G0017
Bis(2-Ethylhexyl)phthalate	BRL	mg/kg dry	0.39	0.075	1	8270D	7/1/13 22:41	KC	P3G0017
Butyl benzyl phthalate	BRL	mg/kg dry	0.39	0.086	1	8270D	7/1/13 22:41	KC	P3G0017
Chrysene	BRL	mg/kg dry	0.39	0.086	1	8270D	7/1/13 22:41	KC	P3G0017
Dibenzo(a,h)anthracene	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 22:41	KC	P3G0017
Dibenzofuran	BRL	mg/kg dry	0.39	0.11	1	8270D	7/1/13 22:41	KC	P3G0017
Diethyl phthalate	BRL	mg/kg dry	0.39	0.070	1	8270D	7/1/13 22:41	KC	P3G0017
Dimethyl phthalate	BRL	mg/kg dry	0.39	0.072	1	8270D	7/1/13 22:41	KC	P3G0017
Di-n-butyl phthalate	BRL	mg/kg dry	0.39	0.091	1	8270D	7/1/13 22:41	KC	P3G0017
Di-n-octyl phthalate	BRL	mg/kg dry	0.39	0.085	1	8270D	7/1/13 22:41	KC	P3G0017
Fluoranthene	BRL	mg/kg dry	0.39	0.081	1	8270D	7/1/13 22:41	KC	P3G0017
Fluorene	BRL	mg/kg dry	0.39	0.090	1	8270D	7/1/13 22:41	KC	P3G0017
Hexachlorobenzene	BRL	mg/kg dry	0.39	0.065	1	8270D	7/1/13 22:41	KC	P3G0017
Hexachlorobutadiene	BRL	mg/kg dry	0.39	0.15	1	8270D	7/1/13 22:41	KC	P3G0017
Hexachlorocyclopentadiene	BRL	mg/kg dry	0.39	0.12	1	8270D	7/1/13 22:41	KC	P3G0017

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: AOC-3 (.5'-1')
Prism Sample ID: 3060664-07
Prism Work Order: 3060664
Time Collected: 06/24/13 16:20
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Hexachloroethane	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 22:41	KC	P3G0017
Indeno(1,2,3-cd)pyrene	BRL	mg/kg dry	0.39	0.10	1	8270D	7/1/13 22:41	KC	P3G0017
Isophorone	BRL	mg/kg dry	0.39	0.14	1	8270D	7/1/13 22:41	KC	P3G0017
Naphthalene	BRL	mg/kg dry	0.39	0.15	1	8270D	7/1/13 22:41	KC	P3G0017
Nitrobenzene	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 22:41	KC	P3G0017
N-Nitroso-di-n-propylamine	BRL	mg/kg dry	0.39	0.13	1	8270D	7/1/13 22:41	KC	P3G0017
N-Nitrosodiphenylamine	BRL	mg/kg dry	0.39	0.078	1	8270D	7/1/13 22:41	KC	P3G0017
Pentachlorophenol	BRL	mg/kg dry	0.39	0.032	1	8270D	7/1/13 22:41	KC	P3G0017
Phenanthrene	BRL	mg/kg dry	0.39	0.068	1	8270D	7/1/13 22:41	KC	P3G0017
Phenol	BRL	mg/kg dry	0.39	0.14	1	8270D	7/1/13 22:41	KC	P3G0017
Pyrene	BRL	mg/kg dry	0.39	0.11	1	8270D	7/1/13 22:41	KC	P3G0017

Surrogate	Recovery	Control Limits
2,4,6-Tribromophenol	*123 %*	*37-131*
2-Fluorobiphenyl	*80 %*	*47-130*
2-Fluorophenol	*71 %*	*44-117*
Nitrobenzene-d5	*77 %*	*45-121*
Phenol-d5	*74 %*	*37-127*
Terphenyl-d14	*97 %*	*38-135*

Total Metals

Mercury	BRL	mg/kg dry	0.023	0.0079	1	*7471B	7/2/13 14:18	BGM	P3G0042
Antimony	**0.41**	**mg/kg dry**	**0.30**	**0.058**	**1**	***6010C**	**7/11/13 1:59**	**BGM**	**P3G0052**
Arsenic	**3.8**	**mg/kg dry**	**0.30**	**0.068**	**1**	***6010C**	**7/11/13 1:59**	**BGM**	**P3G0052**
Beryllium	BRL	mg/kg dry	0.30	0.045	1	*6010C	7/9/13 23:12	BGM	P3G0052
Cadmium	BRL	mg/kg dry	0.30	0.039	1	*6010C	7/11/13 1:59	BGM	P3G0052
Chromium	**18**	**mg/kg dry**	**0.30**	**0.0099**	**1**	***6010C**	**7/11/13 1:59**	**BGM**	**P3G0052**
Copper	**1.9**	**mg/kg dry**	**0.60**	**0.12**	**1**	***6010C**	**7/9/13 23:12**	**BGM**	**P3G0052**
Lead	**13**	**mg/kg dry**	**0.30**	**0.040**	**1**	***6010C**	**7/11/13 1:59**	**BGM**	**P3G0052**
Nickel	**5.1**	**mg/kg dry**	**1.2**	**0.011**	**1**	***6010C**	**7/9/13 23:12**	**BGM**	**P3G0052**
Selenium	BRL	mg/kg dry	0.60	0.14	1	*6010C	7/11/13 1:59	BGM	P3G0052
Silver	BRL	mg/kg dry	0.30	0.037	1	*6010C	7/9/13 23:12	BGM	P3G0052
Thallium	BRL	mg/kg dry	0.60	0.12	1	*6010C	7/9/13 23:12	BGM	P3G0052
Zinc	**18**	**mg/kg dry**	**3.0**	**0.40**	**1**	***6010C**	**7/11/13 1:59**	**BGM**	**P3G0052**

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Solid

Client Sample ID: SB-4B (.5'-1')
Prism Sample ID: 3060664-08
Prism Work Order: 3060664
Time Collected: 06/24/13 15:25
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**80.4 A**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**7/2/13 15:15**	**MJO**	**P3G0067**
Volatile Organic Compounds by GC/MS									
1,1,1-Trichloroethane	BRL	mg/kg dry	0.0062	0.00020	1	8260B	7/8/13 19:46	cgp	P3G0135
1,1,2,2-Tetrachloroethane	BRL	mg/kg dry	0.0062	0.0010	1	8260B	7/8/13 19:46	cgp	P3G0135
1,1,2-Trichloroethane	BRL	mg/kg dry	0.0062	0.00052	1	8260B	7/8/13 19:46	cgp	P3G0135
1,1-Dichloroethane	BRL	mg/kg dry	0.0062	0.00052	1	8260B	7/8/13 19:46	cgp	P3G0135
1,1-Dichloroethylene	BRL	mg/kg dry	0.0062	0.00038	1	8260B	7/8/13 19:46	cgp	P3G0135
1,1-Dichloropropylene	BRL	mg/kg dry	0.0062	0.00065	1	8260B	7/8/13 19:46	cgp	P3G0135
1,2,3-Trichlorobenzene	BRL	mg/kg dry	0.0062	0.00046	1	8260B	7/8/13 19:46	cgp	P3G0135
1,2,3-Trichloropropane	BRL	mg/kg dry	0.0062	0.00094	1	8260B	7/8/13 19:46	cgp	P3G0135
1,2,4-Trichlorobenzene	BRL	mg/kg dry	0.0062	0.00036	1	8260B	7/8/13 19:46	cgp	P3G0135
1,2,4-Trimethylbenzene	BRL	mg/kg dry	0.0062	0.0012	1	8260B	7/8/13 19:46	cgp	P3G0135
1,2-Dibromoethane	BRL	mg/kg dry	0.0062	0.00071	1	8260B	7/8/13 19:46	cgp	P3G0135
1,2-Dichlorobenzene	BRL	mg/kg dry	0.0062	0.00028	1	8260B	7/8/13 19:46	cgp	P3G0135
1,2-Dichloroethane	BRL	mg/kg dry	0.0062	0.0010	1	8260B	7/8/13 19:46	cgp	P3G0135
1,2-Dichloropropane	BRL	mg/kg dry	0.0062	0.00039	1	8260B	7/8/13 19:46	cgp	P3G0135
1,3,5-Trimethylbenzene	BRL	mg/kg dry	0.0062	0.00030	1	8260B	7/8/13 19:46	cgp	P3G0135
1,3-Dichlorobenzene	BRL	mg/kg dry	0.0062	0.000086	1	8260B	7/8/13 19:46	cgp	P3G0135
1,3-Dichloropropane	BRL	mg/kg dry	0.0062	0.00067	1	8260B	7/8/13 19:46	cgp	P3G0135
1,4-Dichlorobenzene	BRL	mg/kg dry	0.0062	0.00045	1	8260B	7/8/13 19:46	cgp	P3G0135
2,2-Dichloropropane	BRL	mg/kg dry	0.0062	0.00039	1	8260B	7/8/13 19:46	cgp	P3G0135
2-Chlorotoluene	BRL	mg/kg dry	0.0062	0.00038	1	8260B	7/8/13 19:46	cgp	P3G0135
4-Chlorotoluene	BRL	mg/kg dry	0.0062	0.00029	1	8260B	7/8/13 19:46	cgp	P3G0135
4-Isopropyltoluene	BRL	mg/kg dry	0.0062	0.00039	1	8260B	7/8/13 19:46	cgp	P3G0135
Acetone	**0.075**	**mg/kg dry**	**0.062**	**0.0033**	**1**	**8260B**	**7/8/13 19:46**	**cgp**	**P3G0135**
Benzene	BRL	mg/kg dry	0.0037	0.00038	1	8260B	7/8/13 19:46	cgp	P3G0135
Bromobenzene	BRL	mg/kg dry	0.0062	0.00026	1	8260B	7/8/13 19:46	cgp	P3G0135
Bromochloromethane	BRL	mg/kg dry	0.0062	0.00090	1	8260B	7/8/13 19:46	cgp	P3G0135
Bromodichloromethane	BRL	mg/kg dry	0.0062	0.00029	1	8260B	7/8/13 19:46	cgp	P3G0135
Bromoform	BRL	mg/kg dry	0.0062	0.0011	1	8260B	7/8/13 19:46	cgp	P3G0135
Bromomethane	BRL	mg/kg dry	0.012	0.0018	1	8260B	7/8/13 19:46	cgp	P3G0135
Carbon Tetrachloride	BRL	mg/kg dry	0.0062	0.00034	1	8260B	7/8/13 19:46	cgp	P3G0135
Chlorobenzene	BRL	mg/kg dry	0.0062	0.00029	1	8260B	7/8/13 19:46	cgp	P3G0135
Chloroethane	BRL	mg/kg dry	0.012	0.0047	1	8260B	7/8/13 19:46	cgp	P3G0135
Chloroform	BRL	mg/kg dry	0.0062	0.00026	1	8260B	7/8/13 19:46	cgp	P3G0135
Chloromethane	BRL	mg/kg dry	0.0062	0.0032	1	8260B	7/8/13 19:46	cgp	P3G0135
cis-1,2-Dichloroethylene	BRL	mg/kg dry	0.0062	0.00050	1	8260B	7/8/13 19:46	cgp	P3G0135
cis-1,3-Dichloropropylene	BRL	mg/kg dry	0.0062	0.00031	1	8260B	7/8/13 19:46	cgp	P3G0135
Dibromochloromethane	BRL	mg/kg dry	0.0062	0.00042	1	8260B	7/8/13 19:46	cgp	P3G0135
Dichlorodifluoromethane	BRL	mg/kg dry	0.0062	0.00067	1	8260B	7/8/13 19:46	cgp	P3G0135
Ethylbenzene	BRL	mg/kg dry	0.0062	0.00040	1	8260B	7/8/13 19:46	cgp	P3G0135

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Solid

Client Sample ID: SB-4B (.5'-1')
Prism Sample ID: 3060664-08
Prism Work Order: 3060664
Time Collected: 06/24/13 15:25
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Isopropyl Ether	BRL	mg/kg dry	0.0062	0.00027	1	8260B	7/8/13 19:46	cgp	P3G0135
Isopropylbenzene (Cumene)	BRL	mg/kg dry	0.0062	0.00031	1	8260B	7/8/13 19:46	cgp	P3G0135
m,p-Xylenes	BRL	mg/kg dry	0.012	0.00080	1	8260B	7/8/13 19:46	cgp	P3G0135
Methyl Butyl Ketone (2-Hexanone)	BRL	mg/kg dry	0.062	0.0013	1	8260B	7/8/13 19:46	cgp	P3G0135
Methyl Ethyl Ketone (2-Butanone)	BRL	mg/kg dry	0.12	0.0022	1	8260B	7/8/13 19:46	cgp	P3G0135
Methyl Isobutyl Ketone	BRL	mg/kg dry	0.062	0.0016	1	8260B	7/8/13 19:46	cgp	P3G0135
Methylene Chloride	BRL	mg/kg dry	0.0062	0.00045	1	8260B	7/8/13 19:46	cgp	P3G0135
Methyl-tert-Butyl Ether	BRL	mg/kg dry	0.012	0.00048	1	8260B	7/8/13 19:46	cgp	P3G0135
Naphthalene	BRL	mg/kg dry	0.012	0.00046	1	8260B	7/8/13 19:46	cgp	P3G0135
n-Butylbenzene	BRL	mg/kg dry	0.0062	0.00027	1	8260B	7/8/13 19:46	cgp	P3G0135
n-Propylbenzene	BRL	mg/kg dry	0.0062	0.00035	1	8260B	7/8/13 19:46	cgp	P3G0135
o-Xylene	BRL	mg/kg dry	0.0062	0.00039	1	8260B	7/8/13 19:46	cgp	P3G0135
sec-Butylbenzene	BRL	mg/kg dry	0.0062	0.00025	1	8260B	7/8/13 19:46	cgp	P3G0135
Styrene	BRL	mg/kg dry	0.0062	0.00027	1	8260B	7/8/13 19:46	cgp	P3G0135
tert-Butylbenzene	BRL	mg/kg dry	0.0062	0.00032	1	8260B	7/8/13 19:46	cgp	P3G0135
Tetrachloroethylene	BRL	mg/kg dry	0.0062	0.00043	1	8260B	7/8/13 19:46	cgp	P3G0135
Toluene	BRL	mg/kg dry	0.0062	0.00037	1	8260B	7/8/13 19:46	cgp	P3G0135
trans-1,2-Dichloroethylene	BRL	mg/kg dry	0.0062	0.00072	1	8260B	7/8/13 19:46	cgp	P3G0135
trans-1,3-Dichloropropylene	BRL	mg/kg dry	0.0062	0.00030	1	8260B	7/8/13 19:46	cgp	P3G0135
Trichloroethylene	BRL	mg/kg dry	0.0062	0.00057	1	8260B	7/8/13 19:46	cgp	P3G0135
Trichlorofluoromethane	BRL	mg/kg dry	0.0062	0.00050	1	8260B	7/8/13 19:46	cgp	P3G0135
Vinyl acetate	BRL	mg/kg dry	0.031	0.0018	1	8260B	7/8/13 19:46	cgp	P3G0135
Vinyl chloride	BRL	mg/kg dry	0.0062	0.00080	1	8260B	7/8/13 19:46	cgp	P3G0135
Xylenes, total	BRL	mg/kg dry	0.019	0.0012	1	8260B	7/8/13 19:46	cgp	P3G0135

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*82 %*	*70-130*
Dibromofluoromethane	*97 %*	*84-123*
Toluene-d8	*84 %*	*76-129*

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: AOC-4 (.5'-1')
Prism Sample ID: 3060664-09
Prism Work Order: 3060664
Time Collected: 06/24/13 15:35
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Anions by Ion Chromatography									
Nitrate as N	**11**	**mg/kg dry**	**2.4**	**0.050**	**1**	***9056A**	**7/4/13 19:32**	**CDE**	**P3G0110**
General Chemistry Parameters									
% Solids	**81.4 A**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**7/2/13 15:15**	**MJO**	**P3G0067**
Phosphorus-Total	**1100**	**mg/kg dry**	**61**	**8.8**	**20**	***SM4500-P F**	**7/2/13 10:41**	**CLB**	**P3G0007**
Organochlorine Pesticides by GC/ECD									
4,4'-DDD	BRL CCV	ug/kg dry	2.4	0.57	1	8081B	7/19/13 22:16	JMV	P3G0117
4,4'-DDE	BRL	ug/kg dry	2.4	0.44	1	8081B	7/19/13 22:16	JMV	P3G0117
4,4'-DDT	BRL	ug/kg dry	3.7	0.77	1	8081B	7/19/13 22:16	JMV	P3G0117
Aldrin	BRL	ug/kg dry	2.4	0.56	1	8081B	7/19/13 22:16	JMV	P3G0117
alpha-BHC	BRL	ug/kg dry	2.4	0.35	1	8081B	7/19/13 22:16	JMV	P3G0117
cis-Chlordane	BRL	ug/kg dry	2.4	0.48	1	8081B	7/19/13 22:16	JMV	P3G0117
beta-BHC	BRL	ug/kg dry	2.4	0.47	1	8081B	7/19/13 22:16	JMV	P3G0117
Chlordane	BRL	ug/kg dry	61	6.2	1	8081B	7/19/13 2:58	JMV	P3G0117
delta-BHC	BRL	ug/kg dry	2.4	0.38	1	8081B	7/19/13 22:16	JMV	P3G0117
Dieldrin	BRL	ug/kg dry	2.4	0.43	1	8081B	7/19/13 22:16	JMV	P3G0117
Endosulfan I	BRL	ug/kg dry	2.4	0.54	1	8081B	7/19/13 22:16	JMV	P3G0117
Endosulfan II	BRL	ug/kg dry	2.4	0.59	1	8081B	7/19/13 22:16	JMV	P3G0117
Endosulfan Sulfate	BRL	ug/kg dry	2.4	0.79	1	8081B	7/19/13 22:16	JMV	P3G0117
Endrin	BRL CCV	ug/kg dry	2.4	0.55	1	8081B	7/19/13 22:16	JMV	P3G0117
Endrin Aldehyde	BRL	ug/kg dry	2.4	0.67	1	8081B	7/19/13 22:16	JMV	P3G0117
Endrin Ketone	BRL	ug/kg dry	2.4	0.61	1	8081B	7/19/13 22:16	JMV	P3G0117
gamma-BHC	BRL	ug/kg dry	2.4	0.47	1	8081B	7/19/13 22:16	JMV	P3G0117
trans-Chlordane	BRL	ug/kg dry	2.4	0.66	1	8081B	7/19/13 22:16	JMV	P3G0117
Heptachlor	BRL	ug/kg dry	2.4	0.78	1	8081B	7/19/13 22:16	JMV	P3G0117
Heptachlor Epoxide	BRL	ug/kg dry	2.4	0.68	1	8081B	7/19/13 22:16	JMV	P3G0117
Methoxychlor	BRL	ug/kg dry	2.4	1.4	1	8081B	7/19/13 22:16	JMV	P3G0117
Toxaphene	BRL	ug/kg dry	61	7.6	1	8081B	7/19/13 2:58	JMV	P3G0117

Surrogate	Recovery	Control Limits
Decachlorobiphenyl	*115 %*	*26-204*
Tetrachloro-m-xylene	*100 %*	*40-162*

Semivolatile Organic Compounds by GC/MS									
1,2,4-Trichlorobenzene	BRL	mg/kg dry	0.40	0.15	1	8270D	7/1/13 18:41	KC	P3G0017
1,2-Dichlorobenzene	BRL	mg/kg dry	0.40	0.13	1	8270D	7/1/13 18:41	KC	P3G0017
1,3-Dichlorobenzene	BRL	mg/kg dry	0.40	0.14	1	8270D	7/1/13 18:41	KC	P3G0017
1,4-Dichlorobenzene	BRL	mg/kg dry	0.40	0.13	1	8270D	7/1/13 18:41	KC	P3G0017
1-Methylnaphthalene	BRL	mg/kg dry	0.40	0.094	1	8270D	7/1/13 18:41	KC	P3G0017
2,4,6-Trichlorophenol	BRL	mg/kg dry	0.40	0.13	1	8270D	7/1/13 18:41	KC	P3G0017
2,4-Dichlorophenol	BRL	mg/kg dry	0.40	0.14	1	8270D	7/1/13 18:41	KC	P3G0017
2,4-Dimethylphenol	BRL	mg/kg dry	0.40	0.17	1	8270D	7/1/13 18:41	KC	P3G0017
2,4-Dinitrophenol	BRL	mg/kg dry	0.40	0.064	1	8270D	7/1/13 18:41	KC	P3G0017

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: AOC-4 (.5'-1')
Prism Sample ID: 3060664-09
Prism Work Order: 3060664
Time Collected: 06/24/13 15:35
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
2,4-Dinitrotoluene	BRL	mg/kg dry	0.40	0.069	1	8270D	7/1/13 18:41	KC	P3G0017
2,6-Dinitrotoluene	BRL	mg/kg dry	0.40	0.061	1	8270D	7/1/13 18:41	KC	P3G0017
2-Chloronaphthalene	BRL	mg/kg dry	0.40	0.14	1	8270D	7/1/13 18:41	KC	P3G0017
2-Chlorophenol	BRL	mg/kg dry	0.40	0.15	1	8270D	7/1/13 18:41	KC	P3G0017
2-Methylnaphthalene	BRL	mg/kg dry	0.40	0.15	1	8270D	7/1/13 18:41	KC	P3G0017
2-Methylphenol	BRL	mg/kg dry	0.40	0.14	1	8270D	7/1/13 18:41	KC	P3G0017
2-Nitrophenol	BRL	mg/kg dry	0.40	0.15	1	8270D	7/1/13 18:41	KC	P3G0017
3,3'-Dichlorobenzidine	BRL	mg/kg dry	0.40	0.067	1	8270D	7/1/13 18:41	KC	P3G0017
3/4-Methylphenol	BRL	mg/kg dry	0.40	0.11	1	8270D	7/1/13 18:41	KC	P3G0017
4,6-Dinitro-2-methylphenol	BRL	mg/kg dry	0.40	0.044	1	8270D	7/1/13 18:41	KC	P3G0017
4-Bromophenyl phenyl ether	BRL	mg/kg dry	0.40	0.090	1	8270D	7/1/13 18:41	KC	P3G0017
4-Chloro-3-methylphenol	BRL	mg/kg dry	0.40	0.14	1	8270D	7/1/13 18:41	KC	P3G0017
4-Chloroaniline	BRL	mg/kg dry	0.40	0.14	1	8270D	7/1/13 18:41	KC	P3G0017
4-Chlorophenyl phenyl ether	BRL	mg/kg dry	0.40	0.12	1	8270D	7/1/13 18:41	KC	P3G0017
4-Nitrophenol	BRL	mg/kg dry	0.40	0.050	1	8270D	7/1/13 18:41	KC	P3G0017
Acenaphthene	BRL	mg/kg dry	0.40	0.12	1	8270D	7/1/13 18:41	KC	P3G0017
Acenaphthylene	BRL	mg/kg dry	0.40	0.13	1	8270D	7/1/13 18:41	KC	P3G0017
Anthracene	BRL	mg/kg dry	0.40	0.079	1	8270D	7/1/13 18:41	KC	P3G0017
Azobenzene	BRL	mg/kg dry	0.40	0.093	1	8270D	7/1/13 18:41	KC	P3G0017
Benzo(a)anthracene	BRL	mg/kg dry	0.40	0.083	1	8270D	7/1/13 18:41	KC	P3G0017
Benzo(a)pyrene	BRL	mg/kg dry	0.40	0.075	1	8270D	7/1/13 18:41	KC	P3G0017
Benzo(b)fluoranthene	BRL	mg/kg dry	0.40	0.055	1	8270D	7/1/13 18:41	KC	P3G0017
Benzo(g,h,i)perylene	BRL	mg/kg dry	0.40	0.13	1	8270D	7/1/13 18:41	KC	P3G0017
Benzo(k)fluoranthene	BRL	mg/kg dry	0.40	0.12	1	8270D	7/1/13 18:41	KC	P3G0017
Benzoic Acid	BRL	mg/kg dry	0.40	0.053	1	8270D	7/1/13 18:41	KC	P3G0017
Benzyl alcohol	BRL	mg/kg dry	0.40	0.13	1	8270D	7/1/13 18:41	KC	P3G0017
bis(2-Chloroethoxy)methane	BRL	mg/kg dry	0.40	0.21	1	8270D	7/1/13 18:41	KC	P3G0017
Bis(2-Chloroethyl)ether	BRL	mg/kg dry	0.40	0.15	1	8270D	7/1/13 18:41	KC	P3G0017
Bis(2-chloroisopropyl)ether	BRL	mg/kg dry	0.40	0.16	1	8270D	7/1/13 18:41	KC	P3G0017
Bis(2-Ethylhexyl)phthalate	BRL	mg/kg dry	0.40	0.078	1	8270D	7/1/13 18:41	KC	P3G0017
Butyl benzyl phthalate	BRL	mg/kg dry	0.40	0.089	1	8270D	7/1/13 18:41	KC	P3G0017
Chrysene	BRL	mg/kg dry	0.40	0.090	1	8270D	7/1/13 18:41	KC	P3G0017
Dibenzo(a,h)anthracene	BRL	mg/kg dry	0.40	0.13	1	8270D	7/1/13 18:41	KC	P3G0017
Dibenzofuran	BRL	mg/kg dry	0.40	0.11	1	8270D	7/1/13 18:41	KC	P3G0017
Diethyl phthalate	BRL	mg/kg dry	0.40	0.073	1	8270D	7/1/13 18:41	KC	P3G0017
Dimethyl phthalate	BRL	mg/kg dry	0.40	0.075	1	8270D	7/1/13 18:41	KC	P3G0017
Di-n-butyl phthalate	BRL	mg/kg dry	0.40	0.096	1	8270D	7/1/13 18:41	KC	P3G0017
Di-n-octyl phthalate	BRL	mg/kg dry	0.40	0.089	1	8270D	7/1/13 18:41	KC	P3G0017
Fluoranthene	BRL	mg/kg dry	0.40	0.085	1	8270D	7/1/13 18:41	KC	P3G0017
Fluorene	BRL	mg/kg dry	0.40	0.094	1	8270D	7/1/13 18:41	KC	P3G0017
Hexachlorobenzene	BRL	mg/kg dry	0.40	0.067	1	8270D	7/1/13 18:41	KC	P3G0017
Hexachlorobutadiene	BRL	mg/kg dry	0.40	0.15	1	8270D	7/1/13 18:41	KC	P3G0017
Hexachlorocyclopentadiene	BRL	mg/kg dry	0.40	0.12	1	8270D	7/1/13 18:41	KC	P3G0017

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: AOC-4 (.5'-1')
Prism Sample ID: 3060664-09
Prism Work Order: 3060664
Time Collected: 06/24/13 15:35
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Hexachloroethane	BRL	mg/kg dry	0.40	0.13	1	8270D	7/1/13 18:41	KC	P3G0017
Indeno(1,2,3-cd)pyrene	BRL	mg/kg dry	0.40	0.11	1	8270D	7/1/13 18:41	KC	P3G0017
Isophorone	BRL	mg/kg dry	0.40	0.15	1	8270D	7/1/13 18:41	KC	P3G0017
Naphthalene	BRL	mg/kg dry	0.40	0.16	1	8270D	7/1/13 18:41	KC	P3G0017
Nitrobenzene	BRL	mg/kg dry	0.40	0.14	1	8270D	7/1/13 18:41	KC	P3G0017
N-Nitroso-di-n-propylamine	BRL	mg/kg dry	0.40	0.14	1	8270D	7/1/13 18:41	KC	P3G0017
N-Nitrosodiphenylamine	BRL	mg/kg dry	0.40	0.081	1	8270D	7/1/13 18:41	KC	P3G0017
Pentachlorophenol	BRL	mg/kg dry	0.40	0.033	1	8270D	7/1/13 18:41	KC	P3G0017
Phenanthrene	BRL	mg/kg dry	0.40	0.071	1	8270D	7/1/13 18:41	KC	P3G0017
Phenol	BRL	mg/kg dry	0.40	0.15	1	8270D	7/1/13 18:41	KC	P3G0017
Pyrene	BRL	mg/kg dry	0.40	0.11	1	8270D	7/1/13 18:41	KC	P3G0017

Surrogate	Recovery	Control Limits
2,4,6-Tribromophenol	*103 %*	*37-131*
2-Fluorobiphenyl	*60 %*	*47-130*
2-Fluorophenol	*67 %*	*44-117*
Nitrobenzene-d5	*73 %*	*45-121*
Phenol-d5	*68 %*	*37-127*
Terphenyl-d14	*83 %*	*38-135*

Total Metals

Mercury	**0.030**	**mg/kg dry**	**0.025**	**0.0083**	**1**	***7471B**	**7/2/13 14:22**	**BGM**	**P3G0042**
Antimony	**0.42**	**mg/kg dry**	**0.30**	**0.058**	**1**	***6010C**	**7/11/13 2:08**	**BGM**	**P3G0052**
Arsenic	**3.8**	**mg/kg dry**	**0.30**	**0.069**	**1**	***6010C**	**7/11/13 2:08**	**BGM**	**P3G0052**
Beryllium	BRL	mg/kg dry	0.30	0.045	1	*6010C	7/9/13 23:20	BGM	P3G0052
Cadmium	BRL	mg/kg dry	0.30	0.039	1	*6010C	7/11/13 2:08	BGM	P3G0052
Chromium	**19**	**mg/kg dry**	**0.30**	**0.0099**	**1**	***6010C**	**7/11/13 2:08**	**BGM**	**P3G0052**
Copper	**0.86**	**mg/kg dry**	**0.60**	**0.12**	**1**	***6010C**	**7/9/13 23:20**	**BGM**	**P3G0052**
Lead	**9.5**	**mg/kg dry**	**0.30**	**0.040**	**1**	***6010C**	**7/11/13 2:08**	**BGM**	**P3G0052**
Nickel	**4.1**	**mg/kg dry**	**1.2**	**0.011**	**1**	***6010C**	**7/9/13 23:20**	**BGM**	**P3G0052**
Selenium	BRL	mg/kg dry	0.60	0.14	1	*6010C	7/11/13 2:08	BGM	P3G0052
Silver	BRL	mg/kg dry	0.30	0.037	1	*6010C	7/9/13 23:20	BGM	P3G0052
Thallium	BRL	mg/kg dry	0.60	0.12	1	*6010C	7/9/13 23:20	BGM	P3G0052
Zinc	**7.7**	**mg/kg dry**	**3.0**	**0.41**	**1**	***6010C**	**7/11/13 2:08**	**BGM**	**P3G0052**

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: SB-5 (.5'-1')
Prism Sample ID: 3060664-10
Prism Work Order: 3060664
Time Collected: 06/25/13 08:20
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Anions by Ion Chromatography									
Nitrate as N	BRL	mg/kg dry	2.5	0.050	1	*9056A	7/4/13 19:46	CDE	P3G0110
General Chemistry Parameters									
% Solids	**80.9**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**7/2/13 15:15**	**MJO**	**P3G0067**
Phosphorus-Total	**47**	**mg/kg dry**	**3.1**	**0.44**	**1**	***SM4500-P F**	**7/2/13 10:41**	**CLB**	**P3G0007**
Organochlorine Pesticides by GC/ECD									
4,4'-DDD	BRL CCV	ug/kg dry	2.5	0.57	1	8081B	7/19/13 22:59	JMV	P3G0117
4,4'-DDE	BRL	ug/kg dry	2.5	0.44	1	8081B	7/19/13 22:59	JMV	P3G0117
4,4'-DDT	BRL	ug/kg dry	3.7	0.78	1	8081B	7/19/13 22:59	JMV	P3G0117
Aldrin	BRL	ug/kg dry	2.5	0.57	1	8081B	7/19/13 22:59	JMV	P3G0117
alpha-BHC	BRL	ug/kg dry	2.5	0.35	1	8081B	7/19/13 22:59	JMV	P3G0117
cis-Chlordane	BRL	ug/kg dry	2.5	0.49	1	8081B	7/19/13 22:59	JMV	P3G0117
beta-BHC	BRL	ug/kg dry	2.5	0.48	1	8081B	7/19/13 22:59	JMV	P3G0117
Chlordane	BRL	ug/kg dry	62	6.3	1	8081B	7/19/13 3:41	JMV	P3G0117
delta-BHC	BRL	ug/kg dry	2.5	0.38	1	8081B	7/19/13 22:59	JMV	P3G0117
Dieldrin	BRL	ug/kg dry	2.5	0.44	1	8081B	7/19/13 22:59	JMV	P3G0117
Endosulfan I	BRL	ug/kg dry	2.5	0.54	1	8081B	7/19/13 22:59	JMV	P3G0117
Endosulfan II	BRL	ug/kg dry	2.5	0.59	1	8081B	7/19/13 22:59	JMV	P3G0117
Endosulfan Sulfate	BRL	ug/kg dry	2.5	0.80	1	8081B	7/19/13 22:59	JMV	P3G0117
Endrin	BRL CCV	ug/kg dry	2.5	0.55	1	8081B	7/19/13 22:59	JMV	P3G0117
Endrin Aldehyde	BRL	ug/kg dry	2.5	0.67	1	8081B	7/19/13 22:59	JMV	P3G0117
Endrin Ketone	BRL	ug/kg dry	2.5	0.61	1	8081B	7/19/13 22:59	JMV	P3G0117
gamma-BHC	BRL	ug/kg dry	2.5	0.48	1	8081B	7/19/13 22:59	JMV	P3G0117
trans-Chlordane	BRL	ug/kg dry	2.5	0.66	1	8081B	7/19/13 22:59	JMV	P3G0117
Heptachlor	BRL	ug/kg dry	2.5	0.78	1	8081B	7/19/13 22:59	JMV	P3G0117
Heptachlor Epoxide	BRL	ug/kg dry	2.5	0.69	1	8081B	7/19/13 22:59	JMV	P3G0117
Methoxychlor	BRL	ug/kg dry	2.5	1.4	1	8081B	7/19/13 22:59	JMV	P3G0117
Toxaphene	BRL	ug/kg dry	62	7.6	1	8081B	7/19/13 3:41	JMV	P3G0117

Surrogate	Recovery	Control Limits
Decachlorobiphenyl	*102 %*	*26-204*
Tetrachloro-m-xylene	*94 %*	*40-162*

Semivolatile Organic Compounds by GC/MS									
1,2,4-Trichlorobenzene	BRL	mg/kg dry	0.41	0.15	1	8270D	7/1/13 19:11	KC	P3G0017
1,2-Dichlorobenzene	BRL	mg/kg dry	0.41	0.13	1	8270D	7/1/13 19:11	KC	P3G0017
1,3-Dichlorobenzene	BRL	mg/kg dry	0.41	0.14	1	8270D	7/1/13 19:11	KC	P3G0017
1,4-Dichlorobenzene	BRL	mg/kg dry	0.41	0.13	1	8270D	7/1/13 19:11	KC	P3G0017
1-Methylnaphthalene	BRL	mg/kg dry	0.41	0.095	1	8270D	7/1/13 19:11	KC	P3G0017
2,4,6-Trichlorophenol	BRL	mg/kg dry	0.41	0.14	1	8270D	7/1/13 19:11	KC	P3G0017
2,4-Dichlorophenol	BRL	mg/kg dry	0.41	0.14	1	8270D	7/1/13 19:11	KC	P3G0017
2,4-Dimethylphenol	BRL	mg/kg dry	0.41	0.17	1	8270D	7/1/13 19:11	KC	P3G0017
2,4-Dinitrophenol	BRL	mg/kg dry	0.41	0.064	1	8270D	7/1/13 19:11	KC	P3G0017

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: SB-5 (.5'-1')
Prism Sample ID: 3060664-10
Prism Work Order: 3060664
Time Collected: 06/25/13 08:20
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
2,4-Dinitrotoluene	BRL	mg/kg dry	0.41	0.070	1	8270D	7/1/13 19:11	KC	P3G0017
2,6-Dinitrotoluene	BRL	mg/kg dry	0.41	0.062	1	8270D	7/1/13 19:11	KC	P3G0017
2-Chloronaphthalene	BRL	mg/kg dry	0.41	0.14	1	8270D	7/1/13 19:11	KC	P3G0017
2-Chlorophenol	BRL	mg/kg dry	0.41	0.15	1	8270D	7/1/13 19:11	KC	P3G0017
2-Methylnaphthalene	BRL	mg/kg dry	0.41	0.15	1	8270D	7/1/13 19:11	KC	P3G0017
2-Methylphenol	BRL	mg/kg dry	0.41	0.14	1	8270D	7/1/13 19:11	KC	P3G0017
2-Nitrophenol	BRL	mg/kg dry	0.41	0.15	1	8270D	7/1/13 19:11	KC	P3G0017
3,3'-Dichlorobenzidine	BRL	mg/kg dry	0.41	0.068	1	8270D	7/1/13 19:11	KC	P3G0017
3/4-Methylphenol	BRL	mg/kg dry	0.41	0.11	1	8270D	7/1/13 19:11	KC	P3G0017
4,6-Dinitro-2-methylphenol	BRL	mg/kg dry	0.41	0.044	1	8270D	7/1/13 19:11	KC	P3G0017
4-Bromophenyl phenyl ether	BRL	mg/kg dry	0.41	0.091	1	8270D	7/1/13 19:11	KC	P3G0017
4-Chloro-3-methylphenol	BRL	mg/kg dry	0.41	0.14	1	8270D	7/1/13 19:11	KC	P3G0017
4-Chloroaniline	BRL	mg/kg dry	0.41	0.14	1	8270D	7/1/13 19:11	KC	P3G0017
4-Chlorophenyl phenyl ether	BRL	mg/kg dry	0.41	0.12	1	8270D	7/1/13 19:11	KC	P3G0017
4-Nitrophenol	BRL	mg/kg dry	0.41	0.051	1	8270D	7/1/13 19:11	KC	P3G0017
Acenaphthene	BRL	mg/kg dry	0.41	0.13	1	8270D	7/1/13 19:11	KC	P3G0017
Acenaphthylene	BRL	mg/kg dry	0.41	0.13	1	8270D	7/1/13 19:11	KC	P3G0017
Anthracene	BRL	mg/kg dry	0.41	0.080	1	8270D	7/1/13 19:11	KC	P3G0017
Azobenzene	BRL	mg/kg dry	0.41	0.095	1	8270D	7/1/13 19:11	KC	P3G0017
Benzo(a)anthracene	BRL	mg/kg dry	0.41	0.084	1	8270D	7/1/13 19:11	KC	P3G0017
Benzo(a)pyrene	BRL	mg/kg dry	0.41	0.076	1	8270D	7/1/13 19:11	KC	P3G0017
Benzo(b)fluoranthene	BRL	mg/kg dry	0.41	0.056	1	8270D	7/1/13 19:11	KC	P3G0017
Benzo(g,h,i)perylene	BRL	mg/kg dry	0.41	0.13	1	8270D	7/1/13 19:11	KC	P3G0017
Benzo(k)fluoranthene	BRL	mg/kg dry	0.41	0.12	1	8270D	7/1/13 19:11	KC	P3G0017
Benzoic Acid	BRL	mg/kg dry	0.41	0.054	1	8270D	7/1/13 19:11	KC	P3G0017
Benzyl alcohol	BRL	mg/kg dry	0.41	0.14	1	8270D	7/1/13 19:11	KC	P3G0017
bis(2-Chloroethoxy)methane	BRL	mg/kg dry	0.41	0.21	1	8270D	7/1/13 19:11	KC	P3G0017
Bis(2-Chloroethyl)ether	BRL	mg/kg dry	0.41	0.15	1	8270D	7/1/13 19:11	KC	P3G0017
Bis(2-chloroisopropyl)ether	BRL	mg/kg dry	0.41	0.16	1	8270D	7/1/13 19:11	KC	P3G0017
Bis(2-Ethylhexyl)phthalate	BRL	mg/kg dry	0.41	0.079	1	8270D	7/1/13 19:11	KC	P3G0017
Butyl benzyl phthalate	BRL	mg/kg dry	0.41	0.091	1	8270D	7/1/13 19:11	KC	P3G0017
Chrysene	BRL	mg/kg dry	0.41	0.091	1	8270D	7/1/13 19:11	KC	P3G0017
Dibenzo(a,h)anthracene	BRL	mg/kg dry	0.41	0.13	1	8270D	7/1/13 19:11	KC	P3G0017
Dibenzofuran	BRL	mg/kg dry	0.41	0.12	1	8270D	7/1/13 19:11	KC	P3G0017
Diethyl phthalate	BRL	mg/kg dry	0.41	0.074	1	8270D	7/1/13 19:11	KC	P3G0017
Dimethyl phthalate	BRL	mg/kg dry	0.41	0.076	1	8270D	7/1/13 19:11	KC	P3G0017
Di-n-butyl phthalate	BRL	mg/kg dry	0.41	0.097	1	8270D	7/1/13 19:11	KC	P3G0017
Di-n-octyl phthalate	BRL	mg/kg dry	0.41	0.090	1	8270D	7/1/13 19:11	KC	P3G0017
Fluoranthene	BRL	mg/kg dry	0.41	0.086	1	8270D	7/1/13 19:11	KC	P3G0017
Fluorene	BRL	mg/kg dry	0.41	0.095	1	8270D	7/1/13 19:11	KC	P3G0017
Hexachlorobenzene	BRL	mg/kg dry	0.41	0.068	1	8270D	7/1/13 19:11	KC	P3G0017
Hexachlorobutadiene	BRL	mg/kg dry	0.41	0.15	1	8270D	7/1/13 19:11	KC	P3G0017
Hexachlorocyclopentadiene	BRL	mg/kg dry	0.41	0.12	1	8270D	7/1/13 19:11	KC	P3G0017

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: SB-5 (.5'-1')
Prism Sample ID: 3060664-10
Prism Work Order: 3060664
Time Collected: 06/25/13 08:20
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Hexachloroethane	BRL	mg/kg dry	0.41	0.14	1	8270D	7/1/13 19:11	KC	P3G0017
Indeno(1,2,3-cd)pyrene	BRL	mg/kg dry	0.41	0.11	1	8270D	7/1/13 19:11	KC	P3G0017
Isophorone	BRL	mg/kg dry	0.41	0.15	1	8270D	7/1/13 19:11	KC	P3G0017
Naphthalene	BRL	mg/kg dry	0.41	0.16	1	8270D	7/1/13 19:11	KC	P3G0017
Nitrobenzene	BRL	mg/kg dry	0.41	0.14	1	8270D	7/1/13 19:11	KC	P3G0017
N-Nitroso-di-n-propylamine	BRL	mg/kg dry	0.41	0.14	1	8270D	7/1/13 19:11	KC	P3G0017
N-Nitrosodiphenylamine	BRL	mg/kg dry	0.41	0.082	1	8270D	7/1/13 19:11	KC	P3G0017
Pentachlorophenol	BRL	mg/kg dry	0.41	0.034	1	8270D	7/1/13 19:11	KC	P3G0017
Phenanthrene	BRL	mg/kg dry	0.41	0.072	1	8270D	7/1/13 19:11	KC	P3G0017
Phenol	BRL	mg/kg dry	0.41	0.15	1	8270D	7/1/13 19:11	KC	P3G0017
Pyrene	BRL	mg/kg dry	0.41	0.11	1	8270D	7/1/13 19:11	KC	P3G0017

Surrogate	Recovery	Control Limits
2,4,6-Tribromophenol	*108 %*	*37-131*
2-Fluorobiphenyl	*96 %*	*47-130*
2-Fluorophenol	*78 %*	*44-117*
Nitrobenzene-d5	*89 %*	*45-121*
Phenol-d5	*78 %*	*37-127*
Terphenyl-d14	*96 %*	*38-135*

Total Metals

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Mercury	**0.030**	**mg/kg dry**	**0.025**	**0.0083**	**1**	***7471B**	**7/2/13 14:27**	**BGM**	**P3G0042**
Antimony	**0.51**	**mg/kg dry**	**0.31**	**0.061**	**1**	***6010C**	**7/11/13 2:16**	**BGM**	**P3G0052**
Arsenic	**3.8**	**mg/kg dry**	**0.31**	**0.072**	**1**	***6010C**	**7/11/13 2:16**	**BGM**	**P3G0052**
Beryllium	BRL	mg/kg dry	0.31	0.047	1	*6010C	7/9/13 23:28	BGM	P3G0052
Cadmium	BRL	mg/kg dry	0.31	0.041	1	*6010C	7/11/13 2:16	BGM	P3G0052
Chromium	**25**	**mg/kg dry**	**0.31**	**0.010**	**1**	***6010C**	**7/11/13 2:16**	**BGM**	**P3G0052**
Copper	**0.94**	**mg/kg dry**	**0.62**	**0.12**	**1**	***6010C**	**7/9/13 23:28**	**BGM**	**P3G0052**
Lead	**15**	**mg/kg dry**	**0.31**	**0.042**	**1**	***6010C**	**7/11/13 2:16**	**BGM**	**P3G0052**
Nickel	**1.8**	**mg/kg dry**	**1.2**	**0.011**	**1**	***6010C**	**7/9/13 23:28**	**BGM**	**P3G0052**
Selenium	BRL	mg/kg dry	0.62	0.14	1	*6010C	7/11/13 2:16	BGM	P3G0052
Silver	BRL	mg/kg dry	0.31	0.038	1	*6010C	7/9/13 23:28	BGM	P3G0052
Thallium	BRL	mg/kg dry	0.62	0.12	1	*6010C	7/9/13 23:28	BGM	P3G0052
Zinc	**4.7**	**mg/kg dry**	**3.1**	**0.42**	**1**	***6010C**	**7/11/13 2:16**	**BGM**	**P3G0052**

Volatile Organic Compounds by GC/MS

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,1,1-Trichloroethane	BRL	mg/kg dry	0.0061	0.00020	1	8260B	7/8/13 21:42	cgp	P3G0135
1,1,2,2-Tetrachloroethane	BRL	mg/kg dry	0.0061	0.0010	1	8260B	7/8/13 21:42	cgp	P3G0135
1,1,2-Trichloroethane	BRL	mg/kg dry	0.0061	0.00051	1	8260B	7/8/13 21:42	cgp	P3G0135
1,1-Dichloroethane	BRL	mg/kg dry	0.0061	0.00051	1	8260B	7/8/13 21:42	cgp	P3G0135
1,1-Dichloroethylene	BRL	mg/kg dry	0.0061	0.00037	1	8260B	7/8/13 21:42	cgp	P3G0135
1,1-Dichloropropylene	BRL	mg/kg dry	0.0061	0.00064	1	8260B	7/8/13 21:42	cgp	P3G0135
1,2,3-Trichlorobenzene	BRL	mg/kg dry	0.0061	0.00045	1	8260B	7/8/13 21:42	cgp	P3G0135
1,2,3-Trichloropropane	BRL	mg/kg dry	0.0061	0.00092	1	8260B	7/8/13 21:42	cgp	P3G0135
1,2,4-Trichlorobenzene	BRL	mg/kg dry	0.0061	0.00036	1	8260B	7/8/13 21:42	cgp	P3G0135

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: SB-5 (.5'-1')
Prism Sample ID: 3060664-10
Prism Work Order: 3060664
Time Collected: 06/25/13 08:20
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,2,4-Trimethylbenzene	BRL	mg/kg dry	0.0061	0.0012	1	8260B	7/8/13 21:42	cgp	P3G0135
1,2-Dibromoethane	BRL	mg/kg dry	0.0061	0.00070	1	8260B	7/8/13 21:42	cgp	P3G0135
1,2-Dichlorobenzene	BRL	mg/kg dry	0.0061	0.00027	1	8260B	7/8/13 21:42	cgp	P3G0135
1,2-Dichloroethane	BRL	mg/kg dry	0.0061	0.00098	1	8260B	7/8/13 21:42	cgp	P3G0135
1,2-Dichloropropane	BRL	mg/kg dry	0.0061	0.00038	1	8260B	7/8/13 21:42	cgp	P3G0135
1,3,5-Trimethylbenzene	BRL	mg/kg dry	0.0061	0.00029	1	8260B	7/8/13 21:42	cgp	P3G0135
1,3-Dichlorobenzene	BRL	mg/kg dry	0.0061	0.000084	1	8260B	7/8/13 21:42	cgp	P3G0135
1,3-Dichloropropane	BRL	mg/kg dry	0.0061	0.00066	1	8260B	7/8/13 21:42	cgp	P3G0135
1,4-Dichlorobenzene	BRL	mg/kg dry	0.0061	0.00044	1	8260B	7/8/13 21:42	cgp	P3G0135
2,2-Dichloropropane	BRL	mg/kg dry	0.0061	0.00038	1	8260B	7/8/13 21:42	cgp	P3G0135
2-Chlorotoluene	BRL	mg/kg dry	0.0061	0.00037	1	8260B	7/8/13 21:42	cgp	P3G0135
4-Chlorotoluene	BRL	mg/kg dry	0.0061	0.00029	1	8260B	7/8/13 21:42	cgp	P3G0135
4-Isopropyltoluene	BRL	mg/kg dry	0.0061	0.00038	1	8260B	7/8/13 21:42	cgp	P3G0135
Acetone	**0.058 J**	**mg/kg dry**	**0.061**	**0.0032**	**1**	**8260B**	**7/8/13 21:42**	**cgp**	**P3G0135**
Benzene	BRL	mg/kg dry	0.0036	0.00037	1	8260B	7/8/13 21:42	cgp	P3G0135
Bromobenzene	BRL	mg/kg dry	0.0061	0.00026	1	8260B	7/8/13 21:42	cgp	P3G0135
Bromochloromethane	BRL	mg/kg dry	0.0061	0.00088	1	8260B	7/8/13 21:42	cgp	P3G0135
Bromodichloromethane	BRL	mg/kg dry	0.0061	0.00028	1	8260B	7/8/13 21:42	cgp	P3G0135
Bromoform	BRL	mg/kg dry	0.0061	0.0011	1	8260B	7/8/13 21:42	cgp	P3G0135
Bromomethane	BRL	mg/kg dry	0.012	0.0017	1	8260B	7/8/13 21:42	cgp	P3G0135
Carbon Tetrachloride	BRL	mg/kg dry	0.0061	0.00033	1	8260B	7/8/13 21:42	cgp	P3G0135
Chlorobenzene	BRL	mg/kg dry	0.0061	0.00028	1	8260B	7/8/13 21:42	cgp	P3G0135
Chloroethane	BRL	mg/kg dry	0.012	0.0046	1	8260B	7/8/13 21:42	cgp	P3G0135
Chloroform	BRL	mg/kg dry	0.0061	0.00025	1	8260B	7/8/13 21:42	cgp	P3G0135
Chloromethane	BRL	mg/kg dry	0.0061	0.0031	1	8260B	7/8/13 21:42	cgp	P3G0135
cis-1,2-Dichloroethylene	BRL	mg/kg dry	0.0061	0.00049	1	8260B	7/8/13 21:42	cgp	P3G0135
cis-1,3-Dichloropropylene	BRL	mg/kg dry	0.0061	0.00030	1	8260B	7/8/13 21:42	cgp	P3G0135
Dibromochloromethane	BRL	mg/kg dry	0.0061	0.00041	1	8260B	7/8/13 21:42	cgp	P3G0135
Dichlorodifluoromethane	BRL	mg/kg dry	0.0061	0.00065	1	8260B	7/8/13 21:42	cgp	P3G0135
Ethylbenzene	BRL	mg/kg dry	0.0061	0.00039	1	8260B	7/8/13 21:42	cgp	P3G0135
Isopropyl Ether	BRL	mg/kg dry	0.0061	0.00026	1	8260B	7/8/13 21:42	cgp	P3G0135
Isopropylbenzene (Cumene)	BRL	mg/kg dry	0.0061	0.00030	1	8260B	7/8/13 21:42	cgp	P3G0135
m,p-Xylenes	BRL	mg/kg dry	0.012	0.00078	1	8260B	7/8/13 21:42	cgp	P3G0135
Methyl Butyl Ketone (2-Hexanone)	BRL	mg/kg dry	0.061	0.0013	1	8260B	7/8/13 21:42	cgp	P3G0135
Methyl Ethyl Ketone (2-Butanone)	BRL	mg/kg dry	0.12	0.0022	1	8260B	7/8/13 21:42	cgp	P3G0135
Methyl Isobutyl Ketone	BRL	mg/kg dry	0.061	0.0016	1	8260B	7/8/13 21:42	cgp	P3G0135
Methylene Chloride	BRL	mg/kg dry	0.0061	0.00044	1	8260B	7/8/13 21:42	cgp	P3G0135
Methyl-tert-Butyl Ether	BRL	mg/kg dry	0.012	0.00047	1	8260B	7/8/13 21:42	cgp	P3G0135
Naphthalene	BRL	mg/kg dry	0.012	0.00045	1	8260B	7/8/13 21:42	cgp	P3G0135
n-Butylbenzene	BRL	mg/kg dry	0.0061	0.00027	1	8260B	7/8/13 21:42	cgp	P3G0135
n-Propylbenzene	BRL	mg/kg dry	0.0061	0.00035	1	8260B	7/8/13 21:42	cgp	P3G0135
o-Xylene	BRL	mg/kg dry	0.0061	0.00038	1	8260B	7/8/13 21:42	cgp	P3G0135
sec-Butylbenzene	BRL	mg/kg dry	0.0061	0.00025	1	8260B	7/8/13 21:42	cgp	P3G0135

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: SB-5 (.5'-1')
Prism Sample ID: 3060664-10
Prism Work Order: 3060664
Time Collected: 06/25/13 08:20
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Styrene	BRL	mg/kg dry	0.0061	0.00026	1	8260B	7/8/13 21:42	cgp	P3G0135
tert-Butylbenzene	BRL	mg/kg dry	0.0061	0.00031	1	8260B	7/8/13 21:42	cgp	P3G0135
Tetrachloroethylene	BRL	mg/kg dry	0.0061	0.00042	1	8260B	7/8/13 21:42	cgp	P3G0135
Toluene	BRL	mg/kg dry	0.0061	0.00036	1	8260B	7/8/13 21:42	cgp	P3G0135
trans-1,2-Dichloroethylene	BRL	mg/kg dry	0.0061	0.00070	1	8260B	7/8/13 21:42	cgp	P3G0135
trans-1,3-Dichloropropylene	BRL	mg/kg dry	0.0061	0.00029	1	8260B	7/8/13 21:42	cgp	P3G0135
Trichloroethylene	BRL	mg/kg dry	0.0061	0.00056	1	8260B	7/8/13 21:42	cgp	P3G0135
Trichlorofluoromethane	BRL	mg/kg dry	0.0061	0.00049	1	8260B	7/8/13 21:42	cgp	P3G0135
Vinyl acetate	BRL	mg/kg dry	0.030	0.0017	1	8260B	7/8/13 21:42	cgp	P3G0135
Vinyl chloride	BRL	mg/kg dry	0.0061	0.00079	1	8260B	7/8/13 21:42	cgp	P3G0135
Xylenes, total	BRL	mg/kg dry	0.018	0.0011	1	8260B	7/8/13 21:42	cgp	P3G0135

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*85 %*	*70-130*
Dibromofluoromethane	*97 %*	*84-123*
Toluene-d8	*89 %*	*76-129*

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: SB-6D (.5'-1')
Prism Sample ID: 3060664-11
Prism Work Order: 3060664
Time Collected: 06/24/13 13:10
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**88.9 A**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**7/2/13 15:15**	**MJO**	**P3G0067**
Volatile Organic Compounds by GC/MS									
1,1,1-Trichloroethane	BRL	mg/kg dry	0.0040	0.00013	1	8260B	7/8/13 20:15	cgp	P3G0135
1,1,2,2-Tetrachloroethane	BRL	mg/kg dry	0.0040	0.00066	1	8260B	7/8/13 20:15	cgp	P3G0135
1,1,2-Trichloroethane	BRL	mg/kg dry	0.0040	0.00034	1	8260B	7/8/13 20:15	cgp	P3G0135
1,1-Dichloroethane	BRL	mg/kg dry	0.0040	0.00034	1	8260B	7/8/13 20:15	cgp	P3G0135
1,1-Dichloroethylene	BRL	mg/kg dry	0.0040	0.00024	1	8260B	7/8/13 20:15	cgp	P3G0135
1,1-Dichloropropylene	BRL	mg/kg dry	0.0040	0.00042	1	8260B	7/8/13 20:15	cgp	P3G0135
1,2,3-Trichlorobenzene	BRL	mg/kg dry	0.0040	0.00030	1	8260B	7/8/13 20:15	cgp	P3G0135
1,2,3-Trichloropropane	BRL	mg/kg dry	0.0040	0.00060	1	8260B	7/8/13 20:15	cgp	P3G0135
1,2,4-Trichlorobenzene	BRL	mg/kg dry	0.0040	0.00023	1	8260B	7/8/13 20:15	cgp	P3G0135
1,2,4-Trimethylbenzene	BRL	mg/kg dry	0.0040	0.00078	1	8260B	7/8/13 20:15	cgp	P3G0135
1,2-Dibromoethane	BRL	mg/kg dry	0.0040	0.00046	1	8260B	7/8/13 20:15	cgp	P3G0135
1,2-Dichlorobenzene	BRL	mg/kg dry	0.0040	0.00018	1	8260B	7/8/13 20:15	cgp	P3G0135
1,2-Dichloroethane	BRL	mg/kg dry	0.0040	0.00064	1	8260B	7/8/13 20:15	cgp	P3G0135
1,2-Dichloropropane	BRL	mg/kg dry	0.0040	0.00025	1	8260B	7/8/13 20:15	cgp	P3G0135
1,3,5-Trimethylbenzene	BRL	mg/kg dry	0.0040	0.00019	1	8260B	7/8/13 20:15	cgp	P3G0135
1,3-Dichlorobenzene	BRL	mg/kg dry	0.0040	0.000055	1	8260B	7/8/13 20:15	cgp	P3G0135
1,3-Dichloropropane	BRL	mg/kg dry	0.0040	0.00043	1	8260B	7/8/13 20:15	cgp	P3G0135
1,4-Dichlorobenzene	BRL	mg/kg dry	0.0040	0.00029	1	8260B	7/8/13 20:15	cgp	P3G0135
2,2-Dichloropropane	BRL	mg/kg dry	0.0040	0.00025	1	8260B	7/8/13 20:15	cgp	P3G0135
2-Chlorotoluene	BRL	mg/kg dry	0.0040	0.00024	1	8260B	7/8/13 20:15	cgp	P3G0135
4-Chlorotoluene	BRL	mg/kg dry	0.0040	0.00019	1	8260B	7/8/13 20:15	cgp	P3G0135
4-Isopropyltoluene	BRL	mg/kg dry	0.0040	0.00025	1	8260B	7/8/13 20:15	cgp	P3G0135
Acetone	**0.044**	**mg/kg dry**	**0.040**	**0.0021**	**1**	**8260B**	**7/8/13 20:15**	**cgp**	**P3G0135**
Benzene	BRL	mg/kg dry	0.0024	0.00024	1	8260B	7/8/13 20:15	cgp	P3G0135
Bromobenzene	BRL	mg/kg dry	0.0040	0.00017	1	8260B	7/8/13 20:15	cgp	P3G0135
Bromochloromethane	BRL	mg/kg dry	0.0040	0.00058	1	8260B	7/8/13 20:15	cgp	P3G0135
Bromodichloromethane	BRL	mg/kg dry	0.0040	0.00018	1	8260B	7/8/13 20:15	cgp	P3G0135
Bromoform	BRL	mg/kg dry	0.0040	0.00071	1	8260B	7/8/13 20:15	cgp	P3G0135
Bromomethane	BRL	mg/kg dry	0.0080	0.0011	1	8260B	7/8/13 20:15	cgp	P3G0135
Carbon Tetrachloride	BRL	mg/kg dry	0.0040	0.00022	1	8260B	7/8/13 20:15	cgp	P3G0135
Chlorobenzene	BRL	mg/kg dry	0.0040	0.00019	1	8260B	7/8/13 20:15	cgp	P3G0135
Chloroethane	BRL	mg/kg dry	0.0080	0.0030	1	8260B	7/8/13 20:15	cgp	P3G0135
Chloroform	BRL	mg/kg dry	0.0040	0.00017	1	8260B	7/8/13 20:15	cgp	P3G0135
Chloromethane	BRL	mg/kg dry	0.0040	0.0020	1	8260B	7/8/13 20:15	cgp	P3G0135
cis-1,2-Dichloroethylene	BRL	mg/kg dry	0.0040	0.00032	1	8260B	7/8/13 20:15	cgp	P3G0135
cis-1,3-Dichloropropylene	BRL	mg/kg dry	0.0040	0.00020	1	8260B	7/8/13 20:15	cgp	P3G0135
Dibromochloromethane	BRL	mg/kg dry	0.0040	0.00027	1	8260B	7/8/13 20:15	cgp	P3G0135
Dichlorodifluoromethane	BRL	mg/kg dry	0.0040	0.00043	1	8260B	7/8/13 20:15	cgp	P3G0135
Ethylbenzene	BRL	mg/kg dry	0.0040	0.00026	1	8260B	7/8/13 20:15	cgp	P3G0135

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: SB-6D (.5'-1')
Prism Sample ID: 3060664-11
Prism Work Order: 3060664
Time Collected: 06/24/13 13:10
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Isopropyl Ether	BRL	mg/kg dry	0.0040	0.00017	1	8260B	7/8/13 20:15	cgp	P3G0135
Isopropylbenzene (Cumene)	BRL	mg/kg dry	0.0040	0.00020	1	8260B	7/8/13 20:15	cgp	P3G0135
m,p-Xylenes	BRL	mg/kg dry	0.0080	0.00051	1	8260B	7/8/13 20:15	cgp	P3G0135
Methyl Butyl Ketone (2-Hexanone)	BRL	mg/kg dry	0.040	0.00082	1	8260B	7/8/13 20:15	cgp	P3G0135
Methyl Ethyl Ketone (2-Butanone)	BRL	mg/kg dry	0.080	0.0014	1	8260B	7/8/13 20:15	cgp	P3G0135
Methyl Isobutyl Ketone	BRL	mg/kg dry	0.040	0.0011	1	8260B	7/8/13 20:15	cgp	P3G0135
Methylene Chloride	BRL	mg/kg dry	0.0040	0.00029	1	8260B	7/8/13 20:15	cgp	P3G0135
Methyl-tert-Butyl Ether	BRL	mg/kg dry	0.0080	0.00031	1	8260B	7/8/13 20:15	cgp	P3G0135
Naphthalene	BRL	mg/kg dry	0.0080	0.00029	1	8260B	7/8/13 20:15	cgp	P3G0135
n-Butylbenzene	BRL	mg/kg dry	0.0040	0.00018	1	8260B	7/8/13 20:15	cgp	P3G0135
n-Propylbenzene	BRL	mg/kg dry	0.0040	0.00023	1	8260B	7/8/13 20:15	cgp	P3G0135
o-Xylene	BRL	mg/kg dry	0.0040	0.00025	1	8260B	7/8/13 20:15	cgp	P3G0135
sec-Butylbenzene	BRL	mg/kg dry	0.0040	0.00016	1	8260B	7/8/13 20:15	cgp	P3G0135
Styrene	BRL	mg/kg dry	0.0040	0.00017	1	8260B	7/8/13 20:15	cgp	P3G0135
tert-Butylbenzene	BRL	mg/kg dry	0.0040	0.00021	1	8260B	7/8/13 20:15	cgp	P3G0135
Tetrachloroethylene	BRL	mg/kg dry	0.0040	0.00028	1	8260B	7/8/13 20:15	cgp	P3G0135
Toluene	BRL	mg/kg dry	0.0040	0.00024	1	8260B	7/8/13 20:15	cgp	P3G0135
trans-1,2-Dichloroethylene	BRL	mg/kg dry	0.0040	0.00046	1	8260B	7/8/13 20:15	cgp	P3G0135
trans-1,3-Dichloropropylene	BRL	mg/kg dry	0.0040	0.00019	1	8260B	7/8/13 20:15	cgp	P3G0135
Trichloroethylene	BRL	mg/kg dry	0.0040	0.00037	1	8260B	7/8/13 20:15	cgp	P3G0135
Trichlorofluoromethane	BRL	mg/kg dry	0.0040	0.00032	1	8260B	7/8/13 20:15	cgp	P3G0135
Vinyl acetate	BRL	mg/kg dry	0.020	0.0011	1	8260B	7/8/13 20:15	cgp	P3G0135
Vinyl chloride	BRL	mg/kg dry	0.0040	0.00052	1	8260B	7/8/13 20:15	cgp	P3G0135
Xylenes, total	BRL	mg/kg dry	0.012	0.00075	1	8260B	7/8/13 20:15	cgp	P3G0135

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*86 %*	*70-130*
Dibromofluoromethane	*101 %*	*84-123*
Toluene-d8	*87 %*	*76-129*

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: Duplicate #1 (.5'-1')
Prism Sample ID: 3060664-12
Prism Work Order: 3060664
Time Collected: 06/24/13 13:20
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**88.2 A**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**7/2/13 15:15**	**MJO**	**P3G0067**
Volatile Organic Compounds by GC/MS									
1,1,1-Trichloroethane	BRL	mg/kg dry	0.0056	0.00018	1	8260B	7/8/13 20:44	cgp	P3G0135
1,1,2,2-Tetrachloroethane	BRL	mg/kg dry	0.0056	0.00093	1	8260B	7/8/13 20:44	cgp	P3G0135
1,1,2-Trichloroethane	BRL	mg/kg dry	0.0056	0.00047	1	8260B	7/8/13 20:44	cgp	P3G0135
1,1-Dichloroethane	BRL	mg/kg dry	0.0056	0.00047	1	8260B	7/8/13 20:44	cgp	P3G0135
1,1-Dichloroethylene	BRL	mg/kg dry	0.0056	0.00034	1	8260B	7/8/13 20:44	cgp	P3G0135
1,1-Dichloropropylene	BRL	mg/kg dry	0.0056	0.00059	1	8260B	7/8/13 20:44	cgp	P3G0135
1,2,3-Trichlorobenzene	BRL	mg/kg dry	0.0056	0.00041	1	8260B	7/8/13 20:44	cgp	P3G0135
1,2,3-Trichloropropane	BRL	mg/kg dry	0.0056	0.00085	1	8260B	7/8/13 20:44	cgp	P3G0135
1,2,4-Trichlorobenzene	BRL	mg/kg dry	0.0056	0.00033	1	8260B	7/8/13 20:44	cgp	P3G0135
1,2,4-Trimethylbenzene	BRL	mg/kg dry	0.0056	0.0011	1	8260B	7/8/13 20:44	cgp	P3G0135
1,2-Dibromoethane	BRL	mg/kg dry	0.0056	0.00064	1	8260B	7/8/13 20:44	cgp	P3G0135
1,2-Dichlorobenzene	BRL	mg/kg dry	0.0056	0.00025	1	8260B	7/8/13 20:44	cgp	P3G0135
1,2-Dichloroethane	BRL	mg/kg dry	0.0056	0.00090	1	8260B	7/8/13 20:44	cgp	P3G0135
1,2-Dichloropropane	BRL	mg/kg dry	0.0056	0.00036	1	8260B	7/8/13 20:44	cgp	P3G0135
1,3,5-Trimethylbenzene	BRL	mg/kg dry	0.0056	0.00027	1	8260B	7/8/13 20:44	cgp	P3G0135
1,3-Dichlorobenzene	BRL	mg/kg dry	0.0056	0.000077	1	8260B	7/8/13 20:44	cgp	P3G0135
1,3-Dichloropropane	BRL	mg/kg dry	0.0056	0.00061	1	8260B	7/8/13 20:44	cgp	P3G0135
1,4-Dichlorobenzene	BRL	mg/kg dry	0.0056	0.00041	1	8260B	7/8/13 20:44	cgp	P3G0135
2,2-Dichloropropane	BRL	mg/kg dry	0.0056	0.00035	1	8260B	7/8/13 20:44	cgp	P3G0135
2-Chlorotoluene	BRL	mg/kg dry	0.0056	0.00034	1	8260B	7/8/13 20:44	cgp	P3G0135
4-Chlorotoluene	BRL	mg/kg dry	0.0056	0.00026	1	8260B	7/8/13 20:44	cgp	P3G0135
4-Isopropyltoluene	BRL	mg/kg dry	0.0056	0.00036	1	8260B	7/8/13 20:44	cgp	P3G0135
Acetone	**0.071**	**mg/kg dry**	**0.056**	**0.0030**	**1**	**8260B**	**7/8/13 20:44**	**cgp**	**P3G0135**
Benzene	BRL	mg/kg dry	0.0034	0.00034	1	8260B	7/8/13 20:44	cgp	P3G0135
Bromobenzene	BRL	mg/kg dry	0.0056	0.00024	1	8260B	7/8/13 20:44	cgp	P3G0135
Bromochloromethane	BRL	mg/kg dry	0.0056	0.00082	1	8260B	7/8/13 20:44	cgp	P3G0135
Bromodichloromethane	BRL	mg/kg dry	0.0056	0.00026	1	8260B	7/8/13 20:44	cgp	P3G0135
Bromoform	BRL	mg/kg dry	0.0056	0.00099	1	8260B	7/8/13 20:44	cgp	P3G0135
Bromomethane	BRL	mg/kg dry	0.011	0.0016	1	8260B	7/8/13 20:44	cgp	P3G0135
Carbon Tetrachloride	BRL	mg/kg dry	0.0056	0.00031	1	8260B	7/8/13 20:44	cgp	P3G0135
Chlorobenzene	BRL	mg/kg dry	0.0056	0.00026	1	8260B	7/8/13 20:44	cgp	P3G0135
Chloroethane	BRL	mg/kg dry	0.011	0.0043	1	8260B	7/8/13 20:44	cgp	P3G0135
Chloroform	BRL	mg/kg dry	0.0056	0.00024	1	8260B	7/8/13 20:44	cgp	P3G0135
Chloromethane	BRL	mg/kg dry	0.0056	0.0028	1	8260B	7/8/13 20:44	cgp	P3G0135
cis-1,2-Dichloroethylene	BRL	mg/kg dry	0.0056	0.00045	1	8260B	7/8/13 20:44	cgp	P3G0135
cis-1,3-Dichloropropylene	BRL	mg/kg dry	0.0056	0.00028	1	8260B	7/8/13 20:44	cgp	P3G0135
Dibromochloromethane	BRL	mg/kg dry	0.0056	0.00038	1	8260B	7/8/13 20:44	cgp	P3G0135
Dichlorodifluoromethane	BRL	mg/kg dry	0.0056	0.00060	1	8260B	7/8/13 20:44	cgp	P3G0135
Ethylbenzene	BRL	mg/kg dry	0.0056	0.00036	1	8260B	7/8/13 20:44	cgp	P3G0135

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: Duplicate #1 (.5'-1')
Prism Sample ID: 3060664-12
Prism Work Order: 3060664
Time Collected: 06/24/13 13:20
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Isopropyl Ether	BRL	mg/kg dry	0.0056	0.00024	1	8260B	7/8/13 20:44	cgp	P3G0135
Isopropylbenzene (Cumene)	BRL	mg/kg dry	0.0056	0.00028	1	8260B	7/8/13 20:44	cgp	P3G0135
m,p-Xylenes	BRL	mg/kg dry	0.011	0.00072	1	8260B	7/8/13 20:44	cgp	P3G0135
Methyl Butyl Ketone (2-Hexanone)	BRL	mg/kg dry	0.056	0.0012	1	8260B	7/8/13 20:44	cgp	P3G0135
Methyl Ethyl Ketone (2-Butanone)	BRL	mg/kg dry	0.11	0.0020	1	8260B	7/8/13 20:44	cgp	P3G0135
Methyl Isobutyl Ketone	BRL	mg/kg dry	0.056	0.0015	1	8260B	7/8/13 20:44	cgp	P3G0135
Methylene Chloride	BRL	mg/kg dry	0.0056	0.00041	1	8260B	7/8/13 20:44	cgp	P3G0135
Methyl-tert-Butyl Ether	BRL	mg/kg dry	0.011	0.00043	1	8260B	7/8/13 20:44	cgp	P3G0135
Naphthalene	BRL	mg/kg dry	0.011	0.00041	1	8260B	7/8/13 20:44	cgp	P3G0135
n-Butylbenzene	BRL	mg/kg dry	0.0056	0.00025	1	8260B	7/8/13 20:44	cgp	P3G0135
n-Propylbenzene	BRL	mg/kg dry	0.0056	0.00032	1	8260B	7/8/13 20:44	cgp	P3G0135
o-Xylene	BRL	mg/kg dry	0.0056	0.00036	1	8260B	7/8/13 20:44	cgp	P3G0135
sec-Butylbenzene	BRL	mg/kg dry	0.0056	0.00023	1	8260B	7/8/13 20:44	cgp	P3G0135
Styrene	BRL	mg/kg dry	0.0056	0.00024	1	8260B	7/8/13 20:44	cgp	P3G0135
tert-Butylbenzene	BRL	mg/kg dry	0.0056	0.00029	1	8260B	7/8/13 20:44	cgp	P3G0135
Tetrachloroethylene	BRL	mg/kg dry	0.0056	0.00039	1	8260B	7/8/13 20:44	cgp	P3G0135
Toluene	BRL	mg/kg dry	0.0056	0.00033	1	8260B	7/8/13 20:44	cgp	P3G0135
trans-1,2-Dichloroethylene	BRL	mg/kg dry	0.0056	0.00065	1	8260B	7/8/13 20:44	cgp	P3G0135
trans-1,3-Dichloropropylene	BRL	mg/kg dry	0.0056	0.00027	1	8260B	7/8/13 20:44	cgp	P3G0135
Trichloroethylene	BRL	mg/kg dry	0.0056	0.00052	1	8260B	7/8/13 20:44	cgp	P3G0135
Trichlorofluoromethane	BRL	mg/kg dry	0.0056	0.00045	1	8260B	7/8/13 20:44	cgp	P3G0135
Vinyl acetate	BRL	mg/kg dry	0.028	0.0016	1	8260B	7/8/13 20:44	cgp	P3G0135
Vinyl chloride	BRL	mg/kg dry	0.0056	0.00073	1	8260B	7/8/13 20:44	cgp	P3G0135
Xylenes, total	BRL	mg/kg dry	0.017	0.0010	1	8260B	7/8/13 20:44	cgp	P3G0135

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*84 %*	*70-130*
Dibromofluoromethane	*102 %*	*84-123*
Toluene-d8	*87 %*	*76-129*

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: AOC-6 (.5'-1')
Prism Sample ID: 3060664-13
Prism Work Order: 3060664
Time Collected: 06/24/13 13:30
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Anions by Ion Chromatography									
Nitrate as N	**1000**	**mg/kg dry**	**22**	**0.46**	**10**	***9056A**	**7/5/13 10:35**	**CDE**	**P3G0110**
General Chemistry Parameters									
% Solids	**88.4 A**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**7/2/13 15:15**	**MJO**	**P3G0067**
Phosphorus-Total	**64**	**mg/kg dry**	**2.8**	**0.41**	**1**	***SM4500-P F**	**7/2/13 10:41**	**CLB**	**P3G0007**
Organochlorine Pesticides by GC/ECD									
4,4'-DDD	BRL CCV	ug/kg dry	2.3	0.53	1	8081B	7/19/13 23:42	JMV	P3G0117
4,4'-DDE	BRL	ug/kg dry	2.3	0.41	1	8081B	7/19/13 23:42	JMV	P3G0117
4,4'-DDT	BRL	ug/kg dry	3.4	0.71	1	8081B	7/19/13 23:42	JMV	P3G0117
Aldrin	BRL	ug/kg dry	2.3	0.52	1	8081B	7/19/13 23:42	JMV	P3G0117
alpha-BHC	BRL	ug/kg dry	2.3	0.32	1	8081B	7/19/13 23:42	JMV	P3G0117
cis-Chlordane	BRL	ug/kg dry	2.3	0.44	1	8081B	7/19/13 23:42	JMV	P3G0117
beta-BHC	BRL	ug/kg dry	2.3	0.44	1	8081B	7/19/13 23:42	JMV	P3G0117
Chlordane	BRL	ug/kg dry	56	5.8	1	8081B	7/19/13 4:24	JMV	P3G0117
delta-BHC	BRL	ug/kg dry	2.3	0.35	1	8081B	7/19/13 23:42	JMV	P3G0117
Dieldrin	BRL	ug/kg dry	2.3	0.40	1	8081B	7/19/13 23:42	JMV	P3G0117
Endosulfan I	BRL	ug/kg dry	2.3	0.50	1	8081B	7/19/13 23:42	JMV	P3G0117
Endosulfan II	BRL	ug/kg dry	2.3	0.54	1	8081B	7/19/13 23:42	JMV	P3G0117
Endosulfan Sulfate	BRL	ug/kg dry	2.3	0.73	1	8081B	7/19/13 23:42	JMV	P3G0117
Endrin	BRL CCV	ug/kg dry	2.3	0.50	1	8081B	7/19/13 23:42	JMV	P3G0117
Endrin Aldehyde	BRL	ug/kg dry	2.3	0.62	1	8081B	7/19/13 23:42	JMV	P3G0117
Endrin Ketone	BRL	ug/kg dry	2.3	0.56	1	8081B	7/19/13 23:42	JMV	P3G0117
gamma-BHC	BRL	ug/kg dry	2.3	0.44	1	8081B	7/19/13 23:42	JMV	P3G0117
trans-Chlordane	BRL	ug/kg dry	2.3	0.61	1	8081B	7/19/13 23:42	JMV	P3G0117
Heptachlor	BRL	ug/kg dry	2.3	0.72	1	8081B	7/19/13 23:42	JMV	P3G0117
Heptachlor Epoxide	BRL	ug/kg dry	2.3	0.63	1	8081B	7/19/13 23:42	JMV	P3G0117
Methoxychlor	BRL	ug/kg dry	2.3	1.3	1	8081B	7/19/13 23:42	JMV	P3G0117
Toxaphene	BRL	ug/kg dry	56	7.0	1	8081B	7/19/13 4:24	JMV	P3G0117

Surrogate	Recovery	Control Limits
Decachlorobiphenyl	*114 %*	*26-204*
Tetrachloro-m-xylene	*99 %*	*40-162*

Semivolatile Organic Compounds by GC/MS									
1,2,4-Trichlorobenzene	BRL	mg/kg dry	0.37	0.14	1	8270D	7/1/13 19:41	KC	P3G0017
1,2-Dichlorobenzene	BRL	mg/kg dry	0.37	0.12	1	8270D	7/1/13 19:41	KC	P3G0017
1,3-Dichlorobenzene	BRL	mg/kg dry	0.37	0.12	1	8270D	7/1/13 19:41	KC	P3G0017
1,4-Dichlorobenzene	BRL	mg/kg dry	0.37	0.12	1	8270D	7/1/13 19:41	KC	P3G0017
1-Methylnaphthalene	BRL	mg/kg dry	0.37	0.086	1	8270D	7/1/13 19:41	KC	P3G0017
2,4,6-Trichlorophenol	BRL	mg/kg dry	0.37	0.12	1	8270D	7/1/13 19:41	KC	P3G0017
2,4-Dichlorophenol	BRL	mg/kg dry	0.37	0.13	1	8270D	7/1/13 19:41	KC	P3G0017
2,4-Dimethylphenol	BRL	mg/kg dry	0.37	0.15	1	8270D	7/1/13 19:41	KC	P3G0017
2,4-Dinitrophenol	BRL	mg/kg dry	0.37	0.058	1	8270D	7/1/13 19:41	KC	P3G0017

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: AOC-6 (.5'-1')
Prism Sample ID: 3060664-13
Prism Work Order: 3060664
Time Collected: 06/24/13 13:30
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
2,4-Dinitrotoluene	BRL	mg/kg dry	0.37	0.063	1	8270D	7/1/13 19:41	KC	P3G0017
2,6-Dinitrotoluene	BRL	mg/kg dry	0.37	0.056	1	8270D	7/1/13 19:41	KC	P3G0017
2-Chloronaphthalene	BRL	mg/kg dry	0.37	0.13	1	8270D	7/1/13 19:41	KC	P3G0017
2-Chlorophenol	BRL	mg/kg dry	0.37	0.14	1	8270D	7/1/13 19:41	KC	P3G0017
2-Methylnaphthalene	BRL	mg/kg dry	0.37	0.14	1	8270D	7/1/13 19:41	KC	P3G0017
2-Methylphenol	BRL	mg/kg dry	0.37	0.13	1	8270D	7/1/13 19:41	KC	P3G0017
2-Nitrophenol	BRL	mg/kg dry	0.37	0.14	1	8270D	7/1/13 19:41	KC	P3G0017
3,3'-Dichlorobenzidine	BRL	mg/kg dry	0.37	0.062	1	8270D	7/1/13 19:41	KC	P3G0017
3/4-Methylphenol	BRL	mg/kg dry	0.37	0.10	1	8270D	7/1/13 19:41	KC	P3G0017
4,6-Dinitro-2-methylphenol	BRL	mg/kg dry	0.37	0.040	1	8270D	7/1/13 19:41	KC	P3G0017
4-Bromophenyl phenyl ether	BRL	mg/kg dry	0.37	0.083	1	8270D	7/1/13 19:41	KC	P3G0017
4-Chloro-3-methylphenol	BRL	mg/kg dry	0.37	0.13	1	8270D	7/1/13 19:41	KC	P3G0017
4-Chloroaniline	BRL	mg/kg dry	0.37	0.13	1	8270D	7/1/13 19:41	KC	P3G0017
4-Chlorophenyl phenyl ether	BRL	mg/kg dry	0.37	0.11	1	8270D	7/1/13 19:41	KC	P3G0017
4-Nitrophenol	BRL	mg/kg dry	0.37	0.046	1	8270D	7/1/13 19:41	KC	P3G0017
Acenaphthene	BRL	mg/kg dry	0.37	0.11	1	8270D	7/1/13 19:41	KC	P3G0017
Acenaphthylene	BRL	mg/kg dry	0.37	0.12	1	8270D	7/1/13 19:41	KC	P3G0017
Anthracene	BRL	mg/kg dry	0.37	0.073	1	8270D	7/1/13 19:41	KC	P3G0017
Azobenzene	BRL	mg/kg dry	0.37	0.086	1	8270D	7/1/13 19:41	KC	P3G0017
Benzo(a)anthracene	BRL	mg/kg dry	0.37	0.076	1	8270D	7/1/13 19:41	KC	P3G0017
Benzo(a)pyrene	BRL	mg/kg dry	0.37	0.069	1	8270D	7/1/13 19:41	KC	P3G0017
Benzo(b)fluoranthene	BRL	mg/kg dry	0.37	0.051	1	8270D	7/1/13 19:41	KC	P3G0017
Benzo(g,h,i)perylene	BRL	mg/kg dry	0.37	0.12	1	8270D	7/1/13 19:41	KC	P3G0017
Benzo(k)fluoranthene	BRL	mg/kg dry	0.37	0.11	1	8270D	7/1/13 19:41	KC	P3G0017
Benzoic Acid	BRL	mg/kg dry	0.37	0.049	1	8270D	7/1/13 19:41	KC	P3G0017
Benzyl alcohol	BRL	mg/kg dry	0.37	0.12	1	8270D	7/1/13 19:41	KC	P3G0017
bis(2-Chloroethoxy)methane	BRL	mg/kg dry	0.37	0.19	1	8270D	7/1/13 19:41	KC	P3G0017
Bis(2-Chloroethyl)ether	BRL	mg/kg dry	0.37	0.14	1	8270D	7/1/13 19:41	KC	P3G0017
Bis(2-chloroisopropyl)ether	BRL	mg/kg dry	0.37	0.15	1	8270D	7/1/13 19:41	KC	P3G0017
Bis(2-Ethylhexyl)phthalate	BRL	mg/kg dry	0.37	0.072	1	8270D	7/1/13 19:41	KC	P3G0017
Butyl benzyl phthalate	BRL	mg/kg dry	0.37	0.082	1	8270D	7/1/13 19:41	KC	P3G0017
Chrysene	BRL	mg/kg dry	0.37	0.082	1	8270D	7/1/13 19:41	KC	P3G0017
Dibenzo(a,h)anthracene	BRL	mg/kg dry	0.37	0.12	1	8270D	7/1/13 19:41	KC	P3G0017
Dibenzofuran	BRL	mg/kg dry	0.37	0.10	1	8270D	7/1/13 19:41	KC	P3G0017
Diethyl phthalate	BRL	mg/kg dry	0.37	0.067	1	8270D	7/1/13 19:41	KC	P3G0017
Dimethyl phthalate	BRL	mg/kg dry	0.37	0.069	1	8270D	7/1/13 19:41	KC	P3G0017
Di-n-butyl phthalate	BRL	mg/kg dry	0.37	0.088	1	8270D	7/1/13 19:41	KC	P3G0017
Di-n-octyl phthalate	BRL	mg/kg dry	0.37	0.082	1	8270D	7/1/13 19:41	KC	P3G0017
Fluoranthene	BRL	mg/kg dry	0.37	0.078	1	8270D	7/1/13 19:41	KC	P3G0017
Fluorene	BRL	mg/kg dry	0.37	0.086	1	8270D	7/1/13 19:41	KC	P3G0017
Hexachlorobenzene	BRL	mg/kg dry	0.37	0.062	1	8270D	7/1/13 19:41	KC	P3G0017
Hexachlorobutadiene	BRL	mg/kg dry	0.37	0.14	1	8270D	7/1/13 19:41	KC	P3G0017
Hexachlorocyclopentadiene	BRL	mg/kg dry	0.37	0.11	1	8270D	7/1/13 19:41	KC	P3G0017

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: AOC-6 (.5'-1')
Prism Sample ID: 3060664-13
Prism Work Order: 3060664
Time Collected: 06/24/13 13:30
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Hexachloroethane	BRL	mg/kg dry	0.37	0.12	1	8270D	7/1/13 19:41	KC	P3G0017
Indeno(1,2,3-cd)pyrene	BRL	mg/kg dry	0.37	0.098	1	8270D	7/1/13 19:41	KC	P3G0017
Isophorone	BRL	mg/kg dry	0.37	0.14	1	8270D	7/1/13 19:41	KC	P3G0017
Naphthalene	BRL	mg/kg dry	0.37	0.14	1	8270D	7/1/13 19:41	KC	P3G0017
Nitrobenzene	BRL	mg/kg dry	0.37	0.12	1	8270D	7/1/13 19:41	KC	P3G0017
N-Nitroso-di-n-propylamine	BRL	mg/kg dry	0.37	0.13	1	8270D	7/1/13 19:41	KC	P3G0017
N-Nitrosodiphenylamine	BRL	mg/kg dry	0.37	0.075	1	8270D	7/1/13 19:41	KC	P3G0017
Pentachlorophenol	BRL	mg/kg dry	0.37	0.030	1	8270D	7/1/13 19:41	KC	P3G0017
Phenanthrene	BRL	mg/kg dry	0.37	0.065	1	8270D	7/1/13 19:41	KC	P3G0017
Phenol	BRL	mg/kg dry	0.37	0.14	1	8270D	7/1/13 19:41	KC	P3G0017
Pyrene	BRL	mg/kg dry	0.37	0.10	1	8270D	7/1/13 19:41	KC	P3G0017

Surrogate	Recovery	Control Limits
2,4,6-Tribromophenol	*127 %*	*37-131*
2-Fluorobiphenyl	*100 %*	*47-130*
2-Fluorophenol	*85 %*	*44-117*
Nitrobenzene-d5	*98 %*	*45-121*
Phenol-d5	*85 %*	*37-127*
Terphenyl-d14	*94 %*	*38-135*

Total Metals

Mercury	BRL	mg/kg dry	0.023	0.0076	1	*7471B	7/2/13 14:41	BGM	P3G0042
Antimony	BRL	mg/kg dry	0.29	0.056	1	*6010C	7/11/13 16:20	BGM	P3G0052
Arsenic	**2.5**	**mg/kg dry**	**0.29**	**0.067**	**1**	***6010C**	**7/11/13 16:20**	**BGM**	**P3G0052**
Beryllium	BRL	mg/kg dry	0.29	0.044	1	*6010C	7/9/13 23:56	BGM	P3G0052
Cadmium	BRL	mg/kg dry	0.29	0.038	1	*6010C	7/11/13 16:20	BGM	P3G0052
Chromium	**15**	**mg/kg dry**	**0.29**	**0.0096**	**1**	***6010C**	**7/11/13 16:20**	**BGM**	**P3G0052**
Copper	BRL	mg/kg dry	0.58	0.11	1	*6010C	7/9/13 23:56	BGM	P3G0052
Lead	**8.5**	**mg/kg dry**	**0.29**	**0.039**	**1**	***6010C**	**7/11/13 16:20**	**BGM**	**P3G0052**
Nickel	**2.7**	**mg/kg dry**	**1.2**	**0.010**	**1**	***6010C**	**7/11/13 16:20**	**BGM**	**P3G0052**
Selenium	BRL	mg/kg dry	0.58	0.13	1	*6010C	7/11/13 16:20	BGM	P3G0052
Silver	BRL	mg/kg dry	0.29	0.036	1	*6010C	7/9/13 23:56	BGM	P3G0052
Thallium	BRL	mg/kg dry	0.58	0.11	1	*6010C	7/11/13 16:20	BGM	P3G0052
Zinc	**12**	**mg/kg dry**	**2.9**	**0.39**	**1**	***6010C**	**7/11/13 16:20**	**BGM**	**P3G0052**

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: Duplicate #2 (.5'-1')
Prism Sample ID: 3060664-14
Prism Work Order: 3060664
Time Collected: 06/24/13 13:40
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Anions by Ion Chromatography									
Nitrate as N	**590**	**mg/kg dry**	**23**	**0.48**	**10**	***9056A**	**7/5/13 10:48**	**CDE**	**P3G0110**
General Chemistry Parameters									
% Solids	**85.3 A**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**7/2/13 15:15**	**MJO**	**P3G0067**
Phosphorus-Total	**62**	**mg/kg dry**	**2.9**	**0.42**	**1**	***SM4500-P F**	**7/2/13 10:41**	**CLB**	**P3G0007**
Organochlorine Pesticides by GC/ECD									
4,4'-DDD	BRL CCV	ug/kg dry	2.3	0.54	1	8081B	7/20/13 0:24	JMV	P3G0117
4,4'-DDE	BRL	ug/kg dry	2.3	0.42	1	8081B	7/20/13 0:24	JMV	P3G0117
4,4'-DDT	BRL	ug/kg dry	3.5	0.74	1	8081B	7/20/13 0:24	JMV	P3G0117
Aldrin	BRL	ug/kg dry	2.3	0.54	1	8081B	7/20/13 0:24	JMV	P3G0117
alpha-BHC	BRL	ug/kg dry	2.3	0.33	1	8081B	7/20/13 0:24	JMV	P3G0117
cis-Chlordane	BRL	ug/kg dry	2.3	0.46	1	8081B	7/20/13 0:24	JMV	P3G0117
beta-BHC	BRL	ug/kg dry	2.3	0.45	1	8081B	7/20/13 0:24	JMV	P3G0117
Chlordane	BRL	ug/kg dry	58	5.9	1	8081B	7/19/13 5:07	JMV	P3G0117
delta-BHC	BRL	ug/kg dry	2.3	0.36	1	8081B	7/20/13 0:24	JMV	P3G0117
Dieldrin	BRL	ug/kg dry	2.3	0.41	1	8081B	7/20/13 0:24	JMV	P3G0117
Endosulfan I	BRL	ug/kg dry	2.3	0.52	1	8081B	7/20/13 0:24	JMV	P3G0117
Endosulfan II	BRL	ug/kg dry	2.3	0.56	1	8081B	7/20/13 0:24	JMV	P3G0117
Endosulfan Sulfate	BRL	ug/kg dry	2.3	0.76	1	8081B	7/20/13 0:24	JMV	P3G0117
Endrin	BRL CCV	ug/kg dry	2.3	0.52	1	8081B	7/20/13 0:24	JMV	P3G0117
Endrin Aldehyde	BRL	ug/kg dry	2.3	0.64	1	8081B	7/20/13 0:24	JMV	P3G0117
Endrin Ketone	BRL	ug/kg dry	2.3	0.58	1	8081B	7/20/13 0:24	JMV	P3G0117
gamma-BHC	BRL	ug/kg dry	2.3	0.45	1	8081B	7/20/13 0:24	JMV	P3G0117
trans-Chlordane	BRL	ug/kg dry	2.3	0.63	1	8081B	7/20/13 0:24	JMV	P3G0117
Heptachlor	BRL	ug/kg dry	2.3	0.74	1	8081B	7/20/13 0:24	JMV	P3G0117
Heptachlor Epoxide	BRL	ug/kg dry	2.3	0.65	1	8081B	7/20/13 0:24	JMV	P3G0117
Methoxychlor	BRL	ug/kg dry	2.3	1.3	1	8081B	7/20/13 0:24	JMV	P3G0117
Toxaphene	BRL	ug/kg dry	58	7.2	1	8081B	7/19/13 5:07	JMV	P3G0117

Surrogate	Recovery	Control Limits
Decachlorobiphenyl	*114 %*	*26-204*
Tetrachloro-m-xylene	*99 %*	*40-162*

Semivolatile Organic Compounds by GC/MS									
1,2,4-Trichlorobenzene	BRL	mg/kg dry	0.38	0.14	1	8270D	7/1/13 20:11	KC	P3G0017
1,2-Dichlorobenzene	BRL	mg/kg dry	0.38	0.13	1	8270D	7/1/13 20:11	KC	P3G0017
1,3-Dichlorobenzene	BRL	mg/kg dry	0.38	0.13	1	8270D	7/1/13 20:11	KC	P3G0017
1,4-Dichlorobenzene	BRL	mg/kg dry	0.38	0.12	1	8270D	7/1/13 20:11	KC	P3G0017
1-Methylnaphthalene	BRL	mg/kg dry	0.38	0.089	1	8270D	7/1/13 20:11	KC	P3G0017
2,4,6-Trichlorophenol	BRL	mg/kg dry	0.38	0.13	1	8270D	7/1/13 20:11	KC	P3G0017
2,4-Dichlorophenol	BRL	mg/kg dry	0.38	0.14	1	8270D	7/1/13 20:11	KC	P3G0017
2,4-Dimethylphenol	BRL	mg/kg dry	0.38	0.16	1	8270D	7/1/13 20:11	KC	P3G0017
2,4-Dinitrophenol	BRL	mg/kg dry	0.38	0.061	1	8270D	7/1/13 20:11	KC	P3G0017

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: Duplicate #2 (.5'-1')
Prism Sample ID: 3060664-14
Prism Work Order: 3060664
Time Collected: 06/24/13 13:40
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
2,4-Dinitrotoluene	BRL	mg/kg dry	0.38	0.066	1	8270D	7/1/13 20:11	KC	P3G0017
2,6-Dinitrotoluene	BRL	mg/kg dry	0.38	0.058	1	8270D	7/1/13 20:11	KC	P3G0017
2-Chloronaphthalene	BRL	mg/kg dry	0.38	0.13	1	8270D	7/1/13 20:11	KC	P3G0017
2-Chlorophenol	BRL	mg/kg dry	0.38	0.14	1	8270D	7/1/13 20:11	KC	P3G0017
2-Methylnaphthalene	BRL	mg/kg dry	0.38	0.14	1	8270D	7/1/13 20:11	KC	P3G0017
2-Methylphenol	BRL	mg/kg dry	0.38	0.14	1	8270D	7/1/13 20:11	KC	P3G0017
2-Nitrophenol	BRL	mg/kg dry	0.38	0.14	1	8270D	7/1/13 20:11	KC	P3G0017
3,3'-Dichlorobenzidine	BRL	mg/kg dry	0.38	0.064	1	8270D	7/1/13 20:11	KC	P3G0017
3/4-Methylphenol	BRL	mg/kg dry	0.38	0.11	1	8270D	7/1/13 20:11	KC	P3G0017
4,6-Dinitro-2-methylphenol	BRL	mg/kg dry	0.38	0.041	1	8270D	7/1/13 20:11	KC	P3G0017
4-Bromophenyl phenyl ether	BRL	mg/kg dry	0.38	0.086	1	8270D	7/1/13 20:11	KC	P3G0017
4-Chloro-3-methylphenol	BRL	mg/kg dry	0.38	0.14	1	8270D	7/1/13 20:11	KC	P3G0017
4-Chloroaniline	BRL	mg/kg dry	0.38	0.13	1	8270D	7/1/13 20:11	KC	P3G0017
4-Chlorophenyl phenyl ether	BRL	mg/kg dry	0.38	0.11	1	8270D	7/1/13 20:11	KC	P3G0017
4-Nitrophenol	BRL	mg/kg dry	0.38	0.048	1	8270D	7/1/13 20:11	KC	P3G0017
Acenaphthene	BRL	mg/kg dry	0.38	0.12	1	8270D	7/1/13 20:11	KC	P3G0017
Acenaphthylene	BRL	mg/kg dry	0.38	0.12	1	8270D	7/1/13 20:11	KC	P3G0017
Anthracene	BRL	mg/kg dry	0.38	0.076	1	8270D	7/1/13 20:11	KC	P3G0017
Azobenzene	BRL	mg/kg dry	0.38	0.089	1	8270D	7/1/13 20:11	KC	P3G0017
Benzo(a)anthracene	BRL	mg/kg dry	0.38	0.079	1	8270D	7/1/13 20:11	KC	P3G0017
Benzo(a)pyrene	BRL	mg/kg dry	0.38	0.072	1	8270D	7/1/13 20:11	KC	P3G0017
Benzo(b)fluoranthene	BRL	mg/kg dry	0.38	0.053	1	8270D	7/1/13 20:11	KC	P3G0017
Benzo(g,h,i)perylene	BRL	mg/kg dry	0.38	0.12	1	8270D	7/1/13 20:11	KC	P3G0017
Benzo(k)fluoranthene	BRL	mg/kg dry	0.38	0.11	1	8270D	7/1/13 20:11	KC	P3G0017
Benzoic Acid	BRL	mg/kg dry	0.38	0.051	1	8270D	7/1/13 20:11	KC	P3G0017
Benzyl alcohol	BRL	mg/kg dry	0.38	0.13	1	8270D	7/1/13 20:11	KC	P3G0017
bis(2-Chloroethoxy)methane	BRL	mg/kg dry	0.38	0.20	1	8270D	7/1/13 20:11	KC	P3G0017
Bis(2-Chloroethyl)ether	BRL	mg/kg dry	0.38	0.14	1	8270D	7/1/13 20:11	KC	P3G0017
Bis(2-chloroisopropyl)ether	BRL	mg/kg dry	0.38	0.15	1	8270D	7/1/13 20:11	KC	P3G0017
Bis(2-Ethylhexyl)phthalate	BRL	mg/kg dry	0.38	0.075	1	8270D	7/1/13 20:11	KC	P3G0017
Butyl benzyl phthalate	BRL	mg/kg dry	0.38	0.085	1	8270D	7/1/13 20:11	KC	P3G0017
Chrysene	BRL	mg/kg dry	0.38	0.086	1	8270D	7/1/13 20:11	KC	P3G0017
Dibenzo(a,h)anthracene	BRL	mg/kg dry	0.38	0.12	1	8270D	7/1/13 20:11	KC	P3G0017
Dibenzofuran	BRL	mg/kg dry	0.38	0.11	1	8270D	7/1/13 20:11	KC	P3G0017
Diethyl phthalate	BRL	mg/kg dry	0.38	0.069	1	8270D	7/1/13 20:11	KC	P3G0017
Dimethyl phthalate	BRL	mg/kg dry	0.38	0.072	1	8270D	7/1/13 20:11	KC	P3G0017
Di-n-butyl phthalate	BRL	mg/kg dry	0.38	0.091	1	8270D	7/1/13 20:11	KC	P3G0017
Di-n-octyl phthalate	BRL	mg/kg dry	0.38	0.085	1	8270D	7/1/13 20:11	KC	P3G0017
Fluoranthene	BRL	mg/kg dry	0.38	0.081	1	8270D	7/1/13 20:11	KC	P3G0017
Fluorene	BRL	mg/kg dry	0.38	0.089	1	8270D	7/1/13 20:11	KC	P3G0017
Hexachlorobenzene	BRL	mg/kg dry	0.38	0.064	1	8270D	7/1/13 20:11	KC	P3G0017
Hexachlorobutadiene	BRL	mg/kg dry	0.38	0.15	1	8270D	7/1/13 20:11	KC	P3G0017
Hexachlorocyclopentadiene	BRL	mg/kg dry	0.38	0.12	1	8270D	7/1/13 20:11	KC	P3G0017

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: Duplicate #2 (.5'-1')
Prism Sample ID: 3060664-14
Prism Work Order: 3060664
Time Collected: 06/24/13 13:40
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Hexachloroethane	BRL	mg/kg dry	0.38	0.13	1	8270D	7/1/13 20:11	KC	P3G0017
Indeno(1,2,3-cd)pyrene	BRL	mg/kg dry	0.38	0.10	1	8270D	7/1/13 20:11	KC	P3G0017
Isophorone	BRL	mg/kg dry	0.38	0.14	1	8270D	7/1/13 20:11	KC	P3G0017
Naphthalene	BRL	mg/kg dry	0.38	0.15	1	8270D	7/1/13 20:11	KC	P3G0017
Nitrobenzene	BRL	mg/kg dry	0.38	0.13	1	8270D	7/1/13 20:11	KC	P3G0017
N-Nitroso-di-n-propylamine	BRL	mg/kg dry	0.38	0.13	1	8270D	7/1/13 20:11	KC	P3G0017
N-Nitrosodiphenylamine	BRL	mg/kg dry	0.38	0.077	1	8270D	7/1/13 20:11	KC	P3G0017
Pentachlorophenol	BRL	mg/kg dry	0.38	0.032	1	8270D	7/1/13 20:11	KC	P3G0017
Phenanthrene	BRL	mg/kg dry	0.38	0.068	1	8270D	7/1/13 20:11	KC	P3G0017
Phenol	BRL	mg/kg dry	0.38	0.14	1	8270D	7/1/13 20:11	KC	P3G0017
Pyrene	BRL	mg/kg dry	0.38	0.11	1	8270D	7/1/13 20:11	KC	P3G0017

Surrogate	Recovery	Control Limits
2,4,6-Tribromophenol	*120 %*	*37-131*
2-Fluorobiphenyl	*90 %*	*47-130*
2-Fluorophenol	*81 %*	*44-117*
Nitrobenzene-d5	*87 %*	*45-121*
Phenol-d5	*78 %*	*37-127*
Terphenyl-d14	*93 %*	*38-135*

Total Metals

Mercury	**0.023**	**mg/kg dry**	**0.023**	**0.0079**	**1**	***7471B**	**7/2/13 14:45**	**BGM**	**P3G0042**
Antimony	**0.33**	**mg/kg dry**	**0.29**	**0.056**	**1**	***6010C**	**7/11/13 16:28**	**BGM**	**P3G0052**
Arsenic	**2.7**	**mg/kg dry**	**0.29**	**0.066**	**1**	***6010C**	**7/11/13 16:28**	**BGM**	**P3G0052**
Beryllium	BRL	mg/kg dry	0.29	0.043	1	*6010C	7/10/13 0:04	BGM	P3G0052
Cadmium	BRL	mg/kg dry	0.29	0.037	1	*6010C	7/11/13 16:28	BGM	P3G0052
Chromium	**16**	**mg/kg dry**	**0.29**	**0.0095**	**1**	***6010C**	**7/11/13 16:28**	**BGM**	**P3G0052**
Copper	BRL	mg/kg dry	0.57	0.11	1	*6010C	7/10/13 0:04	BGM	P3G0052
Lead	**9.2**	**mg/kg dry**	**0.29**	**0.038**	**1**	***6010C**	**7/11/13 16:28**	**BGM**	**P3G0052**
Nickel	**2.2**	**mg/kg dry**	**1.1**	**0.010**	**1**	***6010C**	**7/11/13 16:28**	**BGM**	**P3G0052**
Selenium	BRL	mg/kg dry	0.57	0.13	1	*6010C	7/11/13 16:28	BGM	P3G0052
Silver	BRL	mg/kg dry	0.29	0.035	1	*6010C	7/10/13 0:04	BGM	P3G0052
Thallium	BRL	mg/kg dry	0.57	0.11	1	*6010C	7/11/13 16:28	BGM	P3G0052
Zinc	**9.5**	**mg/kg dry**	**2.9**	**0.39**	**1**	***6010C**	**7/11/13 16:28**	**BGM**	**P3G0052**

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: SB-7A (.5'-1')
Prism Sample ID: 3060664-15
Prism Work Order: 3060664
Time Collected: 06/24/13 11:45
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
% Solids	**87.9 A**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**7/2/13 15:15**	**MJO**	**P3G0067**
Volatile Organic Compounds by GC/MS									
1,1,1-Trichloroethane	BRL	mg/kg dry	0.0036	0.00012	1	8260B	7/8/13 21:13	cgp	P3G0135
1,1,2,2-Tetrachloroethane	BRL	mg/kg dry	0.0036	0.00060	1	8260B	7/8/13 21:13	cgp	P3G0135
1,1,2-Trichloroethane	BRL	mg/kg dry	0.0036	0.00031	1	8260B	7/8/13 21:13	cgp	P3G0135
1,1-Dichloroethane	BRL	mg/kg dry	0.0036	0.00031	1	8260B	7/8/13 21:13	cgp	P3G0135
1,1-Dichloroethylene	BRL	mg/kg dry	0.0036	0.00022	1	8260B	7/8/13 21:13	cgp	P3G0135
1,1-Dichloropropylene	BRL	mg/kg dry	0.0036	0.00038	1	8260B	7/8/13 21:13	cgp	P3G0135
1,2,3-Trichlorobenzene	BRL	mg/kg dry	0.0036	0.00027	1	8260B	7/8/13 21:13	cgp	P3G0135
1,2,3-Trichloropropane	BRL	mg/kg dry	0.0036	0.00055	1	8260B	7/8/13 21:13	cgp	P3G0135
1,2,4-Trichlorobenzene	BRL	mg/kg dry	0.0036	0.00021	1	8260B	7/8/13 21:13	cgp	P3G0135
1,2,4-Trimethylbenzene	BRL	mg/kg dry	0.0036	0.00071	1	8260B	7/8/13 21:13	cgp	P3G0135
1,2-Dibromoethane	BRL	mg/kg dry	0.0036	0.00042	1	8260B	7/8/13 21:13	cgp	P3G0135
1,2-Dichlorobenzene	BRL	mg/kg dry	0.0036	0.00016	1	8260B	7/8/13 21:13	cgp	P3G0135
1,2-Dichloroethane	BRL	mg/kg dry	0.0036	0.00059	1	8260B	7/8/13 21:13	cgp	P3G0135
1,2-Dichloropropane	BRL	mg/kg dry	0.0036	0.00023	1	8260B	7/8/13 21:13	cgp	P3G0135
1,3,5-Trimethylbenzene	BRL	mg/kg dry	0.0036	0.00017	1	8260B	7/8/13 21:13	cgp	P3G0135
1,3-Dichlorobenzene	BRL	mg/kg dry	0.0036	0.000050	1	8260B	7/8/13 21:13	cgp	P3G0135
1,3-Dichloropropane	BRL	mg/kg dry	0.0036	0.00039	1	8260B	7/8/13 21:13	cgp	P3G0135
1,4-Dichlorobenzene	BRL	mg/kg dry	0.0036	0.00027	1	8260B	7/8/13 21:13	cgp	P3G0135
2,2-Dichloropropane	BRL	mg/kg dry	0.0036	0.00023	1	8260B	7/8/13 21:13	cgp	P3G0135
2-Chlorotoluene	BRL	mg/kg dry	0.0036	0.00022	1	8260B	7/8/13 21:13	cgp	P3G0135
4-Chlorotoluene	BRL	mg/kg dry	0.0036	0.00017	1	8260B	7/8/13 21:13	cgp	P3G0135
4-Isopropyltoluene	BRL	mg/kg dry	0.0036	0.00023	1	8260B	7/8/13 21:13	cgp	P3G0135
Acetone	**0.025 J**	**mg/kg dry**	**0.036**	**0.0019**	**1**	**8260B**	**7/8/13 21:13**	**cgp**	**P3G0135**
Benzene	BRL	mg/kg dry	0.0022	0.00022	1	8260B	7/8/13 21:13	cgp	P3G0135
Bromobenzene	BRL	mg/kg dry	0.0036	0.00015	1	8260B	7/8/13 21:13	cgp	P3G0135
Bromochloromethane	BRL	mg/kg dry	0.0036	0.00053	1	8260B	7/8/13 21:13	cgp	P3G0135
Bromodichloromethane	BRL	mg/kg dry	0.0036	0.00017	1	8260B	7/8/13 21:13	cgp	P3G0135
Bromoform	BRL	mg/kg dry	0.0036	0.00064	1	8260B	7/8/13 21:13	cgp	P3G0135
Bromomethane	BRL	mg/kg dry	0.0073	0.0010	1	8260B	7/8/13 21:13	cgp	P3G0135
Carbon Tetrachloride	BRL	mg/kg dry	0.0036	0.00020	1	8260B	7/8/13 21:13	cgp	P3G0135
Chlorobenzene	BRL	mg/kg dry	0.0036	0.00017	1	8260B	7/8/13 21:13	cgp	P3G0135
Chloroethane	BRL	mg/kg dry	0.0073	0.0028	1	8260B	7/8/13 21:13	cgp	P3G0135
Chloroform	BRL	mg/kg dry	0.0036	0.00015	1	8260B	7/8/13 21:13	cgp	P3G0135
Chloromethane	BRL	mg/kg dry	0.0036	0.0018	1	8260B	7/8/13 21:13	cgp	P3G0135
cis-1,2-Dichloroethylene	BRL	mg/kg dry	0.0036	0.00029	1	8260B	7/8/13 21:13	cgp	P3G0135
cis-1,3-Dichloropropylene	BRL	mg/kg dry	0.0036	0.00018	1	8260B	7/8/13 21:13	cgp	P3G0135
Dibromochloromethane	BRL	mg/kg dry	0.0036	0.00025	1	8260B	7/8/13 21:13	cgp	P3G0135
Dichlorodifluoromethane	BRL	mg/kg dry	0.0036	0.00039	1	8260B	7/8/13 21:13	cgp	P3G0135
Ethylbenzene	BRL	mg/kg dry	0.0036	0.00023	1	8260B	7/8/13 21:13	cgp	P3G0135

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: SB-7A (.5'-1')
Prism Sample ID: 3060664-15
Prism Work Order: 3060664
Time Collected: 06/24/13 11:45
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Isopropyl Ether	BRL	mg/kg dry	0.0036	0.00016	1	8260B	7/8/13 21:13	cgp	P3G0135
Isopropylbenzene (Cumene)	BRL	mg/kg dry	0.0036	0.00018	1	8260B	7/8/13 21:13	cgp	P3G0135
m,p-Xylenes	BRL	mg/kg dry	0.0073	0.00047	1	8260B	7/8/13 21:13	cgp	P3G0135
Methyl Butyl Ketone (2-Hexanone)	BRL	mg/kg dry	0.036	0.00075	1	8260B	7/8/13 21:13	cgp	P3G0135
Methyl Ethyl Ketone (2-Butanone)	BRL	mg/kg dry	0.073	0.0013	1	8260B	7/8/13 21:13	cgp	P3G0135
Methyl Isobutyl Ketone	BRL	mg/kg dry	0.036	0.00096	1	8260B	7/8/13 21:13	cgp	P3G0135
Methylene Chloride	BRL	mg/kg dry	0.0036	0.00026	1	8260B	7/8/13 21:13	cgp	P3G0135
Methyl-tert-Butyl Ether	BRL	mg/kg dry	0.0073	0.00028	1	8260B	7/8/13 21:13	cgp	P3G0135
Naphthalene	BRL	mg/kg dry	0.0073	0.00027	1	8260B	7/8/13 21:13	cgp	P3G0135
n-Butylbenzene	BRL	mg/kg dry	0.0036	0.00016	1	8260B	7/8/13 21:13	cgp	P3G0135
n-Propylbenzene	BRL	mg/kg dry	0.0036	0.00021	1	8260B	7/8/13 21:13	cgp	P3G0135
o-Xylene	BRL	mg/kg dry	0.0036	0.00023	1	8260B	7/8/13 21:13	cgp	P3G0135
sec-Butylbenzene	BRL	mg/kg dry	0.0036	0.00015	1	8260B	7/8/13 21:13	cgp	P3G0135
Styrene	BRL	mg/kg dry	0.0036	0.00016	1	8260B	7/8/13 21:13	cgp	P3G0135
tert-Butylbenzene	BRL	mg/kg dry	0.0036	0.00019	1	8260B	7/8/13 21:13	cgp	P3G0135
Tetrachloroethylene	BRL	mg/kg dry	0.0036	0.00025	1	8260B	7/8/13 21:13	cgp	P3G0135
Toluene	BRL	mg/kg dry	0.0036	0.00022	1	8260B	7/8/13 21:13	cgp	P3G0135
trans-1,2-Dichloroethylene	BRL	mg/kg dry	0.0036	0.00042	1	8260B	7/8/13 21:13	cgp	P3G0135
trans-1,3-Dichloropropylene	BRL	mg/kg dry	0.0036	0.00018	1	8260B	7/8/13 21:13	cgp	P3G0135
Trichloroethylene	BRL	mg/kg dry	0.0036	0.00034	1	8260B	7/8/13 21:13	cgp	P3G0135
Trichlorofluoromethane	BRL	mg/kg dry	0.0036	0.00029	1	8260B	7/8/13 21:13	cgp	P3G0135
Vinyl acetate	BRL	mg/kg dry	0.018	0.0010	1	8260B	7/8/13 21:13	cgp	P3G0135
Vinyl chloride	BRL	mg/kg dry	0.0036	0.00047	1	8260B	7/8/13 21:13	cgp	P3G0135
Xylenes, total	BRL	mg/kg dry	0.011	0.00068	1	8260B	7/8/13 21:13	cgp	P3G0135

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*90 %*	*70-130*
Dibromofluoromethane	*102 %*	*84-123*
Toluene-d8	*91 %*	*76-129*

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: AOC-7 (.5'-1')
Prism Sample ID: 3060664-16
Prism Work Order: 3060664
Time Collected: 06/24/13 11:50
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Anions by Ion Chromatography									
Nitrate as N	**870**	**mg/kg dry**	**12**	**0.24**	**5**	***9056A**	**7/5/13 11:02**	**CDE**	**P3G0110**
General Chemistry Parameters									
% Solids	**85.7 A**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**7/2/13 15:15**	**MJO**	**P3G0067**
Phosphorus-Total	**820**	**mg/kg dry**	**58**	**8.4**	**20**	***SM4500-P F**	**7/2/13 10:41**	**CLB**	**P3G0007**
Organochlorine Pesticides by GC/ECD									
4,4'-DDD	BRL CCV	ug/kg dry	2.3	0.54	1	8081B	7/20/13 1:07	JMV	P3G0117
4,4'-DDE	BRL	ug/kg dry	2.3	0.42	1	8081B	7/20/13 1:07	JMV	P3G0117
4,4'-DDT	BRL	ug/kg dry	3.5	0.73	1	8081B	7/20/13 1:07	JMV	P3G0117
Aldrin	BRL	ug/kg dry	2.3	0.54	1	8081B	7/20/13 1:07	JMV	P3G0117
alpha-BHC	BRL	ug/kg dry	2.3	0.33	1	8081B	7/20/13 1:07	JMV	P3G0117
cis-Chlordane	BRL	ug/kg dry	2.3	0.46	1	8081B	7/20/13 1:07	JMV	P3G0117
beta-BHC	BRL	ug/kg dry	2.3	0.45	1	8081B	7/20/13 1:07	JMV	P3G0117
Chlordane	BRL	ug/kg dry	58	5.9	1	8081B	7/19/13 5:49	JMV	P3G0117
delta-BHC	BRL	ug/kg dry	2.3	0.36	1	8081B	7/20/13 1:07	JMV	P3G0117
Dieldrin	BRL	ug/kg dry	2.3	0.41	1	8081B	7/20/13 1:07	JMV	P3G0117
Endosulfan I	BRL	ug/kg dry	2.3	0.51	1	8081B	7/20/13 1:07	JMV	P3G0117
Endosulfan II	BRL	ug/kg dry	2.3	0.56	1	8081B	7/20/13 1:07	JMV	P3G0117
Endosulfan Sulfate	BRL	ug/kg dry	2.3	0.75	1	8081B	7/20/13 1:07	JMV	P3G0117
Endrin	BRL CCV	ug/kg dry	2.3	0.52	1	8081B	7/20/13 1:07	JMV	P3G0117
Endrin Aldehyde	BRL	ug/kg dry	2.3	0.63	1	8081B	7/20/13 1:07	JMV	P3G0117
Endrin Ketone	BRL	ug/kg dry	2.3	0.58	1	8081B	7/20/13 1:07	JMV	P3G0117
gamma-BHC	BRL	ug/kg dry	2.3	0.45	1	8081B	7/20/13 1:07	JMV	P3G0117
trans-Chlordane	BRL	ug/kg dry	2.3	0.62	1	8081B	7/20/13 1:07	JMV	P3G0117
Heptachlor	BRL	ug/kg dry	2.3	0.74	1	8081B	7/20/13 1:07	JMV	P3G0117
Heptachlor Epoxide	BRL	ug/kg dry	2.3	0.65	1	8081B	7/20/13 1:07	JMV	P3G0117
Methoxychlor	BRL	ug/kg dry	2.3	1.3	1	8081B	7/20/13 1:07	JMV	P3G0117
Toxaphene	BRL	ug/kg dry	58	7.2	1	8081B	7/19/13 5:49	JMV	P3G0117

Surrogate	Recovery	Control Limits
Decachlorobiphenyl	*111 %*	*26-204*
Tetrachloro-m-xylene	*103 %*	*40-162*

Semivolatile Organic Compounds by GC/MS									
1,2,4-Trichlorobenzene	BRL	mg/kg dry	0.38	0.14	1	8270D	7/1/13 20:41	KC	P3G0017
1,2-Dichlorobenzene	BRL	mg/kg dry	0.38	0.13	1	8270D	7/1/13 20:41	KC	P3G0017
1,3-Dichlorobenzene	BRL	mg/kg dry	0.38	0.13	1	8270D	7/1/13 20:41	KC	P3G0017
1,4-Dichlorobenzene	BRL	mg/kg dry	0.38	0.12	1	8270D	7/1/13 20:41	KC	P3G0017
1-Methylnaphthalene	BRL	mg/kg dry	0.38	0.089	1	8270D	7/1/13 20:41	KC	P3G0017
2,4,6-Trichlorophenol	BRL	mg/kg dry	0.38	0.13	1	8270D	7/1/13 20:41	KC	P3G0017
2,4-Dichlorophenol	BRL	mg/kg dry	0.38	0.14	1	8270D	7/1/13 20:41	KC	P3G0017
2,4-Dimethylphenol	BRL	mg/kg dry	0.38	0.16	1	8270D	7/1/13 20:41	KC	P3G0017
2,4-Dinitrophenol	BRL	mg/kg dry	0.38	0.060	1	8270D	7/1/13 20:41	KC	P3G0017

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: AOC-7 (.5'-1')
Prism Sample ID: 3060664-16
Prism Work Order: 3060664
Time Collected: 06/24/13 11:50
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
2,4-Dinitrotoluene	BRL	mg/kg dry	0.38	0.065	1	8270D	7/1/13 20:41	KC	P3G0017
2,6-Dinitrotoluene	BRL	mg/kg dry	0.38	0.058	1	8270D	7/1/13 20:41	KC	P3G0017
2-Chloronaphthalene	BRL	mg/kg dry	0.38	0.13	1	8270D	7/1/13 20:41	KC	P3G0017
2-Chlorophenol	BRL	mg/kg dry	0.38	0.14	1	8270D	7/1/13 20:41	KC	P3G0017
2-Methylnaphthalene	BRL	mg/kg dry	0.38	0.14	1	8270D	7/1/13 20:41	KC	P3G0017
2-Methylphenol	BRL	mg/kg dry	0.38	0.13	1	8270D	7/1/13 20:41	KC	P3G0017
2-Nitrophenol	BRL	mg/kg dry	0.38	0.14	1	8270D	7/1/13 20:41	KC	P3G0017
3,3'-Dichlorobenzidine	BRL	mg/kg dry	0.38	0.064	1	8270D	7/1/13 20:41	KC	P3G0017
3/4-Methylphenol	BRL	mg/kg dry	0.38	0.11	1	8270D	7/1/13 20:41	KC	P3G0017
4,6-Dinitro-2-methylphenol	BRL	mg/kg dry	0.38	0.041	1	8270D	7/1/13 20:41	KC	P3G0017
4-Bromophenyl phenyl ether	BRL	mg/kg dry	0.38	0.086	1	8270D	7/1/13 20:41	KC	P3G0017
4-Chloro-3-methylphenol	BRL	mg/kg dry	0.38	0.14	1	8270D	7/1/13 20:41	KC	P3G0017
4-Chloroaniline	BRL	mg/kg dry	0.38	0.13	1	8270D	7/1/13 20:41	KC	P3G0017
4-Chlorophenyl phenyl ether	BRL	mg/kg dry	0.38	0.11	1	8270D	7/1/13 20:41	KC	P3G0017
4-Nitrophenol	BRL	mg/kg dry	0.38	0.048	1	8270D	7/1/13 20:41	KC	P3G0017
Acenaphthene	BRL	mg/kg dry	0.38	0.12	1	8270D	7/1/13 20:41	KC	P3G0017
Acenaphthylene	BRL	mg/kg dry	0.38	0.12	1	8270D	7/1/13 20:41	KC	P3G0017
Anthracene	BRL	mg/kg dry	0.38	0.076	1	8270D	7/1/13 20:41	KC	P3G0017
Azobenzene	BRL	mg/kg dry	0.38	0.089	1	8270D	7/1/13 20:41	KC	P3G0017
Benzo(a)anthracene	BRL	mg/kg dry	0.38	0.079	1	8270D	7/1/13 20:41	KC	P3G0017
Benzo(a)pyrene	BRL	mg/kg dry	0.38	0.072	1	8270D	7/1/13 20:41	KC	P3G0017
Benzo(b)fluoranthene	BRL	mg/kg dry	0.38	0.052	1	8270D	7/1/13 20:41	KC	P3G0017
Benzo(g,h,i)perylene	BRL	mg/kg dry	0.38	0.12	1	8270D	7/1/13 20:41	KC	P3G0017
Benzo(k)fluoranthene	BRL	mg/kg dry	0.38	0.11	1	8270D	7/1/13 20:41	KC	P3G0017
Benzoic Acid	BRL	mg/kg dry	0.38	0.051	1	8270D	7/1/13 20:41	KC	P3G0017
Benzyl alcohol	BRL	mg/kg dry	0.38	0.13	1	8270D	7/1/13 20:41	KC	P3G0017
bis(2-Chloroethoxy)methane	BRL	mg/kg dry	0.38	0.20	1	8270D	7/1/13 20:41	KC	P3G0017
Bis(2-Chloroethyl)ether	BRL	mg/kg dry	0.38	0.14	1	8270D	7/1/13 20:41	KC	P3G0017
Bis(2-chloroisopropyl)ether	BRL	mg/kg dry	0.38	0.15	1	8270D	7/1/13 20:41	KC	P3G0017
Bis(2-Ethylhexyl)phthalate	BRL	mg/kg dry	0.38	0.074	1	8270D	7/1/13 20:41	KC	P3G0017
Butyl benzyl phthalate	BRL	mg/kg dry	0.38	0.085	1	8270D	7/1/13 20:41	KC	P3G0017
Chrysene	BRL	mg/kg dry	0.38	0.086	1	8270D	7/1/13 20:41	KC	P3G0017
Dibenzo(a,h)anthracene	BRL	mg/kg dry	0.38	0.12	1	8270D	7/1/13 20:41	KC	P3G0017
Dibenzofuran	BRL	mg/kg dry	0.38	0.11	1	8270D	7/1/13 20:41	KC	P3G0017
Diethyl phthalate	BRL	mg/kg dry	0.38	0.069	1	8270D	7/1/13 20:41	KC	P3G0017
Dimethyl phthalate	BRL	mg/kg dry	0.38	0.072	1	8270D	7/1/13 20:41	KC	P3G0017
Di-n-butyl phthalate	**0.098 J**	**mg/kg dry**	**0.38**	**0.091**	**1**	**8270D**	**7/1/13 20:41**	**KC**	**P3G0017**
Di-n-octyl phthalate	BRL	mg/kg dry	0.38	0.085	1	8270D	7/1/13 20:41	KC	P3G0017
Fluoranthene	BRL	mg/kg dry	0.38	0.081	1	8270D	7/1/13 20:41	KC	P3G0017
Fluorene	BRL	mg/kg dry	0.38	0.089	1	8270D	7/1/13 20:41	KC	P3G0017
Hexachlorobenzene	BRL	mg/kg dry	0.38	0.064	1	8270D	7/1/13 20:41	KC	P3G0017
Hexachlorobutadiene	BRL	mg/kg dry	0.38	0.15	1	8270D	7/1/13 20:41	KC	P3G0017
Hexachlorocyclopentadiene	BRL	mg/kg dry	0.38	0.12	1	8270D	7/1/13 20:41	KC	P3G0017

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Soil

Client Sample ID: AOC-7 (.5'-1')
Prism Sample ID: 3060664-16
Prism Work Order: 3060664
Time Collected: 06/24/13 11:50
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Hexachloroethane	BRL	mg/kg dry	0.38	0.13	1	8270D	7/1/13 20:41	KC	P3G0017
Indeno(1,2,3-cd)pyrene	BRL	mg/kg dry	0.38	0.10	1	8270D	7/1/13 20:41	KC	P3G0017
Isophorone	BRL	mg/kg dry	0.38	0.14	1	8270D	7/1/13 20:41	KC	P3G0017
Naphthalene	BRL	mg/kg dry	0.38	0.15	1	8270D	7/1/13 20:41	KC	P3G0017
Nitrobenzene	BRL	mg/kg dry	0.38	0.13	1	8270D	7/1/13 20:41	KC	P3G0017
N-Nitroso-di-n-propylamine	BRL	mg/kg dry	0.38	0.13	1	8270D	7/1/13 20:41	KC	P3G0017
N-Nitrosodiphenylamine	BRL	mg/kg dry	0.38	0.077	1	8270D	7/1/13 20:41	KC	P3G0017
Pentachlorophenol	BRL	mg/kg dry	0.38	0.032	1	8270D	7/1/13 20:41	KC	P3G0017
Phenanthrene	BRL	mg/kg dry	0.38	0.068	1	8270D	7/1/13 20:41	KC	P3G0017
Phenol	BRL	mg/kg dry	0.38	0.14	1	8270D	7/1/13 20:41	KC	P3G0017
Pyrene	BRL	mg/kg dry	0.38	0.11	1	8270D	7/1/13 20:41	KC	P3G0017

Surrogate	Recovery	Control Limits
2,4,6-Tribromophenol	*121 %*	*37-131*
2-Fluorobiphenyl	*91 %*	*47-130*
2-Fluorophenol	*74 %*	*44-117*
Nitrobenzene-d5	*84 %*	*45-121*
Phenol-d5	*76 %*	*37-127*
Terphenyl-d14	*85 %*	*38-135*

Total Metals

Mercury	BRL	mg/kg dry	0.023	0.0079	1	*7471B	7/2/13 14:50	BGM	P3G0042
Antimony	BRL	mg/kg dry	0.30	0.058	1	*6010C	7/11/13 16:37	BGM	P3G0052
Arsenic	**3.5**	**mg/kg dry**	**0.30**	**0.069**	**1**	***6010C**	**7/11/13 16:37**	**BGM**	**P3G0052**
Beryllium	BRL	mg/kg dry	0.30	0.045	1	*6010C	7/10/13 0:12	BGM	P3G0052
Cadmium	BRL	mg/kg dry	0.30	0.039	1	*6010C	7/11/13 16:37	BGM	P3G0052
Chromium	**16**	**mg/kg dry**	**0.30**	**0.0099**	**1**	***6010C**	**7/11/13 16:37**	**BGM**	**P3G0052**
Copper	**9.7**	**mg/kg dry**	**0.60**	**0.12**	**1**	***6010C**	**7/10/13 0:12**	**BGM**	**P3G0052**
Lead	**8.0**	**mg/kg dry**	**0.30**	**0.040**	**1**	***6010C**	**7/11/13 16:37**	**BGM**	**P3G0052**
Nickel	**5.8**	**mg/kg dry**	**1.2**	**0.011**	**1**	***6010C**	**7/11/13 16:37**	**BGM**	**P3G0052**
Selenium	BRL	mg/kg dry	0.60	0.14	1	*6010C	7/11/13 16:37	BGM	P3G0052
Silver	**17**	**mg/kg dry**	**0.30**	**0.037**	**1**	***6010C**	**7/10/13 0:12**	**BGM**	**P3G0052**
Thallium	BRL	mg/kg dry	0.60	0.12	1	*6010C	7/11/13 16:37	BGM	P3G0052
Zinc	**24**	**mg/kg dry**	**3.0**	**0.40**	**1**	***6010C**	**7/11/13 16:37**	**BGM**	**P3G0052**

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Solid

Client Sample ID: BG (.5'-1')
Prism Sample ID: 3060664-17
Prism Work Order: 3060664
Time Collected: 06/25/13 08:20
Time Submitted: 06/28/13 08:45

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Anions by Ion Chromatography									
Nitrate as N	**17**	**mg/kg dry**	**2.2**	**0.045**	**1**	***9056A**	**7/4/13 20:40**	**CDE**	**P3G0110**
General Chemistry Parameters									
% Solids	**90.4**	**% by Weight**	**0.100**	**0.100**	**1**	***SM2540 G**	**7/2/13 15:15**	**MJO**	**P3G0067**
Phosphorus-Total	**28**	**mg/kg dry**	**2.8**	**0.40**	**1**	***SM4500-P F**	**7/2/13 10:41**	**CLB**	**P3G0007**
Total Metals									
Mercury	BRL	mg/kg dry	0.022	0.0075	1	*7471B	7/2/13 14:54	BGM	P3G0042
Antimony	BRL	mg/kg dry	0.28	0.055	1	*6010C	7/11/13 16:46	BGM	P3G0052
Arsenic	**1.8**	**mg/kg dry**	**0.28**	**0.065**	**1**	***6010C**	**7/11/13 16:46**	**BGM**	**P3G0052**
Beryllium	BRL	mg/kg dry	0.28	0.043	1	*6010C	7/10/13 0:20	BGM	P3G0052
Cadmium	BRL	mg/kg dry	0.28	0.037	1	*6010C	7/11/13 16:46	BGM	P3G0052
Chromium	**7.0**	**mg/kg dry**	**0.28**	**0.0094**	**1**	***6010C**	**7/11/13 16:46**	**BGM**	**P3G0052**
Copper	BRL	mg/kg dry	0.56	0.11	1	*6010C	7/10/13 0:20	BGM	P3G0052
Lead	**6.0**	**mg/kg dry**	**0.28**	**0.038**	**1**	***6010C**	**7/11/13 16:46**	**BGM**	**P3G0052**
Nickel	BRL	mg/kg dry	1.1	0.010	1	*6010C	7/11/13 16:46	BGM	P3G0052
Selenium	BRL	mg/kg dry	0.56	0.13	1	*6010C	7/11/13 16:46	BGM	P3G0052
Silver	BRL	mg/kg dry	0.28	0.035	1	*6010C	7/10/13 0:20	BGM	P3G0052
Thallium	BRL	mg/kg dry	0.56	0.11	1	*6010C	7/11/13 16:46	BGM	P3G0052
Zinc	BRL	mg/kg dry	2.8	0.38	1	*6010C	7/11/13 16:46	BGM	P3G0052

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060664
Time Submitted: 6/28/2013 8:45:00AM

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0135 - 5035										
Blank (P3G0135-BLK1)				Prepared & Analyzed: 07/08/13						
1,1,1-Trichloroethane	BRL	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	BRL	0.0050	mg/kg wet							
1,1,2-Trichloroethane	BRL	0.0050	mg/kg wet							
1,1-Dichloroethane	BRL	0.0050	mg/kg wet							
1,1-Dichloroethylene	BRL	0.0050	mg/kg wet							
1,1-Dichloropropylene	BRL	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	BRL	0.0050	mg/kg wet							
1,2,3-Trichloropropane	BRL	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	BRL	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	BRL	0.0050	mg/kg wet							
1,2-Dibromoethane	BRL	0.0050	mg/kg wet							
1,2-Dichlorobenzene	BRL	0.0050	mg/kg wet							
1,2-Dichloroethane	BRL	0.0050	mg/kg wet							
1,2-Dichloropropane	BRL	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	BRL	0.0050	mg/kg wet							
1,3-Dichlorobenzene	BRL	0.0050	mg/kg wet							
1,3-Dichloropropane	BRL	0.0050	mg/kg wet							
1,4-Dichlorobenzene	BRL	0.0050	mg/kg wet							
2,2-Dichloropropane	BRL	0.0050	mg/kg wet							
2-Chlorotoluene	BRL	0.0050	mg/kg wet							
4-Chlorotoluene	BRL	0.0050	mg/kg wet							
4-Isopropyltoluene	BRL	0.0050	mg/kg wet							
Acetone	BRL	0.050	mg/kg wet							
Benzene	BRL	0.0030	mg/kg wet							
Bromobenzene	BRL	0.0050	mg/kg wet							
Bromochloromethane	BRL	0.0050	mg/kg wet							
Bromodichloromethane	BRL	0.0050	mg/kg wet							
Bromoform	BRL	0.0050	mg/kg wet							
Bromomethane	BRL	0.010	mg/kg wet							
Carbon Tetrachloride	BRL	0.0050	mg/kg wet							
Chlorobenzene	BRL	0.0050	mg/kg wet							
Chloroethane	BRL	0.010	mg/kg wet							
Chloroform	BRL	0.0050	mg/kg wet							
Chloromethane	BRL	0.0050	mg/kg wet							
cis-1,2-Dichloroethylene	BRL	0.0050	mg/kg wet							
cis-1,3-Dichloropropylene	BRL	0.0050	mg/kg wet							
Dibromochloromethane	BRL	0.0050	mg/kg wet							
Dichlorodifluoromethane	BRL	0.0050	mg/kg wet							
Ethylbenzene	BRL	0.0050	mg/kg wet							
Isopropyl Ether	BRL	0.0050	mg/kg wet							
Isopropylbenzene (Cumene)	BRL	0.0050	mg/kg wet							
m,p-Xylenes	BRL	0.010	mg/kg wet							
Methyl Butyl Ketone (2-Hexanone)	BRL	0.050	mg/kg wet							
Methyl Ethyl Ketone (2-Butanone)	BRL	0.10	mg/kg wet							
Methyl Isobutyl Ketone	BRL	0.050	mg/kg wet							
Methylene Chloride	BRL	0.0050	mg/kg wet							

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060664
Time Submitted: 6/28/2013 8:45:00AM

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0135 - 5035										
Blank (P3G0135-BLK1)				Prepared & Analyzed: 07/08/13						
Methyl-tert-Butyl Ether	BRL	0.010	mg/kg wet							
Naphthalene	BRL	0.010	mg/kg wet							
n-Butylbenzene	BRL	0.0050	mg/kg wet							
n-Propylbenzene	BRL	0.0050	mg/kg wet							
o-Xylene	BRL	0.0050	mg/kg wet							
sec-Butylbenzene	BRL	0.0050	mg/kg wet							
Styrene	BRL	0.0050	mg/kg wet							
tert-Butylbenzene	BRL	0.0050	mg/kg wet							
Tetrachloroethylene	BRL	0.0050	mg/kg wet							
Toluene	BRL	0.0050	mg/kg wet							
trans-1,2-Dichloroethylene	BRL	0.0050	mg/kg wet							
trans-1,3-Dichloropropylene	BRL	0.0050	mg/kg wet							
Trichloroethylene	BRL	0.0050	mg/kg wet							
Trichlorofluoromethane	BRL	0.0050	mg/kg wet							
Vinyl acetate	BRL	0.025	mg/kg wet							
Vinyl chloride	BRL	0.0050	mg/kg wet							
Xylenes, total	BRL	0.015	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*0.0407*		*mg/kg wet*	*0.05000*		*81*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0424*		*mg/kg wet*	*0.05000*		*85*	*84-123*			
Surrogate: Toluene-d8	*0.0405*		*mg/kg wet*	*0.05000*		*81*	*76-129*			
LCS (P3G0135-BS1)				Prepared & Analyzed: 07/08/13						
1,1-Dichloroethylene	0.0469	0.0050	mg/kg wet	0.05000		94	67-149			
Benzene	0.0519	0.0030	mg/kg wet	0.05000		104	74-127			
Chlorobenzene	0.0504	0.0050	mg/kg wet	0.05000		101	74-118			
Toluene	0.0493	0.0050	mg/kg wet	0.05000		99	71-129			
Trichloroethylene	0.0500	0.0050	mg/kg wet	0.05000		100	75-133			
Surrogate: 4-Bromofluorobenzene	*0.0419*		*mg/kg wet*	*0.05000*		*84*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0478*		*mg/kg wet*	*0.05000*		*96*	*84-123*			
Surrogate: Toluene-d8	*0.0435*		*mg/kg wet*	*0.05000*		*87*	*76-129*			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060664
Time Submitted: 6/28/2013 8:45:00AM

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0135 - 5035										
LCS Dup (P3G0135-BSD1)				Prepared & Analyzed: 07/08/13						
1,1-Dichloroethylene	0.0465	0.0050	mg/kg wet	0.05000		93	67-149	0.9	20	
Benzene	0.0500	0.0030	mg/kg wet	0.05000		100	74-127	4	20	
Chlorobenzene	0.0497	0.0050	mg/kg wet	0.05000		99	74-118	1	20	
Toluene	0.0471	0.0050	mg/kg wet	0.05000		94	71-129	5	20	
Trichloroethylene	0.0486	0.0050	mg/kg wet	0.05000		97	75-133	3	20	
Surrogate: 4-Bromofluorobenzene	*0.0410*		*mg/kg wet*	*0.05000*		*82*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0461*		*mg/kg wet*	*0.05000*		*92*	*84-123*			
Surrogate: Toluene-d8	*0.0435*		*mg/kg wet*	*0.05000*		*87*	*76-129*			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060664
Time Submitted: 6/28/2013 8:45:00AM

Volatile Organic Compounds by GC/MS (Medium Level) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0142 - 5035										
Blank (P3G0142-BLK1)				Prepared & Analyzed: 07/05/13						
1,1,1-Trichloroethane	BRL	0.25	mg/kg wet							
1,1,2,2-Tetrachloroethane	BRL	0.25	mg/kg wet							
1,1,2-Trichloroethane	BRL	0.25	mg/kg wet							
1,1-Dichloroethane	BRL	0.25	mg/kg wet							
1,1-Dichloroethylene	BRL	0.25	mg/kg wet							
1,1-Dichloropropylene	BRL	0.25	mg/kg wet							
1,2,3-Trichlorobenzene	BRL	0.50	mg/kg wet							
1,2,3-Trichloropropane	BRL	0.25	mg/kg wet							
1,2,4-Trichlorobenzene	BRL	0.50	mg/kg wet							
1,2,4-Trimethylbenzene	BRL	0.25	mg/kg wet							
1,2-Dibromoethane	BRL	0.25	mg/kg wet							
1,2-Dichlorobenzene	BRL	0.25	mg/kg wet							
1,2-Dichloroethane	BRL	0.25	mg/kg wet							
1,2-Dichloropropane	BRL	0.25	mg/kg wet							
1,3,5-Trimethylbenzene	BRL	0.25	mg/kg wet							
1,3-Dichlorobenzene	BRL	0.25	mg/kg wet							
1,3-Dichloropropane	BRL	0.25	mg/kg wet							
1,4-Dichlorobenzene	BRL	0.25	mg/kg wet							
2,2-Dichloropropane	BRL	0.25	mg/kg wet							
2-Chlorotoluene	BRL	0.25	mg/kg wet							
4-Chlorotoluene	BRL	0.25	mg/kg wet							
4-Isopropyltoluene	BRL	0.25	mg/kg wet							
Acetone	BRL	1.0	mg/kg wet							
Benzene	BRL	0.25	mg/kg wet							
Bromobenzene	BRL	0.25	mg/kg wet							
Bromochloromethane	BRL	0.25	mg/kg wet							
Bromodichloromethane	BRL	0.25	mg/kg wet							
Bromoform	BRL	0.25	mg/kg wet							
Bromomethane	BRL	0.50	mg/kg wet							
Carbon Tetrachloride	BRL	0.25	mg/kg wet							
Chlorobenzene	BRL	0.25	mg/kg wet							
Chloroethane	BRL	0.50	mg/kg wet							
Chloroform	BRL	0.25	mg/kg wet							
Chloromethane	BRL	0.50	mg/kg wet							
cis-1,2-Dichloroethylene	BRL	0.25	mg/kg wet							
cis-1,3-Dichloropropylene	BRL	0.25	mg/kg wet							
Dibromochloromethane	BRL	0.25	mg/kg wet							
Dichlorodifluoromethane	BRL	0.50	mg/kg wet							
Ethylbenzene	BRL	0.25	mg/kg wet							
Isopropyl Ether	BRL	0.25	mg/kg wet							
Isopropylbenzene (Cumene)	BRL	0.25	mg/kg wet							
m,p-Xylenes	BRL	0.50	mg/kg wet							
Methyl Butyl Ketone (2-Hexanone)	BRL	1.0	mg/kg wet							
Methyl Ethyl Ketone (2-Butanone)	BRL	1.0	mg/kg wet							
Methyl Isobutyl Ketone	BRL	1.0	mg/kg wet							
Methylene Chloride	BRL	0.25	mg/kg wet							

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060664
Time Submitted: 6/28/2013 8:45:00AM

Volatile Organic Compounds by GC/MS (Medium Level) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0142 - 5035										
Blank (P3G0142-BLK1)				Prepared & Analyzed: 07/05/13						
Methyl-tert-Butyl Ether	BRL	0.25	mg/kg wet							
Naphthalene	BRL	0.50	mg/kg wet							
n-Butylbenzene	BRL	0.25	mg/kg wet							
n-Propylbenzene	BRL	0.25	mg/kg wet							
o-Xylene	BRL	0.25	mg/kg wet							
sec-Butylbenzene	BRL	0.25	mg/kg wet							
Styrene	BRL	0.25	mg/kg wet							
tert-Butylbenzene	BRL	0.25	mg/kg wet							
Tetrachloroethylene	BRL	0.25	mg/kg wet							
Toluene	BRL	0.25	mg/kg wet							
trans-1,2-Dichloroethylene	BRL	0.25	mg/kg wet							
trans-1,3-Dichloropropylene	BRL	0.25	mg/kg wet							
Trichloroethylene	BRL	0.25	mg/kg wet							
Trichlorofluoromethane	BRL	0.50	mg/kg wet							
Vinyl acetate	BRL	1.0	mg/kg wet							
Vinyl chloride	BRL	0.50	mg/kg wet							
Xylenes, total	BRL	0.75	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*0.687*		*mg/kg wet*	*0.7500*		*92*	*70-130*			
Surrogate: Dibromofluoromethane	*0.792*		*mg/kg wet*	*0.7500*		*106*	*70-130*			
Surrogate: Toluene-d8	*0.684*		*mg/kg wet*	*0.7500*		*91*	*70-130*			
Blank (P3G0142-BLK2)				Prepared & Analyzed: 07/08/13						
1,1,1-Trichloroethane	BRL	0.25	mg/kg wet							
1,1,2,2-Tetrachloroethane	BRL	0.25	mg/kg wet							
1,1,2-Trichloroethane	BRL	0.25	mg/kg wet							
1,1-Dichloroethane	BRL	0.25	mg/kg wet							
1,1-Dichloroethylene	BRL	0.25	mg/kg wet							
1,1-Dichloropropylene	BRL	0.25	mg/kg wet							
1,2,3-Trichlorobenzene	BRL	0.50	mg/kg wet							
1,2,3-Trichloropropane	BRL	0.25	mg/kg wet							
1,2,4-Trichlorobenzene	BRL	0.50	mg/kg wet							
1,2,4-Trimethylbenzene	BRL	0.25	mg/kg wet							
1,2-Dibromoethane	BRL	0.25	mg/kg wet							
1,2-Dichlorobenzene	BRL	0.25	mg/kg wet							
1,2-Dichloroethane	BRL	0.25	mg/kg wet							
1,2-Dichloropropane	BRL	0.25	mg/kg wet							
1,3,5-Trimethylbenzene	BRL	0.25	mg/kg wet							
1,3-Dichlorobenzene	BRL	0.25	mg/kg wet							
1,3-Dichloropropane	BRL	0.25	mg/kg wet							
1,4-Dichlorobenzene	BRL	0.25	mg/kg wet							
2,2-Dichloropropane	BRL	0.25	mg/kg wet							
2-Chlorotoluene	BRL	0.25	mg/kg wet							
4-Chlorotoluene	BRL	0.25	mg/kg wet							
4-Isopropyltoluene	BRL	0.25	mg/kg wet							
Acetone	BRL	1.0	mg/kg wet							
Benzene	BRL	0.25	mg/kg wet							
Bromobenzene	BRL	0.25	mg/kg wet							

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060664
Time Submitted: 6/28/2013 8:45:00AM

Volatile Organic Compounds by GC/MS (Medium Level) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0142 - 5035										
Blank (P3G0142-BLK2)			Prepared & Analyzed: 07/08/13							
Bromochloromethane	BRL	0.25	mg/kg wet							
Bromodichloromethane	BRL	0.25	mg/kg wet							
Bromoform	BRL	0.25	mg/kg wet							
Bromomethane	BRL	0.50	mg/kg wet							
Carbon Tetrachloride	BRL	0.25	mg/kg wet							
Chlorobenzene	BRL	0.25	mg/kg wet							
Chloroethane	BRL	0.50	mg/kg wet							
Chloroform	BRL	0.25	mg/kg wet							
Chloromethane	BRL	0.50	mg/kg wet							
cis-1,2-Dichloroethylene	BRL	0.25	mg/kg wet							
cis-1,3-Dichloropropylene	BRL	0.25	mg/kg wet							
Dibromochloromethane	BRL	0.25	mg/kg wet							
Dichlorodifluoromethane	BRL	0.50	mg/kg wet							
Ethylbenzene	BRL	0.25	mg/kg wet							
Isopropyl Ether	BRL	0.25	mg/kg wet							
Isopropylbenzene (Cumene)	BRL	0.25	mg/kg wet							
m,p-Xylenes	BRL	0.50	mg/kg wet							
Methyl Butyl Ketone (2-Hexanone)	BRL	1.0	mg/kg wet							
Methyl Ethyl Ketone (2-Butanone)	BRL	1.0	mg/kg wet							
Methyl Isobutyl Ketone	BRL	1.0	mg/kg wet							
Methylene Chloride	BRL	0.25	mg/kg wet							
Methyl-tert-Butyl Ether	BRL	0.25	mg/kg wet							
Naphthalene	BRL	0.50	mg/kg wet							
n-Butylbenzene	BRL	0.25	mg/kg wet							
n-Propylbenzene	BRL	0.25	mg/kg wet							
o-Xylene	BRL	0.25	mg/kg wet							
sec-Butylbenzene	BRL	0.25	mg/kg wet							
Styrene	BRL	0.25	mg/kg wet							
tert-Butylbenzene	BRL	0.25	mg/kg wet							
Tetrachloroethylene	BRL	0.25	mg/kg wet							
Toluene	BRL	0.25	mg/kg wet							
trans-1,2-Dichloroethylene	BRL	0.25	mg/kg wet							
trans-1,3-Dichloropropylene	BRL	0.25	mg/kg wet							
Trichloroethylene	BRL	0.25	mg/kg wet							
Trichlorofluoromethane	BRL	0.50	mg/kg wet							
Vinyl acetate	BRL	1.0	mg/kg wet							
Vinyl chloride	BRL	0.50	mg/kg wet							
Xylenes, total	BRL	0.75	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*1.09*		*mg/kg wet*	*1.000*		*109*	*70-130*			
Surrogate: Dibromofluoromethane	*1.21*		*mg/kg wet*	*1.000*		*121*	*70-130*			
Surrogate: Toluene-d8	*1.06*		*mg/kg wet*	*1.000*		*106*	*70-130*			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060664
Time Submitted: 6/28/2013 8:45:00AM

Volatile Organic Compounds by GC/MS (Medium Level) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0142 - 5035										
LCS (P3G0142-BS1)				Prepared & Analyzed: 07/05/13						
1,1-Dichloroethylene	0.952	0.25	mg/kg wet	1.000		95	59-157			
Benzene	1.03	0.25	mg/kg wet	1.000		103	74-123			
Chlorobenzene	0.944	0.25	mg/kg wet	1.000		94	74-121			
Toluene	1.03	0.25	mg/kg wet	1.000		103	74-122			
Trichloroethylene	0.952	0.25	mg/kg wet	1.000		95	68-133			
Surrogate: 4-Bromofluorobenzene	*0.640*		*mg/kg wet*	*0.7500*		*85*	*70-130*			
Surrogate: Dibromofluoromethane	*0.766*		*mg/kg wet*	*0.7500*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.668*		*mg/kg wet*	*0.7500*		*89*	*70-130*			
LCS (P3G0142-BS2)				Prepared & Analyzed: 07/08/13						
1,1-Dichloroethylene	0.839	0.25	mg/kg wet	1.000		84	59-157			
Benzene	0.983	0.25	mg/kg wet	1.000		98	74-123			
Chlorobenzene	0.916	0.25	mg/kg wet	1.000		92	74-121			
Toluene	0.988	0.25	mg/kg wet	1.000		99	74-122			
Trichloroethylene	0.926	0.25	mg/kg wet	1.000		93	68-133			
Surrogate: 4-Bromofluorobenzene	*0.909*		*mg/kg wet*	*1.000*		*91*	*70-130*			
Surrogate: Dibromofluoromethane	*1.07*		*mg/kg wet*	*1.000*		*107*	*70-130*			
Surrogate: Toluene-d8	*0.946*		*mg/kg wet*	*1.000*		*95*	*70-130*			
LCS Dup (P3G0142-BSD1)				Prepared & Analyzed: 07/05/13						
1,1-Dichloroethylene	0.894	0.25	mg/kg wet	1.000		89	59-157	6	20	
Benzene	0.992	0.25	mg/kg wet	1.000		99	74-123	4	20	
Chlorobenzene	0.934	0.25	mg/kg wet	1.000		93	74-121	1	20	
Toluene	0.984	0.25	mg/kg wet	1.000		98	74-122	4	20	
Trichloroethylene	0.920	0.25	mg/kg wet	1.000		92	68-133	3	20	
Surrogate: 4-Bromofluorobenzene	*0.644*		*mg/kg wet*	*0.7500*		*86*	*70-130*			
Surrogate: Dibromofluoromethane	*0.728*		*mg/kg wet*	*0.7500*		*97*	*70-130*			
Surrogate: Toluene-d8	*0.640*		*mg/kg wet*	*0.7500*		*85*	*70-130*			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060664
Time Submitted: 6/28/2013 8:45:00AM

Volatile Organic Compounds by GC/MS (Medium Level) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0142 - 5035										
LCS Dup (P3G0142-BSD2)			Prepared & Analyzed: 07/08/13							
1,1-Dichloroethylene	0.833	0.25	mg/kg wet	1.000		83	59-157	0.7	20	
Benzene	0.948	0.25	mg/kg wet	1.000		95	74-123	4	20	
Chlorobenzene	0.893	0.25	mg/kg wet	1.000		89	74-121	2	20	
Toluene	0.966	0.25	mg/kg wet	1.000		97	74-122	2	20	
Trichloroethylene	0.903	0.25	mg/kg wet	1.000		90	68-133	3	20	
Surrogate: 4-Bromofluorobenzene	*0.898*		*mg/kg wet*	*1.000*		*90*	*70-130*			
Surrogate: Dibromofluoromethane	*1.05*		*mg/kg wet*	*1.000*		*105*	*70-130*			
Surrogate: Toluene-d8	*0.922*		*mg/kg wet*	*1.000*		*92*	*70-130*			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060664
Time Submitted: 6/28/2013 8:45:00AM

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0017 - 3550C MS										
Blank (P3G0017-BLK1)				Prepared & Analyzed: 07/01/13						
1,2,4-Trichlorobenzene	BRL	0.33	mg/kg wet							
1,2-Dichlorobenzene	BRL	0.33	mg/kg wet							
1,3-Dichlorobenzene	BRL	0.33	mg/kg wet							
1,4-Dichlorobenzene	BRL	0.33	mg/kg wet							
1-Methylnaphthalene	BRL	0.33	mg/kg wet							
2,4,6-Trichlorophenol	BRL	0.33	mg/kg wet							
2,4-Dichlorophenol	BRL	0.33	mg/kg wet							
2,4-Dimethylphenol	BRL	0.33	mg/kg wet							
2,4-Dinitrophenol	BRL	0.33	mg/kg wet							
2,4-Dinitrotoluene	BRL	0.33	mg/kg wet							
2,6-Dinitrotoluene	BRL	0.33	mg/kg wet							
2-Chloronaphthalene	BRL	0.33	mg/kg wet							
2-Chlorophenol	BRL	0.33	mg/kg wet							
2-Methylnaphthalene	BRL	0.33	mg/kg wet							
2-Methylphenol	BRL	0.33	mg/kg wet							
2-Nitrophenol	BRL	0.33	mg/kg wet							
3,3'-Dichlorobenzidine	BRL	0.33	mg/kg wet							
3/4-Methylphenol	BRL	0.33	mg/kg wet							
4,6-Dinitro-2-methylphenol	BRL	0.33	mg/kg wet							
4-Bromophenyl phenyl ether	BRL	0.33	mg/kg wet							
4-Chloro-3-methylphenol	BRL	0.33	mg/kg wet							
4-Chloroaniline	BRL	0.33	mg/kg wet							
4-Chlorophenyl phenyl ether	BRL	0.33	mg/kg wet							
4-Nitrophenol	BRL	0.33	mg/kg wet							
Acenaphthene	BRL	0.33	mg/kg wet							
Acenaphthylene	BRL	0.33	mg/kg wet							
Anthracene	BRL	0.33	mg/kg wet							
Azobenzene	BRL	0.33	mg/kg wet							
Benzo(a)anthracene	BRL	0.33	mg/kg wet							
Benzo(a)pyrene	BRL	0.33	mg/kg wet							
Benzo(b)fluoranthene	BRL	0.33	mg/kg wet							
Benzo(g,h,i)perylene	BRL	0.33	mg/kg wet							
Benzo(k)fluoranthene	BRL	0.33	mg/kg wet							
Benzoic Acid	BRL	0.33	mg/kg wet							
Benzyl alcohol	BRL	0.33	mg/kg wet							
bis(2-Chloroethoxy)methane	BRL	0.33	mg/kg wet							
Bis(2-Chloroethyl)ether	BRL	0.33	mg/kg wet							
Bis(2-chloroisopropyl)ether	BRL	0.33	mg/kg wet							
Bis(2-Ethylhexyl)phthalate	BRL	0.33	mg/kg wet							
Butyl benzyl phthalate	BRL	0.33	mg/kg wet							
Chrysene	BRL	0.33	mg/kg wet							
Dibenzo(a,h)anthracene	BRL	0.33	mg/kg wet							
Dibenzofuran	BRL	0.33	mg/kg wet							
Diethyl phthalate	BRL	0.33	mg/kg wet							
Dimethyl phthalate	BRL	0.33	mg/kg wet							
Di-n-butyl phthalate	BRL	0.33	mg/kg wet							

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060664
Time Submitted: 6/28/2013 8:45:00AM

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0017 - 3550C MS										
Blank (P3G0017-BLK1)				Prepared & Analyzed: 07/01/13						
Di-n-octyl phthalate	BRL	0.33	mg/kg wet							
Fluoranthene	BRL	0.33	mg/kg wet							
Fluorene	BRL	0.33	mg/kg wet							
Hexachlorobenzene	BRL	0.33	mg/kg wet							
Hexachlorobutadiene	BRL	0.33	mg/kg wet							
Hexachlorocyclopentadiene	BRL	0.33	mg/kg wet							
Hexachloroethane	BRL	0.33	mg/kg wet							
Indeno(1,2,3-cd)pyrene	BRL	0.33	mg/kg wet							
Isophorone	BRL	0.33	mg/kg wet							
Naphthalene	BRL	0.33	mg/kg wet							
Nitrobenzene	BRL	0.33	mg/kg wet							
N-Nitroso-di-n-propylamine	BRL	0.33	mg/kg wet							
N-Nitrosodiphenylamine	BRL	0.33	mg/kg wet							
Pentachlorophenol	BRL	0.33	mg/kg wet							
Phenanthrene	BRL	0.33	mg/kg wet							
Phenol	BRL	0.33	mg/kg wet							
Pyrene	BRL	0.33	mg/kg wet							
Surrogate: 2,4,6-Tribromophenol	*3.57*		*mg/kg wet*	*3.315*		*108*	*37-131*			
Surrogate: 2-Fluorobiphenyl	*1.54*		*mg/kg wet*	*1.657*		*93*	*47-130*			
Surrogate: 2-Fluorophenol	*2.48*		*mg/kg wet*	*3.315*		*75*	*44-117*			
Surrogate: Nitrobenzene-d5	*1.33*		*mg/kg wet*	*1.657*		*81*	*45-121*			
Surrogate: Phenol-d5	*2.43*		*mg/kg wet*	*3.315*		*73*	*37-127*			
Surrogate: Terphenyl-d14	*1.69*		*mg/kg wet*	*1.657*		*102*	*38-135*			
LCS (P3G0017-BS1)				Prepared & Analyzed: 07/01/13						
1,2,4-Trichlorobenzene	1.25	0.33	mg/kg wet	1.657		76	54-110			
1,2-Dichlorobenzene	1.16	0.33	mg/kg wet	1.657		70	53-107			
1,3-Dichlorobenzene	1.10	0.33	mg/kg wet	1.657		66	52-108			
1,4-Dichlorobenzene	1.16	0.33	mg/kg wet	1.657		70	52-108			
1-Methylnaphthalene	1.45	0.33	mg/kg wet	1.657		88	35-102			
2,4,6-Trichlorophenol	1.54	0.33	mg/kg wet	1.657		93	62-120			
2,4-Dichlorophenol	1.37	0.33	mg/kg wet	1.657		83	58-113			
2,4-Dimethylphenol	1.43	0.33	mg/kg wet	1.657		86	59-110			
2,4-Dinitrophenol	1.87	0.33	mg/kg wet	1.657		113	29-134			
2,4-Dinitrotoluene	1.57	0.33	mg/kg wet	1.657		95	63-137			
2,6-Dinitrotoluene	1.45	0.33	mg/kg wet	1.657		88	59-134			
2-Chloronaphthalene	1.88	0.33	mg/kg wet	1.657		114	41-147			
2-Chlorophenol	1.22	0.33	mg/kg wet	1.657		73	55-108			
2-Methylnaphthalene	1.44	0.33	mg/kg wet	1.657		87	57-116			
2-Methylphenol	1.31	0.33	mg/kg wet	1.657		79	56-111			
2-Nitrophenol	1.30	0.33	mg/kg wet	1.657		79	58-112			
3,3'-Dichlorobenzidine	1.64	0.33	mg/kg wet	1.657		99	51-161			
3/4-Methylphenol	1.52	0.33	mg/kg wet	1.657		92	56-111			
4,6-Dinitro-2-methylphenol	1.54	0.33	mg/kg wet	1.657		93	46-148			
4-Bromophenyl phenyl ether	1.49	0.33	mg/kg wet	1.657		90	58-137			
4-Chloro-3-methylphenol	1.53	0.33	mg/kg wet	1.657		92	60-118			
4-Chloroaniline	1.29	0.33	mg/kg wet	1.657		78	53-144			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060664
Time Submitted: 6/28/2013 8:45:00AM

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0017 - 3550C MS										
LCS (P3G0017-BS1)				Prepared & Analyzed: 07/01/13						
4-Chlorophenyl phenyl ether	1.64	0.33	mg/kg wet	1.657		99	59-131			
4-Nitrophenol	1.63	0.33	mg/kg wet	1.657		98	48-148			
Acenaphthene	1.57	0.33	mg/kg wet	1.657		95	62-118			
Acenaphthylene	1.47	0.33	mg/kg wet	1.657		89	64-116			
Anthracene	1.40	0.33	mg/kg wet	1.657		84	71-132			
Azobenzene	1.61	0.33	mg/kg wet	1.657		97	56-125			
Benzo(a)anthracene	1.47	0.33	mg/kg wet	1.657		89	71-129			
Benzo(a)pyrene	1.75	0.33	mg/kg wet	1.657		106	74-129			
Benzo(b)fluoranthene	1.52	0.33	mg/kg wet	1.657		92	63-138			
Benzo(g,h,i)perylene	1.82	0.33	mg/kg wet	1.657		110	41-154			
Benzo(k)fluoranthene	1.83	0.33	mg/kg wet	1.657		111	62-145			
Benzoic Acid	0.543	0.33	mg/kg wet	1.657		33	10-83			
Benzyl alcohol	1.50	0.33	mg/kg wet	1.657		91	55-112			
bis(2-Chloroethoxy)methane	1.37	0.33	mg/kg wet	1.657		83	52-118			
Bis(2-Chloroethyl)ether	1.16	0.33	mg/kg wet	1.657		70	50-116			
Bis(2-chloroisopropyl)ether	1.20	0.33	mg/kg wet	1.657		72	48-119			
Bis(2-Ethylhexyl)phthalate	1.45	0.33	mg/kg wet	1.657		87	62-135			
Butyl benzyl phthalate	1.48	0.33	mg/kg wet	1.657		89	62-133			
Chrysene	1.39	0.33	mg/kg wet	1.657		84	72-129			
Dibenzo(a,h)anthracene	1.86	0.33	mg/kg wet	1.657		112	41-158			
Dibenzofuran	1.45	0.33	mg/kg wet	1.657		88	64-115			
Diethyl phthalate	1.45	0.33	mg/kg wet	1.657		87	73-120			
Dimethyl phthalate	1.31	0.33	mg/kg wet	1.657		79	71-115			
Di-n-butyl phthalate	1.63	0.33	mg/kg wet	1.657		98	68-127			
Di-n-octyl phthalate	1.66	0.33	mg/kg wet	1.657		100	53-150			
Fluoranthene	1.48	0.33	mg/kg wet	1.657		89	64-136			
Fluorene	1.51	0.33	mg/kg wet	1.657		91	67-120			
Hexachlorobenzene	1.50	0.33	mg/kg wet	1.657		90	63-134			
Hexachlorobutadiene	1.29	0.33	mg/kg wet	1.657		78	55-112			
Hexachlorocyclopentadiene	1.16	0.33	mg/kg wet	1.657		70	43-135			
Hexachloroethane	1.22	0.33	mg/kg wet	1.657		74	49-113			
Indeno(1,2,3-cd)pyrene	1.66	0.33	mg/kg wet	1.657		100	40-160			
Isophorone	1.31	0.33	mg/kg wet	1.657		79	55-118			
Naphthalene	1.35	0.33	mg/kg wet	1.657		82	62-111			
Nitrobenzene	1.42	0.33	mg/kg wet	1.657		86	50-116			
N-Nitroso-di-n-propylamine	1.48	0.33	mg/kg wet	1.657		90	53-113			
N-Nitrosodiphenylamine	1.32	0.33	mg/kg wet	1.657		79	76-144			
Pentachlorophenol	1.53	0.33	mg/kg wet	1.657		92	36-145			
Phenanthrene	1.50	0.33	mg/kg wet	1.657		91	72-123			
Phenol	1.22	0.33	mg/kg wet	1.657		74	56-108			
Pyrene	1.37	0.33	mg/kg wet	1.657		83	51-141			
Surrogate: 2,4,6-Tribromophenol	*3.33*		*mg/kg wet*	*3.313*		*101*	*37-131*			
Surrogate: 2-Fluorobiphenyl	*1.45*		*mg/kg wet*	*1.657*		*88*	*47-130*			
Surrogate: 2-Fluorophenol	*2.36*		*mg/kg wet*	*3.313*		*71*	*44-117*			
Surrogate: Nitrobenzene-d5	*1.33*		*mg/kg wet*	*1.657*		*81*	*45-121*			
Surrogate: Phenol-d5	*2.47*		*mg/kg wet*	*3.313*		*75*	*37-127*			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060664
Time Submitted: 6/28/2013 8:45:00AM

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0017 - 3550C MS										
LCS (P3G0017-BS1)				Prepared & Analyzed: 07/01/13						
Surrogate: Terphenyl-d14	*1.33*		*mg/kg wet*	*1.657*		*80*	*38-135*			
LCS Dup (P3G0017-BSD1)				Prepared & Analyzed: 07/01/13						
1,2,4-Trichlorobenzene	1.27	0.33	mg/kg wet	1.663		76	54-110	1	200	
1,2-Dichlorobenzene	1.19	0.33	mg/kg wet	1.663		72	53-107	3	200	
1,3-Dichlorobenzene	1.15	0.33	mg/kg wet	1.663		69	52-108	4	200	
1,4-Dichlorobenzene	1.20	0.33	mg/kg wet	1.663		72	52-108	4	200	
1-Methylnaphthalene	1.35	0.33	mg/kg wet	1.663		81	35-102	7	200	
2,4,6-Trichlorophenol	1.55	0.33	mg/kg wet	1.663		93	62-120	0.8	200	
2,4-Dichlorophenol	1.34	0.33	mg/kg wet	1.663		80	58-113	3	200	
2,4-Dimethylphenol	1.39	0.33	mg/kg wet	1.663		84	59-110	2	200	
2,4-Dinitrophenol	1.46	0.33	mg/kg wet	1.663		88	29-134	25	200	
2,4-Dinitrotoluene	1.29	0.33	mg/kg wet	1.663		77	63-137	20	200	
2,6-Dinitrotoluene	1.33	0.33	mg/kg wet	1.663		80	59-134	9	200	
2-Chloronaphthalene	1.83	0.33	mg/kg wet	1.663		110	41-147	3	200	
2-Chlorophenol	1.20	0.33	mg/kg wet	1.663		72	55-108	1	200	
2-Methylnaphthalene	1.35	0.33	mg/kg wet	1.663		81	57-116	7	200	
2-Methylphenol	1.29	0.33	mg/kg wet	1.663		78	56-111	1	200	
2-Nitrophenol	1.24	0.33	mg/kg wet	1.663		74	58-112	5	200	
3,3'-Dichlorobenzidine	1.85	0.33	mg/kg wet	1.663		111	51-161	12	200	
3/4-Methylphenol	1.48	0.33	mg/kg wet	1.663		89	56-111	3	200	
4,6-Dinitro-2-methylphenol	1.37	0.33	mg/kg wet	1.663		82	46-148	12	200	
4-Bromophenyl phenyl ether	1.42	0.33	mg/kg wet	1.663		85	58-137	5	200	
4-Chloro-3-methylphenol	1.44	0.33	mg/kg wet	1.663		87	60-118	6	200	
4-Chloroaniline	1.24	0.33	mg/kg wet	1.663		75	53-144	4	200	
4-Chlorophenyl phenyl ether	1.38	0.33	mg/kg wet	1.663		83	59-131	17	200	
4-Nitrophenol	1.41	0.33	mg/kg wet	1.663		85	48-148	14	200	
Acenaphthene	1.31	0.33	mg/kg wet	1.663		79	62-118	18	200	
Acenaphthylene	1.44	0.33	mg/kg wet	1.663		87	64-116	2	200	
Anthracene	1.58	0.33	mg/kg wet	1.663		95	71-132	12	200	
Azobenzene	1.69	0.33	mg/kg wet	1.663		101	56-125	4	200	
Benzo(a)anthracene	1.53	0.33	mg/kg wet	1.663		92	71-129	4	200	
Benzo(a)pyrene	1.74	0.33	mg/kg wet	1.663		105	74-129	0.6	200	
Benzo(b)fluoranthene	1.48	0.33	mg/kg wet	1.663		89	63-138	3	200	
Benzo(g,h,i)perylene	1.86	0.33	mg/kg wet	1.663		112	41-154	2	200	
Benzo(k)fluoranthene	1.84	0.33	mg/kg wet	1.663		111	62-145	0.4	200	
Benzoic Acid	0.238	0.33	mg/kg wet	1.663		14	10-83	78	200	J
Benzyl alcohol	1.43	0.33	mg/kg wet	1.663		86	55-112	5	200	
bis(2-Chloroethoxy)methane	1.33	0.33	mg/kg wet	1.663		80	52-118	3	200	
Bis(2-Chloroethyl)ether	1.18	0.33	mg/kg wet	1.663		71	50-116	2	200	
Bis(2-chloroisopropyl)ether	1.08	0.33	mg/kg wet	1.663		65	48-119	10	200	
Bis(2-Ethylhexyl)phthalate	1.46	0.33	mg/kg wet	1.663		88	62-135	1	200	
Butyl benzyl phthalate	1.47	0.33	mg/kg wet	1.663		88	62-133	0.7	200	
Chrysene	1.67	0.33	mg/kg wet	1.663		101	72-129	19	200	
Dibenzo(a,h)anthracene	2.00	0.33	mg/kg wet	1.663		121	41-158	7	200	
Dibenzofuran	1.43	0.33	mg/kg wet	1.663		86	64-115	1	200	
Diethyl phthalate	1.33	0.33	mg/kg wet	1.663		80	73-120	8	200	

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060664
Time Submitted: 6/28/2013 8:45:00AM

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0017 - 3550C MS										
LCS Dup (P3G0017-BSD1)				Prepared & Analyzed: 07/01/13						
Dimethyl phthalate	1.29	0.33	mg/kg wet	1.663		78	71-115	2	200	
Di-n-butyl phthalate	1.54	0.33	mg/kg wet	1.663		93	68-127	6	200	
Di-n-octyl phthalate	1.51	0.33	mg/kg wet	1.663		91	53-150	10	200	
Fluoranthene	1.44	0.33	mg/kg wet	1.663		87	64-136	3	200	
Fluorene	1.45	0.33	mg/kg wet	1.663		87	67-120	4	200	
Hexachlorobenzene	1.56	0.33	mg/kg wet	1.663		94	63-134	4	200	
Hexachlorobutadiene	1.31	0.33	mg/kg wet	1.663		79	55-112	2	200	
Hexachlorocyclopentadiene	1.21	0.33	mg/kg wet	1.663		73	43-135	5	200	
Hexachloroethane	1.24	0.33	mg/kg wet	1.663		74	49-113	2	200	
Indeno(1,2,3-cd)pyrene	1.71	0.33	mg/kg wet	1.663		103	40-160	3	200	
Isophorone	1.55	0.33	mg/kg wet	1.663		93	55-118	17	200	
Naphthalene	1.34	0.33	mg/kg wet	1.663		81	62-111	0.9	200	
Nitrobenzene	1.40	0.33	mg/kg wet	1.663		84	50-116	2	200	
N-Nitroso-di-n-propylamine	1.36	0.33	mg/kg wet	1.663		82	53-113	9	200	
N-Nitrosodiphenylamine	1.41	0.33	mg/kg wet	1.663		85	76-144	7	200	
Pentachlorophenol	1.60	0.33	mg/kg wet	1.663		96	36-145	5	200	
Phenanthrene	1.46	0.33	mg/kg wet	1.663		88	72-123	3	200	
Phenol	1.21	0.33	mg/kg wet	1.663		73	56-108	0.6	200	
Pyrene	1.39	0.33	mg/kg wet	1.663		84	51-141	1	200	
Surrogate: 2,4,6-Tribromophenol	*3.08*		*mg/kg wet*	*3.327*		*93*	*37-131*			
Surrogate: 2-Fluorobiphenyl	*1.17*		*mg/kg wet*	*1.663*		*71*	*47-130*			
Surrogate: 2-Fluorophenol	*2.39*		*mg/kg wet*	*3.327*		*72*	*44-117*			
Surrogate: Nitrobenzene-d5	*1.32*		*mg/kg wet*	*1.663*		*79*	*45-121*			
Surrogate: Phenol-d5	*2.44*		*mg/kg wet*	*3.327*		*73*	*37-127*			
Surrogate: Terphenyl-d14	*1.43*		*mg/kg wet*	*1.663*		*86*	*38-135*			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060664
Time Submitted: 6/28/2013 8:45:00AM

Organochlorine Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0117 - 3550C GC										
Blank (P3G0117-BLK1)				Prepared: 07/05/13 Analyzed: 07/19/13						
4,4'-DDD	BRL	2.0	ug/kg wet							
4,4'-DDE	BRL	2.0	ug/kg wet							
4,4'-DDT	BRL	3.0	ug/kg wet							
Aldrin	BRL	2.0	ug/kg wet							
alpha-BHC	BRL	2.0	ug/kg wet							
cis-Chlordane	BRL	2.0	ug/kg wet							
beta-BHC	BRL	2.0	ug/kg wet							
Chlordane	BRL	50	ug/kg wet							
delta-BHC	BRL	2.0	ug/kg wet							
Dieldrin	BRL	2.0	ug/kg wet							
Endosulfan I	BRL	2.0	ug/kg wet							
Endosulfan II	BRL	2.0	ug/kg wet							
Endosulfan Sulfate	BRL	2.0	ug/kg wet							
Endrin	BRL	2.0	ug/kg wet							
Endrin Aldehyde	BRL	2.0	ug/kg wet							
Endrin Ketone	BRL	2.0	ug/kg wet							
gamma-BHC	BRL	2.0	ug/kg wet							
trans-Chlordane	BRL	2.0	ug/kg wet							
Heptachlor	BRL	2.0	ug/kg wet							
Heptachlor Epoxide	BRL	2.0	ug/kg wet							
Methoxychlor	BRL	2.0	ug/kg wet							
Toxaphene	BRL	50	ug/kg wet							
Surrogate: Decachlorobiphenyl	*42.7*		*ug/kg wet*	*33.32*		*128*	*26-204*			
Surrogate: Tetrachloro-m-xylene	*36.0*		*ug/kg wet*	*33.32*		*108*	*40-162*			
LCS (P3G0117-BS1)				Prepared: 07/05/13 Analyzed: 07/19/13						
4,4'-DDD	39.3	2.0	ug/kg wet	33.31		118	72-142			
4,4'-DDE	37.3	2.0	ug/kg wet	33.31		112	74-129			
4,4'-DDT	38.3	3.0	ug/kg wet	33.31		115	75-141			
Aldrin	36.6	2.0	ug/kg wet	33.31		110	66-132			
alpha-BHC	34.3	2.0	ug/kg wet	33.31		103	72-126			
cis-Chlordane	34.0	2.0	ug/kg wet	33.31		102	71-132			
beta-BHC	29.0	2.0	ug/kg wet	33.31		87	79-134			
delta-BHC	32.6	2.0	ug/kg wet	33.31		98	74-132			
Dieldrin	39.6	2.0	ug/kg wet	33.31		119	72-136			
Endosulfan I	35.6	2.0	ug/kg wet	33.31		107	74-134			
Endosulfan II	35.6	2.0	ug/kg wet	33.31		107	79-134			
Endosulfan Sulfate	31.6	2.0	ug/kg wet	33.31		95	73-147			
Endrin	47.6	2.0	ug/kg wet	33.31		143	74-147			
Endrin Aldehyde	29.6	2.0	ug/kg wet	33.31		89	73-138			
Endrin Ketone	32.3	2.0	ug/kg wet	33.31		97	84-135			
gamma-BHC	34.0	2.0	ug/kg wet	33.31		102	71-129			
trans-Chlordane	33.6	2.0	ug/kg wet	33.31		101	71-132			
Heptachlor	37.6	2.0	ug/kg wet	33.31		113	72-134			
Heptachlor Epoxide	36.6	2.0	ug/kg wet	33.31		110	73-132			
Methoxychlor	44.3	2.0	ug/kg wet	33.31		133	91-138			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060664
Time Submitted: 6/28/2013 8:45:00AM

Organochlorine Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0117 - 3550C GC										
LCS (P3G0117-BS1)				Prepared: 07/05/13 Analyzed: 07/19/13						
Surrogate: Decachlorobiphenyl	*32.6*		*ug/kg wet*	*33.31*		*98*	*26-204*			
Surrogate: Tetrachloro-m-xylene	*28.6*		*ug/kg wet*	*33.31*		*86*	*40-162*			
LCS (P3G0117-BS2)				Prepared: 07/05/13 Analyzed: 07/18/13						
Chlordane	320	50	ug/kg wet	332.2		96	50-150			
Surrogate: Decachlorobiphenyl	*40.9*		*ug/kg wet*	*33.22*		*123*	*26-204*			
Surrogate: Tetrachloro-m-xylene	*33.9*		*ug/kg wet*	*33.22*		*102*	*40-162*			
LCS (P3G0117-BS3)				Prepared: 07/05/13 Analyzed: 07/18/13						
Toxaphene	321	50	ug/kg wet	332.8		96	50-150			
Surrogate: Decachlorobiphenyl	*34.6*		*ug/kg wet*	*33.28*		*104*	*26-204*			
Surrogate: Tetrachloro-m-xylene	*26.3*		*ug/kg wet*	*33.28*		*79*	*40-162*			
LCS Dup (P3G0117-BSD1)				Prepared: 07/05/13 Analyzed: 07/19/13						
4,4'-DDD	47.0	2.0	ug/kg wet	33.30		141	72-142	18	20	
4,4'-DDE	44.0	2.0	ug/kg wet	33.30		132	74-129	16	20	L2
4,4'-DDT	47.0	3.0	ug/kg wet	33.30		141	75-141	20	20	
Aldrin	40.3	2.0	ug/kg wet	33.30		121	66-132	9	20	
alpha-BHC	35.6	2.0	ug/kg wet	33.30		107	72-126	4	20	
cis-Chlordane	37.6	2.0	ug/kg wet	33.30		113	71-132	10	20	
beta-BHC	31.6	2.0	ug/kg wet	33.30		95	79-134	9	20	
delta-BHC	36.3	2.0	ug/kg wet	33.30		109	74-132	11	20	
Dieldrin	45.6	2.0	ug/kg wet	33.30		137	72-136	14	20	L2
Endosulfan I	40.0	2.0	ug/kg wet	33.30		120	74-134	11	20	
Endosulfan II	41.0	2.0	ug/kg wet	33.30		123	79-134	14	20	
Endosulfan Sulfate	38.3	2.0	ug/kg wet	33.30		115	73-147	19	20	
Endrin	55.3	2.0	ug/kg wet	33.30		166	74-147	15	20	L2
Endrin Aldehyde	34.6	2.0	ug/kg wet	33.30		104	73-138	16	20	
Endrin Ketone	39.0	2.0	ug/kg wet	33.30		117	84-135	19	20	
gamma-BHC	36.0	2.0	ug/kg wet	33.30		108	71-129	6	20	
trans-Chlordane	37.6	2.0	ug/kg wet	33.30		113	71-132	11	20	
Heptachlor	41.0	2.0	ug/kg wet	33.30		123	72-134	8	20	
Heptachlor Epoxide	40.3	2.0	ug/kg wet	33.30		121	73-132	9	20	
Methoxychlor	55.6	2.0	ug/kg wet	33.30		167	91-138	23	20	L2
Surrogate: Decachlorobiphenyl	*39.0*		*ug/kg wet*	*33.30*		*117*	*26-204*			
Surrogate: Tetrachloro-m-xylene	*30.0*		*ug/kg wet*	*33.30*		*90*	*40-162*			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060664
Time Submitted: 6/28/2013 8:45:00AM

Organochlorine Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0117 - 3550C GC										
Matrix Spike (P3G0117-MS1)	**Source: 3060664-10**			Prepared: 07/05/13 Analyzed: 07/19/13						
4,4'-DDD	35.3	2.5	ug/kg dry	41.09	BRL	86	57-152			
4,4'-DDE	34.1	2.5	ug/kg dry	41.09	BRL	83	61-143			
4,4'-DDT	39.9	3.7	ug/kg dry	41.09	BRL	97	56-163			
Aldrin	38.6	2.5	ug/kg dry	41.09	BRL	94	57-137			
alpha-BHC	38.2	2.5	ug/kg dry	41.09	BRL	93	62-134			
cis-Chlordane	33.3	2.5	ug/kg dry	41.09	BRL	81	59-138			
beta-BHC	32.1	2.5	ug/kg dry	41.09	BRL	78	67-144			
delta-BHC	35.8	2.5	ug/kg dry	41.09	BRL	87	70-138			
Dieldrin	39.0	2.5	ug/kg dry	41.09	BRL	95	60-141			
Endosulfan I	34.9	2.5	ug/kg dry	41.09	BRL	85	66-137			
Endosulfan II	33.3	2.5	ug/kg dry	41.09	BRL	81	70-141			
Endosulfan Sulfate	32.5	2.5	ug/kg dry	41.09	BRL	79	65-153			
Endrin	47.3	2.5	ug/kg dry	41.09	BRL	115	65-164			
Endrin Aldehyde	30.4	2.5	ug/kg dry	41.09	BRL	74	63-147			
Endrin Ketone	30.8	2.5	ug/kg dry	41.09	BRL	75	65-152			
gamma-BHC	37.8	2.5	ug/kg dry	41.09	BRL	92	62-137			
trans-Chlordane	33.3	2.5	ug/kg dry	41.09	BRL	81	59-139			
Heptachlor	39.9	2.5	ug/kg dry	41.09	BRL	97	63-142			
Heptachlor Epoxide	37.4	2.5	ug/kg dry	41.09	BRL	91	63-136			
Methoxychlor	38.6	2.5	ug/kg dry	41.09	BRL	94	60-179			
Surrogate: Decachlorobiphenyl	*30.8*		*ug/kg dry*	*41.09*		*75*	*26-204*			
Surrogate: Tetrachloro-m-xylene	*31.6*		*ug/kg dry*	*41.09*		*77*	*40-162*			
Matrix Spike Dup (P3G0117-MSD1)	**Source: 3060664-10**			Prepared: 07/05/13 Analyzed: 07/19/13						
4,4'-DDD	30.1	2.5	ug/kg dry	41.18	BRL	73	57-152	16	29	
4,4'-DDE	28.0	2.5	ug/kg dry	41.18	BRL	68	61-143	20	36	
4,4'-DDT	34.6	3.7	ug/kg dry	41.18	BRL	84	56-163	14	38	
Aldrin	31.7	2.5	ug/kg dry	41.18	BRL	77	57-137	20	29	
alpha-BHC	31.7	2.5	ug/kg dry	41.18	BRL	77	62-134	19	24	
cis-Chlordane	28.0	2.5	ug/kg dry	41.18	BRL	68	59-138	17	25	
beta-BHC	27.2	2.5	ug/kg dry	41.18	BRL	66	67-144	16	17	M
delta-BHC	30.1	2.5	ug/kg dry	41.18	BRL	73	70-138	17	18	
Dieldrin	32.5	2.5	ug/kg dry	41.18	BRL	79	60-141	18	30	
Endosulfan I	29.2	2.5	ug/kg dry	41.18	BRL	71	66-137	18	32	
Endosulfan II	28.4	2.5	ug/kg dry	41.18	BRL	69	70-141	16	20	M
Endosulfan Sulfate	28.8	2.5	ug/kg dry	41.18	BRL	70	65-153	12	24	
Endrin	39.1	2.5	ug/kg dry	41.18	BRL	95	65-164	19	21	
Endrin Aldehyde	27.2	2.5	ug/kg dry	41.18	BRL	66	63-147	11	35	
Endrin Ketone	26.8	2.5	ug/kg dry	41.18	BRL	65	65-152	14	18	
gamma-BHC	31.7	2.5	ug/kg dry	41.18	BRL	77	62-137	18	22	
trans-Chlordane	27.6	2.5	ug/kg dry	41.18	BRL	67	59-139	19	27	
Heptachlor	32.9	2.5	ug/kg dry	41.18	BRL	80	63-142	19	27	
Heptachlor Epoxide	31.3	2.5	ug/kg dry	41.18	BRL	76	63-136	18	18	
Methoxychlor	34.2	2.5	ug/kg dry	41.18	BRL	83	60-179	12	30	
Surrogate: Decachlorobiphenyl	*27.6*		*ug/kg dry*	*41.18*		*67*	*26-204*			
Surrogate: Tetrachloro-m-xylene	*27.2*		*ug/kg dry*	*41.18*		*66*	*40-162*			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060664
Time Submitted: 6/28/2013 8:45:00AM

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0042 - 7471B										
Blank (P3G0042-BLK1)				Prepared & Analyzed: 07/02/13						
Mercury	BRL	0.020	mg/kg wet							
LCS (P3G0042-BS1)				Prepared & Analyzed: 07/02/13						
Mercury	0.444	0.020	mg/kg wet	0.4167		107	80-120			
Matrix Spike (P3G0042-MS1)		**Source: 3060664-02**		Prepared & Analyzed: 07/02/13						
Mercury	0.515	0.022	mg/kg dry	0.4655	0.0128	108	80-120			
Matrix Spike Dup (P3G0042-MSD1)		**Source: 3060664-02**		Prepared & Analyzed: 07/02/13						
Mercury	0.513	0.022	mg/kg dry	0.4655	0.0128	107	80-120	0.4	20	
Batch P3G0052 - 3050B										
Blank (P3G0052-BLK1)				Prepared: 07/02/13 Analyzed: 07/11/13						
Antimony	BRL	0.25	mg/kg wet							
Arsenic	BRL	0.25	mg/kg wet							
Beryllium	BRL	0.25	mg/kg wet							
Cadmium	BRL	0.25	mg/kg wet							
Chromium	BRL	0.25	mg/kg wet							
Copper	BRL	0.51	mg/kg wet							
Lead	BRL	0.25	mg/kg wet							
Nickel	BRL	1.0	mg/kg wet							
Selenium	BRL	0.51	mg/kg wet							
Silver	BRL	0.25	mg/kg wet							
Thallium	BRL	0.51	mg/kg wet							
Zinc	BRL	2.5	mg/kg wet							

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060664
Time Submitted: 6/28/2013 8:45:00AM

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0052 - 3050B										
LCS (P3G0052-BS1)				Prepared: 07/02/13 Analyzed: 07/11/13						
Antimony	22.1	0.25	mg/kg wet	25.13		88	80-120			
Arsenic	22.4	0.25	mg/kg wet	25.13		89	80-120			
Beryllium	22.7	0.25	mg/kg wet	25.13		90	80-120			
Cadmium	22.2	0.25	mg/kg wet	25.13		89	80-120			
Chromium	22.9	0.25	mg/kg wet	25.13		91	80-120			
Copper	24.3	0.50	mg/kg wet	25.13		97	80-120			
Lead	22.5	0.25	mg/kg wet	25.13		90	80-120			
Nickel	23.0	1.0	mg/kg wet	25.13		92	80-120			
Selenium	21.7	0.50	mg/kg wet	25.13		86	80-120			
Silver	22.9	0.25	mg/kg wet	25.13		91	80-120			
Thallium	22.1	0.50	mg/kg wet	25.13		88	80-120			
Zinc	22.2	2.5	mg/kg wet	25.13		88	80-120			
Matrix Spike (P3G0052-MS1)		**Source: 3060664-02**		Prepared: 07/02/13 Analyzed: 07/11/13						
Antimony	14.0	0.29	mg/kg dry	28.65	0.110	48	75-125			MI
Arsenic	25.2	0.29	mg/kg dry	28.65	3.15	77	75-125			
Beryllium	23.2	0.29	mg/kg dry	28.65	0.266	80	75-125			
Cadmium	21.2	0.29	mg/kg dry	28.65	0.412	73	75-125			MI
Chromium	31.6	0.29	mg/kg dry	28.65	7.78	83	75-125			
Copper	30.4	0.57	mg/kg dry	28.65	7.18	81	75-125			
Lead	47.2	0.29	mg/kg dry	28.65	29.9	61	75-125			MI
Nickel	23.5	1.1	mg/kg dry	28.65	2.68	73	75-125			MI
Selenium	21.4	0.57	mg/kg dry	28.65	BRL	75	75-125			
Silver	24.8	0.29	mg/kg dry	28.65	BRL	87	75-125			
Thallium	20.6	0.57	mg/kg dry	28.65	BRL	72	75-125			MI
Zinc	124	2.9	mg/kg dry	28.65	137	NR	75-125			MI
Matrix Spike Dup (P3G0052-MSD1)		**Source: 3060664-02**		Prepared: 07/02/13 Analyzed: 07/11/13						
Antimony	11.1	0.27	mg/kg dry	27.25	0.110	40	75-125	23	20	MI
Arsenic	23.6	0.27	mg/kg dry	27.25	3.15	75	75-125	7	20	
Beryllium	21.8	0.27	mg/kg dry	27.25	0.266	79	75-125	6	20	
Cadmium	19.8	0.27	mg/kg dry	27.25	0.412	71	75-125	7	20	MI
Chromium	32.5	0.27	mg/kg dry	27.25	7.78	91	75-125	3	20	
Copper	29.0	0.55	mg/kg dry	27.25	7.18	80	75-125	5	20	
Lead	48.2	0.27	mg/kg dry	27.25	29.9	67	75-125	2	20	MI
Nickel	22.9	1.1	mg/kg dry	27.25	2.68	74	75-125	3	20	MI
Selenium	19.6	0.55	mg/kg dry	27.25	BRL	72	75-125	9	20	MI
Silver	23.5	0.27	mg/kg dry	27.25	BRL	86	75-125	5	20	
Thallium	19.2	0.55	mg/kg dry	27.25	BRL	70	75-125	7	20	MI
Zinc	125	2.7	mg/kg dry	27.25	137	NR	75-125	0.05	20	MI

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060664
Time Submitted: 6/28/2013 8:45:00AM

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0110 - Default Prep GenChem										
Blank (P3G0110-BLK1)				Prepared & Analyzed: 07/04/13						
Nitrate as N	BRL	2.0	mg/kg wet							
LCS (P3G0110-BS1)				Prepared & Analyzed: 07/04/13						
Nitrate as N	106	2.0	mg/kg wet	100.0		106	80-120			
Matrix Spike (P3G0110-MS1)	**Source: 3060664-17**			Prepared & Analyzed: 07/04/13						
Nitrate as N	143	2.2	mg/kg dry	109.7	16.5	115	80-120			
Matrix Spike Dup (P3G0110-MSD1)	**Source: 3060664-17**			Prepared & Analyzed: 07/04/13						
Nitrate as N	143	2.2	mg/kg dry	110.0	16.5	115	80-120	0.05	15	

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060664
Time Submitted: 6/28/2013 8:45:00AM

General Chemistry Parameters - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0007 - SM4500-PB5										
Blank (P3G0007-BLK1)				Prepared: 07/01/13 Analyzed: 07/02/13						
Phosphorus-Total	BRL	2.5	mg/kg wet							
LCS (P3G0007-BS1)				Prepared: 07/01/13 Analyzed: 07/02/13						
Phosphorus-Total	98.2	2.5	mg/kg wet	100.0		98	90-110			
Matrix Spike (P3G0007-MS1)		**Source: 3060664-02**		Prepared: 07/01/13 Analyzed: 07/02/13						
Phosphorus-Total	1050	56	mg/kg dry	111.7	769	248	80-120			MC
Matrix Spike Dup (P3G0007-MSD1)		**Source: 3060664-02**		Prepared: 07/01/13 Analyzed: 07/02/13						
Phosphorus-Total	1050	56	mg/kg dry	111.7	769	254	80-120	0.6	20	MC
Batch P3G0067 - Default Prep Metals										
Blank (P3G0067-BLK1)				Prepared & Analyzed: 07/02/13						
% Solids	100	0.100	% by Weight							
Duplicate (P3G0067-DUP2)		**Source: 3060664-12**		Prepared & Analyzed: 07/02/13						
% Solids	88.4	0.100	% by Weight		88.2			0.2	20	
Duplicate (P3G0067-DUP3)		**Source: 3060664-17**		Prepared & Analyzed: 07/02/13						
% Solids	90.2	0.100	% by Weight		90.4			0.2	20	

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Sample Extraction Data

Prep Method: Default Prep GenChem

Lab Number	Batch	Initial	Final	Date/Time
3060664-02	P3G0110	5.01 g	50 mL	07/04/13 18:39
3060664-03	P3G0110	5 g	50 mL	07/04/13 18:52
3060664-05	P3G0110	5.03 g	50 mL	07/04/13 19:05
3060664-07	P3G0110	5 g	50 mL	07/05/13 10:19
3060664-09	P3G0110	5.05 g	50 mL	07/04/13 19:32
3060664-10	P3G0110	5.03 g	50 mL	07/04/13 19:46
3060664-13	P3G0110	5.06 g	50 mL	07/05/13 10:35
3060664-14	P3G0110	5.04 g	50 mL	07/05/13 10:48
3060664-16	P3G0110	5.02 g	50 mL	07/05/13 11:02
3060664-17	P3G0110	5.04 g	50 mL	07/04/13 20:40

Prep Method: Default Prep Metals

Lab Number	Batch	Initial	Final	Date/Time
3060664-01	P3G0067	30 g	30 mL	07/02/13 15:15
3060664-02	P3G0067	30 g	30 mL	07/02/13 15:15
3060664-03	P3G0067	30 g	30 mL	07/02/13 15:15
3060664-04	P3G0067	30 g	30 mL	07/02/13 15:15
3060664-05	P3G0067	30 g	30 mL	07/02/13 15:15
3060664-06	P3G0067	30 g	30 mL	07/02/13 15:15
3060664-07	P3G0067	30 g	30 mL	07/02/13 15:15
3060664-08	P3G0067	30 g	30 mL	07/02/13 15:15
3060664-09	P3G0067	30 g	30 mL	07/02/13 15:15
3060664-10	P3G0067	30 g	30 mL	07/02/13 15:15
3060664-11	P3G0067	30 g	30 mL	07/02/13 15:15
3060664-12	P3G0067	30 g	30 mL	07/02/13 15:15
3060664-13	P3G0067	30 g	30 mL	07/02/13 15:15
3060664-14	P3G0067	30 g	30 mL	07/02/13 15:15
3060664-15	P3G0067	30 g	30 mL	07/02/13 15:15
3060664-16	P3G0067	30 g	30 mL	07/02/13 15:15
3060664-17	P3G0067	30 g	30 mL	07/02/13 15:15

Prep Method: SM4500-PB5

Lab Number	Batch	Initial	Final	Date/Time
3060664-02	P3G0007	1 g	50 mL	07/01/13 11:05
3060664-03	P3G0007	1 g	50 mL	07/01/13 11:05
3060664-05	P3G0007	1 g	50 mL	07/01/13 11:05
3060664-07	P3G0007	1 g	50 mL	07/01/13 11:05
3060664-09	P3G0007	1 g	50 mL	07/01/13 11:05
3060664-10	P3G0007	1 g	50 mL	07/01/13 11:05
3060664-13	P3G0007	1 g	50 mL	07/01/13 11:05
3060664-14	P3G0007	1 g	50 mL	07/01/13 11:05
3060664-16	P3G0007	1 g	50 mL	07/01/13 11:05
3060664-17	P3G0007	1 g	50 mL	07/01/13 11:05

Prep Method: 3550C GC

Lab Number	Batch	Initial	Final	Date/Time
3060664-02	P3G0117	30.06 g	10 mL	07/05/13 9:30
3060664-02	P3G0117	30.06 g	10 mL	07/05/13 9:30
3060664-02	P3G0117	30.06 g	10 mL	07/05/13 9:30
3060664-03	P3G0117	30.07 g	10 mL	07/05/13 9:30
3060664-03	P3G0117	30.07 g	10 mL	07/05/13 9:30
3060664-05	P3G0117	30.17 g	10 mL	07/05/13 9:30
3060664-05	P3G0117	30.17 g	10 mL	07/05/13 9:30
3060664-05	P3G0117	30.17 g	10 mL	07/05/13 9:30

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Sample Extraction Data

Prep Method: 3550C GC

Lab Number	Batch	Initial	Final	Date/Time
3060664-07	P3G0117	30 g	10 mL	07/05/13 9:30
3060664-07	P3G0117	30 g	10 mL	07/05/13 9:30
3060664-07	P3G0117	30 g	10 mL	07/05/13 9:30
3060664-09	P3G0117	30.09 g	10 mL	07/05/13 9:30
3060664-09	P3G0117	30.09 g	10 mL	07/05/13 9:30
3060664-10	P3G0117	30.11 g	10 mL	07/05/13 9:30
3060664-10	P3G0117	30.11 g	10 mL	07/05/13 9:30
3060664-13	P3G0117	30.08 g	10 mL	07/05/13 9:30
3060664-13	P3G0117	30.08 g	10 mL	07/05/13 9:30
3060664-14	P3G0117	30.16 g	10 mL	07/05/13 9:30
3060664-14	P3G0117	30.16 g	10 mL	07/05/13 9:30
3060664-16	P3G0117	30.14 g	10 mL	07/05/13 9:30
3060664-16	P3G0117	30.14 g	10 mL	07/05/13 9:30

Prep Method: 3550C MS

Lab Number	Batch	Initial	Final	Date/Time
3060664-02	P3G0017	30.05 g	1 mL	07/01/13 9:30
3060664-03	P3G0017	30.15 g	1 mL	07/01/13 9:30
3060664-05	P3G0017	29.94 g	1 mL	07/01/13 9:30
3060664-07	P3G0017	30.04 g	1 mL	07/01/13 9:30
3060664-09	P3G0017	30.14 g	1 mL	07/01/13 9:30
3060664-10	P3G0017	29.95 g	1 mL	07/01/13 9:30
3060664-13	P3G0017	30.25 g	1 mL	07/01/13 9:30
3060664-14	P3G0017	30.2 g	1 mL	07/01/13 9:30
3060664-16	P3G0017	30.09 g	1 mL	07/01/13 9:30

Prep Method: 3050B

Lab Number	Batch	Initial	Final	Date/Time
3060664-02	P3G0052	1.98 g	50 mL	07/02/13 9:30
3060664-02	P3G0052	1.98 g	50 mL	07/02/13 9:30
3060664-03	P3G0052	2 g	50 mL	07/02/13 9:30
3060664-03	P3G0052	2 g	50 mL	07/02/13 9:30
3060664-05	P3G0052	1.98 g	50 mL	07/02/13 9:30
3060664-05	P3G0052	1.98 g	50 mL	07/02/13 9:30
3060664-07	P3G0052	1.97 g	50 mL	07/02/13 9:30
3060664-07	P3G0052	1.97 g	50 mL	07/02/13 9:30
3060664-09	P3G0052	2.05 g	50 mL	07/02/13 9:30
3060664-09	P3G0052	2.05 g	50 mL	07/02/13 9:30
3060664-10	P3G0052	1.98 g	50 mL	07/02/13 9:30
3060664-10	P3G0052	1.98 g	50 mL	07/02/13 9:30
3060664-13	P3G0052	1.95 g	50 mL	07/02/13 9:30
3060664-13	P3G0052	1.95 g	50 mL	07/02/13 9:30
3060664-14	P3G0052	2.05 g	50 mL	07/02/13 9:30
3060664-14	P3G0052	2.05 g	50 mL	07/02/13 9:30
3060664-16	P3G0052	1.95 g	50 mL	07/02/13 9:30
3060664-16	P3G0052	1.95 g	50 mL	07/02/13 9:30
3060664-17	P3G0052	1.96 g	50 mL	07/02/13 9:30
3060664-17	P3G0052	1.96 g	50 mL	07/02/13 9:30

Prep Method: 7471B

Lab Number	Batch	Initial	Final	Date/Time
3060664-02	P3G0042	0.6 g	50 mL	07/02/13 11:36
3060664-03	P3G0042	0.6 g	50 mL	07/02/13 11:36
3060664-05	P3G0042	0.6 g	50 mL	07/02/13 11:36

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Sample Extraction Data

Prep Method: 7471B

Lab Number	Batch	Initial	Final	Date/Time
3060664-07	P3G0042	0.6 g	50 mL	07/02/13 11:36
3060664-09	P3G0042	0.6 g	50 mL	07/02/13 11:36
3060664-10	P3G0042	0.6 g	50 mL	07/02/13 11:36
3060664-13	P3G0042	0.6 g	50 mL	07/02/13 11:36
3060664-14	P3G0042	0.6 g	50 mL	07/02/13 11:36
3060664-16	P3G0042	0.6 g	50 mL	07/02/13 11:36
3060664-17	P3G0042	0.6 g	50 mL	07/02/13 11:36

Prep Method: 5035

Lab Number	Batch	Initial	Final	Date/Time
3060664-03	P3G0135	8.21 g	5 mL	07/08/13 16:25
3060664-04	P3G0135	5.03 g	5 mL	07/08/13 16:25
3060664-06	P3G0135	7.81 g	5 mL	07/08/13 16:25
3060664-08	P3G0135	5.01 g	5 mL	07/08/13 16:25
3060664-10	P3G0135	5.09 g	5 mL	07/08/13 16:25
3060664-11	P3G0135	7.05 g	5 mL	07/08/13 16:25
3060664-12	P3G0135	5.06 g	5 mL	07/08/13 16:25
3060664-15	P3G0135	7.83 g	5 mL	07/08/13 16:25

Prep Method: 5035

Lab Number	Batch	Initial	Final	Date/Time
3060664-01	P3G0142	8.8 g	5 mL	07/08/13 10:28

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

CHAIN OF CUSTODY RECORD

PRISM LABORATORIES, INC. | Full-Service Analytical & Environmental Solutions

449 Springbrook Road • P.O. Box 240543 • Charlotte, NC 28224-0543
Phone: 704/529-6364 • Fax: 704/529-0409

PAGE ___ OF ___ QUOTE # TO ENSURE PROPER BILLING: ___

Project Name: Cho Property Brownfields

Short Hold Analysis: (Yes) (No) UST Project: (Yes) (No)

*Please ATTACH any project specific reporting (QC LEVEL I II III IV) provisions and/or QC Requirements

Invoice To: ___

Address: SAME

Client Company Name: Mid-Atlantic Assoc

Report To/Contact Name: Chuck Hoffmann

Reporting Address: 409 Ridge View Ct. Raleigh NC 27610

Phone: 919/250-9918 Fax (Yes) (No): 919/250-9950

Email (Yes) (No) Email Address ___

EDD Type: PDF___ Excel___ Other___

Site Location Name: ___

Site Location Physical Address: 6601 Lucid Boulevard Wilson, N.C.

Purchase Order No./Billing Reference R2377.01 T.4000

Requested Due Date ❑ 1 Day ❑ 2 Days ❑ 3 Days ❑ 4 Days ❑ 5 Days

"Working Days" ❑ 6-9 Days ☒ Standard 10 days ❑ Rush Work Must Be Pre-Approved

Samples received after 15:00 will be processed next business day.

Turnaround time is based on business days, excluding weekends and holidays.

(SEE REVERSE FOR TERMS & CONDITIONS REGARDING SERVICES RENDERED BY PRISM LABORATORIES, INC. TO CLIENT)

LAB USE ONLY

	YES	NO	N
Samples INTACT upon arrival? (4.4° / 3.8°)	✓		
Received ON WET ICE? Temp	✓		
PROPER PRESERVATIVES indicated?	✓		
Received WITHIN HOLDING TIMES?	✓		
CUSTODY SEALS INTACT?	✓		
VOLATILES rec'd W/OUT HEADSPACE?	✓		
PROPER CONTAINERS used?	✓		

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL

Certification: NELAC___ USACE___ FL___ NC___ SC___ OTHER___ N/A___

Water Chlorinated: YES___ NO___

Sample Iced Upon Collection: YES___ NO___

	CLIENT SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED MILITARY HOURS	MATRIX (SOIL, WATER OR SLUDGE)	SAMPLE CONTAINER *TYPE SEE BELOW	SAMPLE CONTAINER NO.	SAMPLE CONTAINER SIZE	PRESERVATIVES	ANALYSES REQUESTED 4260	8270	Pesticides 8081	Metals *	Nitrate	Phosphorous	REMARKS	PRISM LAB ID NO.
#1	SB-1B (.5'-1')	6/24/13	1000	SOIL					X						Pesticides by 8081	#1
#2	AOC-1 (.5'-1')		1010							X	X	X	X	X	* Metals - Thirteen (Priority Pollutant Metals) Silver, Arsenic, Beryllium, Cadmium, Chromium, Copper, Mercury, Nickel, Lead, Antimony, Selenium, Thallium, Zinc	#2
#3	SB-1E (.5'-1')		1025						X	X	X	X	X	X		#3
#4	SB-2B (.5'-1')		1425						X							#4
#5	AOC-2 (.5'-1')		1435							X	X	X	X	X		#5
#6	SB-3A (.5'-1')		1610						X							#6
#7	AOC-3 (.5'-1')		1620							X	X	X	X	X		#7
#8	SB-4B (.5'-1')		1525						X							#8
#9	AOC-4 (.5'-1')		1539							X	X	X	X	X		#9
#10	SB-5 (.5'-1')	6/25/13	0820						X	X	X	X	X	X		#10

PRESS DOWN FIRMLY - 3 COPIES

Sampler's Signature Gary C Fisher Sampled By (Print Name) Gary A Fisher Affiliation MAA

Upon relinquishing, this Chain of Custody is your authorization for Prism to proceed with the analyses as requested above. Any changes must be submitted in writing to the Prism Project Manager. There will be charges for any changes after analyses have been initialized.

Relinquished By: (Signature)	Received By: (Signature)	Date	Military/Hours
	Shirley Johnson	6-27-13	12:00
Relinquished By: (Signature)	Received By: (Signature)	Date	
Beale		6/28/13	8:25
Relinquished By: (Signature)	Received For Prism Laboratories By:	Date	
		6/28/13	8:45

Method of Shipment: NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTODY SEALS FOR TRANSPORTATION TO THE LABORATORY. SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST COC UNTIL RECEIVED AT THE LABORATORY.

❑ Fed Ex ❑ UPS ❑ Hand-delivered ☒ Prism Field Service ❑ Other ___

QOC Group No. 3406664

Additional Comments:

PRISM USE ONLY

Site Arrival Time:

Site Departure Time:

Field Tech Fee:

Mileage:

NPDES:	UST:	GROUNDWATER:	DRINKING WATER:	SOLID WASTE:	RCRA:	CERCLA	LANDFILL	OTHER:
❑ NC ❑ SC ❑ ___	❑ NC ❑ SC ❑ ___	❑ NC ❑ SC ❑ ___	❑ NC ❑ SC ❑ ___	❑ NC ❑ SC ❑ ___	❑ NC ❑ SC ❑ ___	❑ NC ❑ SC ❑ ___	❑ NC ❑ SC ❑ ___	❑ NC ❑ SC ❑ ___

*CONTAINER TYPE CODES: A = Amber C = Clear G = Glass P = Plastic; T... eflon-Lined Cap VOA = Volatile Organics Analysis (Zero Head Space)

SEE REVERSE FOR TERMS & CONDITIONS

ORIGINAL

CHAIN OF CUSTODY RECORD

PRISM LABORATORIES, INC. — Full-Service Analytical & Environmental Solutions

449 Springbrook Road • P.O. Box 240543 • Charlotte, NC 28224-0543
Phone: 704/529-6364 • Fax: 704/525-0409

PAGE 2 OF 2 QUOTE # TO ENSURE PROPER BILLING:

Project Name: Cho Property Brownfields
Short Hold Analysis: (Yes) (No) UST Project: (Yes) (No)
*Please ATTACH any project specific reporting (QC LEVEL I II III IV) provisions and/or QC Requirements
Invoice To:
Address: SAME

Client Company Name: Mid-Atlantic Assoc.
Report To/Contact Name: Chuck Hoffmann
Reporting Address: 409 Regency View Ct. Raleigh, N.C. 27610
Phone: 919/250-9918 Fax (Yes) (No): 919/250-9950
Email (Yes) (No) Email Address:
EDD Type: PDF Excel Other
Site Location Name:
Site Location Physical Address: 6601 Ward Boulevard Wilson, N.C.

Purchase Order No./Billing Reference R2377101 T4000

Requested Due Date ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days ☐ 5 Days
"Working Days" ☐ 6-9 Days ☒ Standard 10 days ☐ Rush Work Must Be Pre-Approved
Samples received after 15:00 will be processed next business day.
Turnaround time is based on business days, excluding weekends and holidays.
(SEE REVERSE FOR TERMS & CONDITIONS REGARDING SERVICES RENDERED BY PRISM LABORATORIES, INC. TO CLIENT)

LAB USE ONLY

	YES	NO
Samples INTACT upon arrival?	✓	
Received ON WET ICE? Temp (3.8°) (4.4°)	✓	
PROPER PRESERVATIVES indicated?	✓	
Received WITHIN HOLDING TIMES?	✓	
CUSTODY SEALS INTACT?		
VOLATILES rec'd W/OUT HEADSPACE?	✓	
PROPER CONTAINERS used?	✓	

Page 77 of 77

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL

Certification: NELAC ____ USACE ____ FL ____ NC ____
SC ____ OTHER ____ N/A ____
Water Chlorinated: YES ___ NO ___
Sample Iced Upon Collection: YES ___ NO ___

#	CLIENT SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED MILITARY HOURS	MATRIX (SOIL, WATER OR SLUDGE)	SAMPLE CONTAINER *TYPE SEE BELOW	NO.	SIZE	PRESERVATIVES	8260	8270	Pesticides 8081	Metals	Nitrate	Phosphorus	REMARKS	PRISM LAB ID NO.
11	~~AOC-5(.5'-1')~~	~~6/25/13~~	~~0830~~	Soil						X	X	X	X	X	Pesticides by 8081	
12	SB-6D(.5'-1')	6/24/13	1310					11	X						Metals (thirteen Priority Pollutants	
13	Duplicate #1(.5'-1')		1320					12	X						Silver, Arsenic, Beryllium, Cadmi	
14	AOC-6(.5'-1')		1330					13		X	X	X	X	X	Chromium, Copper, Mercury,	
15	Duplicate #2(.5'-1')		1340					14		X	X	X	X	X	Nickel, lead Antimony,	
16	SB-7A(.5'-1')		1145					15	X						Selenium, Thallium; Zinc	
17	AOC-7(.5'-1')		1150					16		X	X	X	X	X		
18	BG(.5'-1')	6/25/13	0820					17				X	X	X		
19																6/28/13

Sampler's Signature: Gary A. Fiske Sampled By (Print Name): Gary A. Fiske Affiliation: MAA

PRESS DOWN FIRMLY - 3 COPIES

Upon relinquishing, this Chain of Custody is your authorization for Prism to proceed with the analyses as requested above. Any changes must be submitted in writing to the Prism Project Manager. There will be charges for any changes after analyses have been initialized.

		Date	Military/Hours
Relinquished By: (Signature)	Received By: (Signature) Shirley Johnson	6-27-13	1206
Relinquished By: (Signature) Beavex	Received By: (Signature)	6/28/13	8:25
Relinquished By: (Signature)	Received For Prism Laboratories By:	6/28/13	8:45

Method of Shipment: NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTODY SEALS FOR TRANSPORTATION TO THE LABORATORY. SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST COC UNTIL RECEIVED AT THE LABORATORY.

☐ Fed Ex ☐ UPS ☐ Hand-delivered ☑ Prism Field Service ☐ Other

COC Group No. 3466664

Additional Comments:

PRISM USE ONLY

Site Arrival Time:
Site Departure Time:
Field Tech Fee:
Mileage:

SEE REVERSE FOR TERMS & CONDITIONS

NPDES:	UST:	GROUNDWATER:	DRINKING WATER:	SOLID WASTE:	RCRA:	CERCLA	LANDFILL	OTHER:
☐ NC ☐ SC ☐	☐ NC ☐ SC ☐	☐ NC ☐ SC ☐	☐ NC ☐ SC ☐	☐ NC ☐ SC ☐	☐ NC ☐ SC ☐	☐ NC ☐ SC ☐	☐ NC ☐ SC ☐	☐ NC ☐ SC ☐

*CONTAINER TYPE CODES: A = Amber C = Clear G = Glass P = Plastic; TL = Teflon-Lined Cap VOA = Volatile Organics Analysis (Zero Head Space)

ORIGINAL

APPENDIX C

SOIL BORING LOGS AND WELL CONSTRUCTION RECORDS

Mid Atlantic
Engineering & Environmental Solutions

WELL CONSTRUCTION RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

James D. Barker
Well Contractor Name

3106-A
NC Well Contractor Certification Number

Quantex, Inc.
Company Name

2. Well Construction Permit #: NA
List all applicable well construction permits (i.e. County, State, Variance, etc.)

3. Well Use (check well use):

Water Supply Well:
☐Agricultural ☐Municipal/Public
☐Geothermal (Heating/Cooling Supply) ☐Residential Water Supply (single)
☐Industrial/Commercial ☐Residential Water Supply (shared)
☐Irrigation

Non-Water Supply Well:
☑Monitoring ☐Recovery

Injection Well:
☐Aquifer Recharge ☐Groundwater Remediation
☐Aquifer Storage and Recovery ☐Salinity Barrier
☐Aquifer Test ☐Stormwater Drainage
☐Experimental Technology ☐Subsidence Control
☐Geothermal (Closed Loop) ☐Tracer
☐Geothermal (Heating/Cooling Return) ☐Other (explain under #21 Remarks)

4. Date Well(s) Completed: 6/26/13 MW-6

5. Well Location:

Sirius Metal Recycling
Facility/Owner Name

Facility ID# (if applicable)

6601 Ward Blvd., Wilson, NC 27893
Physical Address, City, and Zip

Wilson
County

NA
Parcel Identification No. (PIN)

5b. Latitude and Longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35.706679 N 77.908914 W

6. Is (are) the well(s): ☑Permanent or ☐Temporary

7. Is this a repair to an existing well: ☐Yes or ☑No
If this is a repair, fill out known well construction information and explain the nature of the repair under #21 remarks section or on the back of this form.

8. Number of wells constructed: 5 of 5
For multiple injection or non-water supply wells ONLY with the same construction, you can submit one form.

9. Total well depth below land surface: 17' (ft.)
For multiple wells list all depths if different (example- 3@200' and 2@100')

10. Static water level below top of casing: NA (ft.)
If water level is above casing, use "+"

11. Borehole diameter: 8" (in.)

12. Well construction method: Auger
(i.e. auger, rotary, cable, direct push, etc.)

13. FOR WATER SUPPLY WELLS ONLY:

13a. Yield (gpm) _____ Method of test: _____

13b. Disinfection type: _____ Amount: _____

For Internal Use ONLY:

14. WATER ZONES

FROM	TO	DESCRIPTION
10 ft.	11 ft.	
ft.	ft.	

15. OUTER CASING (for multi-cased wells) OR LINER (if applicable)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
ft.	ft.	in.		

16. INNER CASING OR TUBING (geothermal closed-loop)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
0 ft.	7 ft.	2" in.	Sch 40	PVC
ft.	ft.	in.		

17. SCREEN

FROM	TO	DIAMETER	SLOT SIZE	THICKNESS	MATERIAL
7 ft.	17 ft.	2" in.	0.010	Sch 40	PVC
ft.	ft.	in.			

18. GROUT

FROM	TO	MATERIAL	EMPLACEMENT METHOD & AMOUNT
0 ft.	4 ft.	Neat Cement	Poured
4 ft.	6 ft.	Bentonite	Pellets - Poured
ft.	ft.		

19. SAND/GRAVEL PACK (if applicable)

FROM	TO	MATERIAL	EMPLACEMENT METHOD
6 ft.	17 ft.	#2 silica sand	pour
ft.	ft.		

20. DRILLING LOG (attach additional sheets if necessary)

FROM	TO	DESCRIPTION (color, hardness, soil/rock type, grain size, etc.)
0 ft.	0.5 ft.	Top Soil/Gravel
0.5 ft.	9 ft.	Silt
9 ft.	17 ft.	Clayey sands
ft.	ft.	
ft.	ft.	
ft.	ft.	
ft.	ft.	

21. REMARKS

22. Certification:

James D. Barker — 6/27/13
Signature of Certified Well Contractor — Date

By signing this form, I hereby certify that the well(s) was (were) constructed in accordance with 15A NCAC 02C .0100 or 15A NCAC 02C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

23. Site diagram or additional well details:
You may use the back of this page to provide additional well site details or well construction details. You may also attach additional pages if necessary.

24. Submittal Instructions:

24a. For All Wells: Submit this form within 30 days of completion of well construction to the following:

Division of Water Quality, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

24b. For Injection Wells: In addition to sending the form to the address in 24a above, also submit a copy of this form within 30 days of completion of well construction to the following:

Division of Water Quality, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

24c. For Water Supply & Geothermal Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well construction to the county health department of the county where constructed.

WELL CONSTRUCTION RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

James D. Barker

Well Contractor Name

3106-A

NC Well Contractor Certification Number

Quantex, Inc.

Company Name

2. Well Construction Permit #: NA

List all applicable well construction permits (i.e. County, State, Variance, etc.)

3. Well Use (check well use):

Water Supply Well:

☐Agricultural ☐Municipal/Public

☐Geothermal (Heating/Cooling Supply) ☐Residential Water Supply (single)

☐Industrial/Commercial ☐Residential Water Supply (shared)

☐Irrigation

Non-Water Supply Well:

☑Monitoring ☐Recovery

Injection Well:

☐Aquifer Recharge ☐Groundwater Remediation

☐Aquifer Storage and Recovery ☐Salinity Barrier

☐Aquifer Test ☐Stormwater Drainage

☐Experimental Technology ☐Subsidence Control

☐Geothermal (Closed Loop) ☐Tracer

☐Geothermal (Heating/Cooling Return) ☐Other (explain under #21 Remarks)

4. Date Well(s) Completed: 6/26/13 MW-7

5. Well Location:

Sirius Metal Recycling

Facility/Owner Name

Facility ID# (if applicable)

6601 Ward Blvd., Wilson, NC 27893

Physical Address, City, and Zip

Wilson

County

NA

Parcel Identification No. (PIN)

5b. Latitude and Longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35.707147 N 77.908572 W

6. Is (are) the well(s): ☑Permanent or ☐Temporary

7. Is this a repair to an existing well: ☐Yes or ☑No

If this is a repair, fill out known well construction information and explain the nature of the repair under #21 remarks section or on the back of this form.

8. Number of wells constructed: 4 of 5

For multiple injection or non-water supply wells ONLY with the same construction, you can submit one form.

9. Total well depth below land surface: 18' (ft.)

For multiple wells list all depths if different (example- 3@200' and 2@100')

10. Static water level below top of casing: NA (ft.)

If water level is above casing, use "+"

11. Borehole diameter: 8" (in.)

12. Well construction method: Auger

(i.e. auger, rotary, cable, direct push, etc.)

13. FOR WATER SUPPLY WELLS ONLY:

13a. Yield (gpm) _____ **Method of test:** _____

13b. Disinfection type: _____ **Amount:** _____

For Internal Use ONLY:

14. WATER ZONES

FROM	TO	DESCRIPTION
10 ft.	11 ft.	
ft.	ft.	

15. OUTER CASING (for multi-cased wells) OR LINER (if applicable)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
ft.	ft.	in.		

16. INNER CASING OR TUBING (geothermal closed-loop)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
0 ft.	8 ft.	2" in.	Sch 40	PVC
ft.	ft.	in.		

17. SCREEN

FROM	TO	DIAMETER	SLOT SIZE	THICKNESS	MATERIAL
8 ft.	18 ft.	2" in.	0.010	Sch 40	PVC
ft.	ft.	in.			

18. GROUT

FROM	TO	MATERIAL	EMPLACEMENT METHOD & AMOUNT
0 ft.	4 ft.	Neat Cement	Poured
4 ft.	6 ft.	Bentonite	Pellets - Poured
ft.	ft.		

19. SAND/GRAVEL PACK (if applicable)

FROM	TO	MATERIAL	EMPLACEMENT METHOD
6 ft.	18 ft.	#2 silica sand	pour
ft.	ft.		

20. DRILLING LOG (attach additional sheets if necessary)

FROM	TO	DESCRIPTION (color, hardness, soil/rock type, grain size, etc.)
0 ft.	0.5 ft.	Top Soil/Gravel
0.5 ft.	9 ft.	Silt
9 ft.	18 ft.	Clayey sands
ft.	ft.	
ft.	ft.	
ft.	ft.	
ft.	ft.	

21. REMARKS

22. Certification:

James D. Barker — 6/27/13

Signature of Certified Well Contractor — Date

By signing this form, I hereby certify that the well(s) was (were) constructed in accordance with 15A NCAC 02C .0100 or 15A NCAC 02C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

23. Site diagram or additional well details:

You may use the back of this page to provide additional well site details or well construction details. You may also attach additional pages if necessary.

24. Submittal Instructions:

24a. For All Wells: Submit this form within 30 days of completion of well construction to the following:

Division of Water Quality, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

24b. For Injection Wells: In addition to sending the form to the address in 24a above, also submit a copy of this form within 30 days of completion of well construction to the following:

Division of Water Quality, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

24c. For Water Supply & Geothermal Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well construction to the county health department of the county where constructed.

WELL CONSTRUCTION RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

James D. Barker

Well Contractor Name

3106-A

NC Well Contractor Certification Number

Quantex, Inc.

Company Name

2. Well Construction Permit #: NA

List all applicable well construction permits (i.e. County, State, Variance, etc.)

3. Well Use (check well use):

Water Supply Well:

☐Agricultural ☐Municipal/Public

☐Geothermal (Heating/Cooling Supply) ☐Residential Water Supply (single)

☐Industrial/Commercial ☐Residential Water Supply (shared)

☐Irrigation

Non-Water Supply Well:

☑Monitoring ☐Recovery

Injection Well:

☐Aquifer Recharge ☐Groundwater Remediation

☐Aquifer Storage and Recovery ☐Salinity Barrier

☐Aquifer Test ☐Stormwater Drainage

☐Experimental Technology ☐Subsidence Control

☐Geothermal (Closed Loop) ☐Tracer

☐Geothermal (Heating/Cooling Return) ☐Other (explain under #21 Remarks)

4. Date Well(s) Completed: 6/26/13 MW-8

5. Well Location:

Sirius Metal Recycling

Facility/Owner Name

Facility ID# (if applicable)

6601 Ward Blvd., Wilson, NC 27893

Physical Address, City, and Zip

Wilson

County

NA

Parcel Identification No. (PIN)

5b. Latitude and Longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35.707264 N 77.908635 W

6. Is (are) the well(s): ☑**Permanent** or ☐**Temporary**

7. Is this a repair to an existing well: ☐**Yes** or ☑**No**

If this is a repair, fill out known well construction information and explain the nature of the repair under #21 remarks section or on the back of this form.

8. Number of wells constructed: 3 of 5

*For multiple injection or non-water supply wells **ONLY** with the **same construction**, you can submit one form.*

9. Total well depth below land surface: 18' (ft.)

For multiple wells list all depths if different (example- 3@200' and 2@100')

10. Static water level below top of casing: NA (ft.)

If water level is above casing, use "+"

11. Borehole diameter: 8" (in.)

12. Well construction method: Auger

(i.e. auger, rotary, cable, direct push, etc.)

13. FOR WATER SUPPLY WELLS ONLY:

13a. Yield (gpm) _____ **Method of test:** _____

13b. Disinfection type: _____ **Amount:** _____

For Internal Use ONLY:

14. WATER ZONES

FROM	TO	DESCRIPTION
11 ft.	12 ft.	
ft.	ft.	

15. OUTER CASING (for multi-cased wells) OR LINER (if applicable)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
ft.	ft.	in.		

16. INNER CASING OR TUBING (geothermal closed-loop)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
0 ft.	8 ft.	2" in.	Sch 40	PVC
ft.	ft.	in.		

17. SCREEN

FROM	TO	DIAMETER	SLOT SIZE	THICKNESS	MATERIAL
8 ft.	18 ft.	2" in.	0.010	Sch 40	PVC
ft.	ft.	in.			

18. GROUT

FROM	TO	MATERIAL	EMPLACEMENT METHOD & AMOUNT
0 ft.	4 ft.	Neat Cement	Poured
4 ft.	6 ft.	Bentonite	Pellets - Poured
ft.	ft.		

19. SAND/GRAVEL PACK (if applicable)

FROM	TO	MATERIAL	EMPLACEMENT METHOD
6 ft.	18 ft.	#2 silica sand	pour
ft.	ft.		

20. DRILLING LOG (attach additional sheets if necessary)

FROM	TO	DESCRIPTION (color, hardness, soil/rock type, grain size, etc.)
0 ft.	0.5 ft.	Top Soil/Gravel
0.5 ft.	9 ft.	Silt
9 ft.	18 ft.	Clayey sands
ft.	ft.	
ft.	ft.	
ft.	ft.	
ft.	ft.	

21. REMARKS

22. Certification:

James D. Barker

Signature of Certified Well Contractor

6/27/13

Date

By signing this form, I hereby certify that the well(s) was (were) constructed in accordance with 15A NCAC 02C .0100 or 15A NCAC 02C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

23. Site diagram or additional well details:

You may use the back of this page to provide additional well site details or well construction details. You may also attach additional pages if necessary.

24. Submittal Instructions:

24a. For All Wells: Submit this form within 30 days of completion of well construction to the following:

Division of Water Quality, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

24b. For Injection Wells: In addition to sending the form to the address in 24a above, also submit a copy of this form within 30 days of completion of well construction to the following:

Division of Water Quality, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

24c. For Water Supply & Geothermal Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well construction to the county health department of the county where constructed.

WELL CONSTRUCTION RECORD

This form can be used for single or multiple wells

For Internal Use ONLY:

1. Well Contractor Information:

James D. Barker
Well Contractor Name

3106-A
NC Well Contractor Certification Number

Quantex, Inc.
Company Name

2. Well Construction Permit #: NA
List all applicable well construction permits (i.e. County, State, Variance, etc.)

3. Well Use (check well use):

Water Supply Well:
☐Agricultural ☐Municipal/Public
☐Geothermal (Heating/Cooling Supply) ☐Residential Water Supply (single)
☐Industrial/Commercial ☐Residential Water Supply (shared)
☐Irrigation

Non-Water Supply Well:
☑Monitoring ☐Recovery

Injection Well:
☐Aquifer Recharge ☐Groundwater Remediation
☐Aquifer Storage and Recovery ☐Salinity Barrier
☐Aquifer Test ☐Stormwater Drainage
☐Experimental Technology ☐Subsidence Control
☐Geothermal (Closed Loop) ☐Tracer
☐Geothermal (Heating/Cooling Return) ☐Other (explain under #21 Remarks)

4. Date Well(s) Completed: 6/25/13 MW-9

5. Well Location:

Sirius Metal Recycling
Facility/Owner Name

Facility ID# (if applicable)

6601 Ward Blvd., Wilson, NC 27893
Physical Address, City, and Zip

Wilson
County

NA
Parcel Identification No. (PIN)

5b. Latitude and Longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35.707488 N 77.908922 W

6. Is (are) the well(s): ☑Permanent or ☐Temporary

7. Is this a repair to an existing well: ☐Yes or ☑No
If this is a repair, fill out known well construction information and explain the nature of the repair under #21 remarks section or on the back of this form.

8. Number of wells constructed: 2 of 5
For multiple injection or non-water supply wells ONLY with the same construction, you can submit one form.

9. Total well depth below land surface: 18' (ft.)
For multiple wells list all depths if different (example- 3@200' and 2@100')

10. Static water level below top of casing: NA (ft.)
If water level is above casing, use "+"

11. Borehole diameter: 8" (in.)

12. Well construction method: Auger
(i.e. auger, rotary, cable, direct push, etc.)

13. FOR WATER SUPPLY WELLS ONLY:

13a. Yield (gpm) _____ **Method of test:** _____

13b. Disinfection type: _____ **Amount:** _____

14. WATER ZONES

FROM	TO	DESCRIPTION
11 ft.	12 ft.	
ft.	ft.	

15. OUTER CASING (for multi-cased wells) OR LINER (if applicable)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
ft.	ft.	in.		

16. INNER CASING OR TUBING (geothermal closed-loop)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
0 ft.	8 ft.	2" in.	Sch 40	PVC
ft.	ft.	in.		

17. SCREEN

FROM	TO	DIAMETER	SLOT SIZE	THICKNESS	MATERIAL
8 ft.	18 ft.	2" in.	0.010	Sch 40	PVC
ft.	ft.	in.			

18. GROUT

FROM	TO	MATERIAL	EMPLACEMENT METHOD & AMOUNT
0 ft.	4 ft.	Neat Cement	Poured
4 ft.	6 ft.	Bentonite	Pellets - Poured
ft.	ft.		

19. SAND/GRAVEL PACK (if applicable)

FROM	TO	MATERIAL	EMPLACEMENT METHOD
6 ft.	18 ft.	#2 silica sand	pour
ft.	ft.		

20. DRILLING LOG (attach additional sheets if necessary)

FROM	TO	DESCRIPTION (color, hardness, soil/rock type, grain size, etc.)
0 ft.	0.5 ft.	Asphalt/Gravel
0.5 ft.	9 ft.	Silt
9 ft.	18 ft.	Clayey sands
ft.	ft.	
ft.	ft.	
ft.	ft.	
ft.	ft.	

21. REMARKS

22. Certification:

James D. Barker — 6/27/13
Signature of Certified Well Contractor — Date

By signing this form, I hereby certify that the well(s) was (were) constructed in accordance with 15A NCAC 02C .0100 or 15A NCAC 02C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

23. Site diagram or additional well details:
You may use the back of this page to provide additional well site details or well construction details. You may also attach additional pages if necessary.

24. Submittal Instructions:

24a. For All Wells: Submit this form within 30 days of completion of well construction to the following:

Division of Water Quality, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

24b. For Injection Wells: In addition to sending the form to the address in 24a above, also submit a copy of this form within 30 days of completion of well construction to the following:

Division of Water Quality, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

24c. For Water Supply & Geothermal Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well construction to the county health department of the county where constructed.

WELL CONSTRUCTION RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

James D. Barker

Well Contractor Name

3106-A

NC Well Contractor Certification Number

Quantex, Inc.

Company Name

2. Well Construction Permit #: NA

List all applicable well construction permits (i.e. County, State, Variance, etc.)

3. Well Use (check well use):

Water Supply Well:

☐Agricultural ☐Municipal/Public

☐Geothermal (Heating/Cooling Supply) ☐Residential Water Supply (single)

☐Industrial/Commercial ☐Residential Water Supply (shared)

☐Irrigation

Non-Water Supply Well:

☑Monitoring ☐Recovery

Injection Well:

☐Aquifer Recharge ☐Groundwater Remediation

☐Aquifer Storage and Recovery ☐Salinity Barrier

☐Aquifer Test ☐Stormwater Drainage

☐Experimental Technology ☐Subsidence Control

☐Geothermal (Closed Loop) ☐Tracer

☐Geothermal (Heating/Cooling Return) ☐Other (explain under #21 Remarks)

4. Date Well(s) Completed: 6/25/13 MW-10

5. Well Location:

Sirius Metal Recycling

Facility/Owner Name

Facility ID# (if applicable)

6601 Ward Blvd., Wilson, NC 27893

Physical Address, City, and Zip

Wilson

County

NA

Parcel Identification No. (PIN)

5b. Latitude and Longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35.707706 N 77.908633 W

6. Is (are) the well(s): ☑Permanent or ☐Temporary

7. Is this a repair to an existing well: ☐Yes or ☑No

If this is a repair, fill out known well construction information and explain the nature of the repair under #21 remarks section or on the back of this form.

8. Number of wells constructed: 1 of 5

For multiple injection or non-water supply wells ONLY with the same construction, you can submit one form.

9. Total well depth below land surface: 18' (ft.)

For multiple wells list all depths if different (example- 3@200' and 2@100')

10. Static water level below top of casing: NA (ft.)

If water level is above casing, use "+"

11. Borehole diameter: 8" (in.)

12. Well construction method: Auger

(i.e. auger, rotary, cable, direct push, etc.)

13. FOR WATER SUPPLY WELLS ONLY:

13a. Yield (gpm) _____ Method of test: _____

13b. Disinfection type: _____ Amount: _____

For Internal Use ONLY:

14. WATER ZONES

FROM	TO	DESCRIPTION
11 ft.	12 ft.	
ft.	ft.	

15. OUTER CASING (for multi-cased wells) OR LINER (if applicable)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
ft.	ft.	in.		

16. INNER CASING OR TUBING (geothermal closed-loop)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
0 ft.	8 ft.	2" in.	Sch 40	PVC
ft.	ft.	in.		

17. SCREEN

FROM	TO	DIAMETER	SLOT SIZE	THICKNESS	MATERIAL
8 ft.	18 ft.	2" in.	0.010	Sch 40	PVC
ft.	ft.	in.			

18. GROUT

FROM	TO	MATERIAL	EMPLACEMENT METHOD & AMOUNT
0 ft.	4 ft.	Neat Cement	Poured
4 ft.	6 ft.	Bentonite	Pellets - Poured
ft.	ft.		

19. SAND/GRAVEL PACK (if applicable)

FROM	TO	MATERIAL	EMPLACEMENT METHOD
6 ft.	18 ft.	#2 silica sand	pour
ft.	ft.		

20. DRILLING LOG (attach additional sheets if necessary)

FROM	TO	DESCRIPTION (color, hardness, soil/rock type, grain size, etc.)
0 ft.	0.5 ft.	Asphalt/Gravel
0.5 ft.	9 ft.	Silt
9 ft.	18 ft.	Clayey sands
ft.	ft.	
ft.	ft.	
ft.	ft.	
ft.	ft.	

21. REMARKS

22. Certification:

James D. Barker 6/27/13

Signature of Certified Well Contractor Date

By signing this form, I hereby certify that the well(s) was (were) constructed in accordance with 15A NCAC 02C .0100 or 15A NCAC 02C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

23. Site diagram or additional well details:
You may use the back of this page to provide additional well site details or well construction details. You may also attach additional pages if necessary.

24. Submittal Instructions:

24a. For All Wells: Submit this form within 30 days of completion of well construction to the following:

Division of Water Quality, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

24b. For Injection Wells: In addition to sending the form to the address in 24a above, also submit a copy of this form within 30 days of completion of well construction to the following:

Division of Water Quality, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

24c. For Water Supply & Geothermal Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well construction to the county health department of the county where constructed.

APPENDIX D

FIELD SAMPLING SHEETS

Mid Atlantic
Engineering & Environmental Solutions

GROUNDWATER SAMPLING - FIELD DATA SHEET

SITE INFORMATION

Facility Name: Cho Property Brownfield
Project Number: R2377.01
Location: Wilson, N.C.
Date Started: 6/27/13
Date Completed: 6/27/13

WELL INFORMATION

Well ID: MW-6
Casing Diameter: 2"
TOC Elev.:
Total Well Depth: 17'
Depth to Water: 8.44
GW Elevation:

WEATHER CONDITIONS

Weather Conditions (Circle): Clear Rain Windy (Cloudy) Hot Cold
Air Temperature: Upper 80's

VOLUME CALCULATIONS

Total Well Depth (TWD):	17'	Ft.
Depth to Water (DTW):	8.44	Ft.
Water Column (WC):	8.56	Ft.

(Well Volume = WC x CF)

1 Well Volume:	1.3	Gal.
3 Well Volumes:	3.9	Gal.

Conversion Factors (WC to Gallons)

CF 2-inch = 0.163
CF 4-inch = 0.652
CF 6-inch = 1.468

FIELD MEASUREMENTS

Time:	1426	1430	1434	1438	1442	1446	1450	1454	
Purge Volume:	Initial	.5	.5	.5	.5	.5	.5	.5	.
Total Volume:	0	.5	1.0	1.5	2.0	2.5	3.0	3.5	4
pH (s.u.):	7.09	7.28	7.76	7.63	7.48	7.40	7.39	7.49	7
Conductivity (umhos/cm):	270	268	285	299	305	299	298	295	2
Temperature (°C):	21.21	20.97	20.74	20.49	20.29	20.31	20.35	20.39	2
Turbidity:	6.35	4.17	3.97	2.13	1.67	1.97	1.60	1.14	1
Dissolved Oxygen (mg/L):	4.19	4.05	3.94	3.90	3.67	3.62	3.60	3.64	3
ORP	95.9	82.4	57.1	59.2	64.5	68.0	74.9	80.2	8

SAMPLE INFORMATION

Sampled By: Gary A. Fischer
Time: Sample collected @ 1500

Additional Comments: Duplicate (MW) is dup. of MW-6
Purged 4+ gal. prior to sample collection

GROUNDWATER SAMPLING - FIELD DATA SHEET

SITE INFORMATION

Facility Name: Clio Property Brownfields
Project Number: R2377.01
Location: 6601 Ward Blvd. Wilson, N.C.
Date Started: 6/27/13
Date Completed: 6/27/13

WELL INFORMATION

Well ID: MW-7
Casing Diameter: 2"
TOC Elev.:
Total Well Depth: 18'
Depth to Water: 11.74
GW Elevation:

WEATHER CONDITIONS

Weather Conditions (Circle): Clear Rain Windy (Cloudy) Hot Cold
Air Temperature: Mid 80's

VOLUME CALCULATIONS

Total Well Depth (TWD): 18' Ft.
Depth to Water (DTW): 11.74 Ft.
Water Column (WC): 6.26 Ft.
(Well Volume = WC x CF)
1 Well Volume: 1.0 Gal.
3 Well Volumes: 3.0 Gal.

Conversion Factors (WC to Gallons)
CF 2-inch = 0.163
CF 4-inch = 0.652
CF 6-inch = 1.468

FIELD MEASUREMENTS

Time:	1248	1252	1256	1300	1304	1308	1312	1316
Purge Volume:	Initial	.5	.5	.5	.5	.5	.5	.5
Total Volume:	0	.5	1.0	1.5	2.0	2.5	3.0	3.5
pH (s.u.):	6.84	6.90	6.87	6.87	6.88	6.83	6.89	6.96
Conductivity (umhos/cm):	509	529	531	531	532	532	531	526
Temperature (°C):	21.43	20.94	20.82	20.60	20.48	20.56	20.50	20.48
Turbidity:	15.8	3.68	3.86	2.31	1.74	2.31	3.13	3.07
Dissolved Oxygen (mg/L):	2.58	2.15	2.04	2.02	1.97	1.89	1.99	2.04
ORP	97.4	91.1	83.3	83.6	81.0	80.3	73.9	70.4

SAMPLE INFORMATION

Sampled By: Gary A. Fischer
Time: Purged ~ 4.0 gals

Additional Comments: Sample collected @ 1320

GROUNDWATER SAMPLING - FIELD DATA SHEET

SITE INFORMATION

Facility Name: Cho Property Brownfields
Project Number: 122377.01
Location: 6601 Ward Blvd, Wilson, N.C.
Date Started: 6/27/13
Date Completed: 6/27/13

WELL INFORMATION

Well ID: MW-8
Casing Diameter: 2"
TOC Elev.:
Total Well Depth: 18'
Depth to Water: 12.23
GW Elevation:

WEATHER CONDITIONS

Weather Conditions (Circle): Clear Rain Windy Cloudy Hot Cold
Air Temperature: Low 80's

VOLUME CALCULATIONS

Total Well Depth (TWD): 18' Ft.
Depth to Water (DTW): 12.23 Ft.
Water Column (WC): 5.77 Ft.
(Well Volume = WC x CF)
1 Well Volume: .9 Gal.
3 Well Volumes: 2.7 Gal.

Conversion Factors (WC to Gallons)
CF 2-inch = 0.163
CF 4-inch = 0.652
CF 6-inch = 1.468

FIELD MEASUREMENTS

Time:	1138	1142	1146	1150	1154	1158	1202	1206
Purge Volume:	Initial	.5	.5	.5	.5	.5	.5	.5
Total Volume:	0	.5	1.0	1.5	2.0	2.5	3.0	3.5
pH (s.u.):	7.80	8.08	8.23	8.26	8.28	8.31	8.33	8.29
Conductivity (umhos/cm):	406	359	349	348	347	346	347	344
Temperature (°C):	20.31	19.50	19.26	19.25	19.12	19.16	19.13	19.26
Turbidity:	11.9	4.76	2.89	2.70	2.56	2.27	1.91	2.40
Dissolved Oxygen (mg/L):	5.12	4.51	3.46	3.10	2.96	2.81	2.76	2.56
ORP	97.7	92.4	88.4	85.3	81.4	76.9	75.6	75.7

SAMPLE INFORMATION

Sampled By: Gary A. Pasky
Time: Sample collected @ 1210

Additional Comments: Purged ~4.0 gals. prior to sample collection

GROUNDWATER SAMPLING - FIELD DATA SHEET

SITE INFORMATION

Facility Name: Cho Property Brownfields
Project Number: R 23707.01
Location: 6601 Ward Blvd, Wilson, N.C.
Date Started: 6/27/13
Date Completed: 6/27/13

WELL INFORMATION

Well ID: MW-9
Casing Diameter: 2"
TOC Elev.:
Total Well Depth: 18'
Depth to Water: 11.53
GW Elevation:

WEATHER CONDITIONS

Weather Conditions (Circle): Clear Rain, Windy (Cloudy) Hot Cold
Air Temperature: Mid 70s

VOLUME CALCULATIONS

Total Well Depth (TWD): 18' Ft.
Depth to Water (DTW): 11.53 Ft.
Water Column (WC): 6.47 Ft.
(Well Volume = WC x CF)
1 Well Volume: 1.0 Gal.
3 Well Volumes: 3.0 Gal.

Conversion Factors (WC to Gallons)
CF 2-inch = 0.163
CF 4-inch = 0.652
CF 6-inch = 1.468

FIELD MEASUREMENTS

1018

Time:	1002	1006	1010	1014	~~1018~~	1022	1026	1030
Purge Volume:	Initial	.5	.5	.5	.5	.5	.5	.5
Total Volume:	0	.5	1.0	1.5	2.0	2.5	3.0	3.5
pH (s.u.):	8.13	8.31	8.33	8.37	8.45	8.38	8.44	8.42
Conductivity (umhos/cm):	5,233	5,722	5,762	5,783	5,763	5,661	5589	5549
Temperature (°C):	22.04	21.93	21.73	21.87	21.81	21.91	21.85	21.80
Turbidity:	65.5	34.4	25.0	18.0	11.1	7.41	6.26	7.89
Dissolved Oxygen (mg/L):	2.21	2.08	2.46	2.58	2.53	2.49	2.44	2.39
ORP		80.5	65.1	53.9	50.6	46.1	44.2	40.9

SAMPLE INFORMATION

Sampled By: Cory Humphries
Time: Sample Collected @ 1035

Additional Comments: Purged ~ 4.0 gals. prior to sample collection

GROUNDWATER SAMPLING - FIELD DATA SHEET

SITE INFORMATION

Facility Name: Cho Property Brownfield
Project Number: R2377.01
Location: 6601 Ward Blvd, Wilson, NC
Date Started: 6/27/13
Date Completed: 6/27/13

WELL INFORMATION

Well ID: MW-10
Casing Diameter: 2"
TOC Elev.:
Total Well Depth: 18'
Depth to Water: 10.35
GW Elevation:

WEATHER CONDITIONS

Weather Conditions (Circle): Clear Rain Windy (Cloudy) Hot Cold
Air Temperature: Mid 70's

VOLUME CALCULATIONS

Total Well Depth (TWD): 18' Ft.
Depth to Water (DTW): 10.35 Ft.
Water Column (WC): 7.65 Ft.
(Well Volume = WC x CF)
1 Well Volume: 1.2 Gal.
3 Well Volumes: 3.6 Gal.

Conversion Factors (WC to Gallons)
CF 2-inch = 0.163
CF 4-inch = 0.652
CF 6-inch = 1.468

FIELD MEASUREMENTS

Time:	0837	0841	0845	0849	0853	0857	0901	0905
Purge Volume:	Initial	.5	.5	.5	.5	.5	.5	.5
Total Volume:	0	.5	1.0	1.5	2.0	2.5	3.0	3.5
pH (s.u.):	7.03	6.65	6.48	6.67	6.74	6.75	6.79	6.81
Conductivity (umhos/cm):	360	156	102	93	96	97	97	96
Temperature (°C):	19.79	19.75	19.82	19.80	19.79	19.77	19.74	19.71
Turbidity:	86.8	73.1	44.5	15.3	13.2	13.8	14.3	14.9
Dissolved Oxygen (mg/L):	6.02	5.87	5.95	6.07	6.08	6.04	5.98	5.94
ORP	189.3	198.8	199.9	186.6	184.3	183.9	181.7	179.6

SAMPLE INFORMATION

Sampled By: Gary A. Fischer
Time: Sample collected @ 0910

Additional Comments: Purged ~ 4.0 gals. prior to sample collection

APPENDIX E

LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY RECORD FOR GROUNDWATER SAMPLES

Mid Atlantic
Engineering & Environmental Solutions

PRISM LABORATORIES, INC.
Full-Service Analytical & Environmental Solutions

NC Certification No. 402
SC Certification No. 99012
NC Drinking Water Cert No. 37735
VA Certification No. 460211
DoD ELAP: L-A-B Accredited Certificate No. L2307
ISO/IEC 17025: L-A-B Accredited Certificate No. L2307

Case Narrative

07/23/2013

Mid-Atlantic Associates, Inc.
Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields
Project No.: R2377.01
Lab Submittal Date: 06/28/2013
Prism Work Order: 3060682

This data package contains the analytical results for the project identified above and includes a Case Narrative, Sample Results and Chain of Custody. Unless otherwise noted, all samples were received in acceptable condition and processed according to the referenced methods.

Data qualifiers are flagged individually on each sample. A key reference for the data qualifiers appears at the end of this case narrative.

Please call if you have any questions relating to this analytical report.

Respectfully,

PRISM LABORATORIES, INC.

Steven H. Guptill
Project Manager

Reviewed By Robbi A. Jones For Steven H. Guptill
President/Project Manager

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Data Qualifiers Key Reference:

A	Recovery of ending CCV 2.0 mg/L for Nitrate (83%) is outside the control limits (90-110%). Result might have a low bias.
CCV	CCV result is above the control limits. Analyte not detected in the sample. No further action taken.
D	RPD value outside of the control limits.
ICV	ICV result is above the control limits. Analyte not detected in the sample. No further action taken.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
L2	LCSD recovery outside of the QC limits. LCS recovery within the limits. No further action taken.
LH	High LCS recovery. Analyte not detected in the sample(s). No further action taken.
MI	Matrix spike outside of the control limits. Matrix interference suspected.
P	Recovery outside of the QC limits due to inconsistency during extraction and chromatographic performance of this compound.
BRL	Below Reporting Limit
MDL	Method Detection Limit
RPD	Relative Percent Difference
*	Results reported to the reporting limit. All other results are reported to the MDL with values between MDL and reporting limit indicated with a J.

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

PRISM LABORATORIES, INC. | Full-Service Analytical & Environmental Solutions

Sample Receipt Summary

07/23/2013

Prism Work Order: 3060682

Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
Trip Blank	3060682-01	Water	06/27/13	06/28/13
Field Blank	3060682-02	Water	06/27/13	06/28/13
MW-6	3060682-03	Water	06/27/13	06/28/13
Duplicate (MW)	3060682-04	Water	06/27/13	06/28/13
MW-7	3060682-05	Water	06/27/13	06/28/13
MW-8	3060682-06	Water	06/27/13	06/28/13
MW-9	3060682-07	Water	06/27/13	06/28/13
MW-10	3060682-08	Water	06/27/13	06/28/13

Samples received in good condition at 3.8 degrees C unless otherwise noted.

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Summary of Detections

07/23/2013

Prism Work Order: 3060682

Prism ID	Client ID	Parameter	Method	Result		Units
3060682-01	Trip Blank	Acetone	8260B	6.9		ug/L
3060682-01	Trip Blank	Methyl Ethyl Ketone (2-Butanone)	8260B	4.6	J	ug/L
3060682-02	Field Blank	Acetone	8260B	5.5		ug/L
3060682-02	Field Blank	Methyl Ethyl Ketone (2-Butanone)	8260B	4.3	J	ug/L
3060682-03	MW-6	Nitrate as N	*9056A	1.2	A	mg/L
3060682-03	MW-6	Di-n-butyl phthalate	8270D	6.3	J	ug/L
3060682-03	MW-6	1,2-Dichloropropane	8260B	1.0		ug/L
3060682-03	MW-6	Methyl-tert-Butyl Ether	8260B	6.8		ug/L
3060682-03	MW-6	sec-Butylbenzene	8260B	2.2		ug/L
3060682-04	Duplicate (MW)	Nitrate as N	*9056A	0.96	A	mg/L
3060682-04	Duplicate (MW)	Di-n-butyl phthalate	8270D	6.5	J	ug/L
3060682-04	Duplicate (MW)	1,2-Dichloropropane	8260B	0.95		ug/L
3060682-04	Duplicate (MW)	Methyl-tert-Butyl Ether	8260B	7.0		ug/L
3060682-04	Duplicate (MW)	sec-Butylbenzene	8260B	2.2		ug/L
3060682-05	MW-7	Beryllium	*6010C	0.0027		mg/L
3060682-05	MW-7	Nickel	*6010C	0.020		mg/L
3060682-05	MW-7	Zinc	*6010C	0.044		mg/L
3060682-06	MW-8	Nitrate as N	*9056A	8.3		mg/L
3060682-07	MW-9	1,2-Dichloropropane	8260B	1.6		ug/L
3060682-08	MW-10	Phosphorus-Total	*SM4500-P F	0.11		mg/L

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: Trip Blank
Prism Sample ID: 3060682-01
Prism Work Order: 3060682
Time Collected: 06/27/13 00:00
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Volatile Organic Compounds by GC/MS									
1,1,1,2-Tetrachloroethane	BRL	ug/L	0.50	0.15	1	8260B	7/1/13 17:01	VHL	P3G0028
1,1,1-Trichloroethane	BRL	ug/L	0.50	0.063	1	8260B	7/1/13 17:01	VHL	P3G0028
1,1,2,2-Tetrachloroethane	BRL	ug/L	0.50	0.071	1	8260B	7/1/13 17:01	VHL	P3G0028
1,1,2-Trichloroethane	BRL	ug/L	0.50	0.17	1	8260B	7/1/13 17:01	VHL	P3G0028
1,1-Dichloroethane	BRL	ug/L	0.50	0.096	1	8260B	7/1/13 17:01	VHL	P3G0028
1,1-Dichloroethylene	BRL	ug/L	0.50	0.078	1	8260B	7/1/13 17:01	VHL	P3G0028
1,1-Dichloropropylene	BRL	ug/L	0.50	0.061	1	8260B	7/1/13 17:01	VHL	P3G0028
1,2,3-Trichlorobenzene	BRL	ug/L	2.0	0.20	1	8260B	7/1/13 17:01	VHL	P3G0028
1,2,3-Trichloropropane	BRL	ug/L	1.0	0.081	1	8260B	7/1/13 17:01	VHL	P3G0028
1,2,4-Trichlorobenzene	BRL	ug/L	1.0	0.10	1	8260B	7/1/13 17:01	VHL	P3G0028
1,2,4-Trimethylbenzene	BRL	ug/L	0.50	0.048	1	8260B	7/1/13 17:01	VHL	P3G0028
1,2-Dibromo-3-chloropropane	BRL	ug/L	2.0	0.59	1	8260B	7/1/13 17:01	VHL	P3G0028
1,2-Dibromoethane	BRL	ug/L	0.50	0.14	1	8260B	7/1/13 17:01	VHL	P3G0028
1,2-Dichlorobenzene	BRL	ug/L	0.50	0.076	1	8260B	7/1/13 17:01	VHL	P3G0028
1,2-Dichloroethane	BRL	ug/L	0.50	0.14	1	8260B	7/1/13 17:01	VHL	P3G0028
1,2-Dichloropropane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 17:01	VHL	P3G0028
1,3,5-Trimethylbenzene	BRL	ug/L	0.50	0.057	1	8260B	7/1/13 17:01	VHL	P3G0028
1,3-Dichlorobenzene	BRL	ug/L	0.50	0.074	1	8260B	7/1/13 17:01	VHL	P3G0028
1,3-Dichloropropane	BRL	ug/L	0.50	0.11	1	8260B	7/1/13 17:01	VHL	P3G0028
1,4-Dichlorobenzene	BRL	ug/L	0.50	0.068	1	8260B	7/1/13 17:01	VHL	P3G0028
2,2-Dichloropropane	BRL	ug/L	2.0	0.11	1	8260B	7/1/13 17:01	VHL	P3G0028
2-Chloroethyl Vinyl Ether	BRL	ug/L	2.0	0.22	1	8260B	7/1/13 17:01	VHL	P3G0028
2-Chlorotoluene	BRL	ug/L	0.50	0.038	1	8260B	7/1/13 17:01	VHL	P3G0028
4-Chlorotoluene	BRL	ug/L	0.50	0.053	1	8260B	7/1/13 17:01	VHL	P3G0028
4-Isopropyltoluene	BRL	ug/L	0.50	0.065	1	8260B	7/1/13 17:01	VHL	P3G0028
Acetone	**6.9**	**ug/L**	**5.0**	**0.62**	**1**	**8260B**	**7/1/13 17:01**	**VHL**	**P3G0028**
Acrolein	BRL	ug/L	20	1.1	1	8260B	7/1/13 17:01	VHL	P3G0028
Acrylonitrile	BRL	ug/L	20	0.86	1	8260B	7/1/13 17:01	VHL	P3G0028
Benzene	BRL	ug/L	0.50	0.072	1	8260B	7/1/13 17:01	VHL	P3G0028
Bromobenzene	BRL	ug/L	0.50	0.064	1	8260B	7/1/13 17:01	VHL	P3G0028
Bromochloromethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 17:01	VHL	P3G0028
Bromodichloromethane	BRL	ug/L	0.50	0.062	1	8260B	7/1/13 17:01	VHL	P3G0028
Bromoform	BRL	ug/L	1.0	0.27	1	8260B	7/1/13 17:01	VHL	P3G0028
Bromomethane	BRL	ug/L	1.0	0.47	1	8260B	7/1/13 17:01	VHL	P3G0028
Carbon disulfide	BRL	ug/L	5.0	1.4	1	8260B	7/1/13 17:01	VHL	P3G0028
Carbon Tetrachloride	BRL	ug/L	0.50	0.12	1	8260B	7/1/13 17:01	VHL	P3G0028
Chlorobenzene	BRL	ug/L	0.50	0.061	1	8260B	7/1/13 17:01	VHL	P3G0028
Chloroethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 17:01	VHL	P3G0028
Chloroform	BRL	ug/L	0.50	0.089	1	8260B	7/1/13 17:01	VHL	P3G0028
Chloromethane	BRL	ug/L	0.50	0.11	1	8260B	7/1/13 17:01	VHL	P3G0028
cis-1,2-Dichloroethylene	BRL	ug/L	0.50	0.076	1	8260B	7/1/13 17:01	VHL	P3G0028
cis-1,3-Dichloropropylene	BRL	ug/L	0.50	0.10	1	8260B	7/1/13 17:01	VHL	P3G0028

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: Trip Blank
Prism Sample ID: 3060682-01
Prism Work Order: 3060682
Time Collected: 06/27/13 00:00
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Dibromochloromethane	BRL	ug/L	0.50	0.30	1	8260B	7/1/13 17:01	VHL	P3G0028
Dibromomethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 17:01	VHL	P3G0028
Dichlorodifluoromethane	BRL	ug/L	1.0	0.11	1	8260B	7/1/13 17:01	VHL	P3G0028
Ethylbenzene	BRL	ug/L	0.50	0.067	1	8260B	7/1/13 17:01	VHL	P3G0028
Hexachlorobutadiene	BRL	ug/L	2.0	0.36	1	8260B	7/1/13 17:01	VHL	P3G0028
Isopropyl Ether	BRL	ug/L	0.50	0.043	1	8260B	7/1/13 17:01	VHL	P3G0028
Isopropylbenzene (Cumene)	BRL	ug/L	0.50	0.072	1	8260B	7/1/13 17:01	VHL	P3G0028
m,p-Xylenes	BRL	ug/L	1.0	0.081	1	8260B	7/1/13 17:01	VHL	P3G0028
Methyl Butyl Ketone (2-Hexanone)	BRL	ug/L	5.0	0.19	1	8260B	7/1/13 17:01	VHL	P3G0028
Methyl Ethyl Ketone (2-Butanone)	**4.6 J**	**ug/L**	**5.0**	**0.90**	**1**	**8260B**	**7/1/13 17:01**	**VHL**	**P3G0028**
Methyl Isobutyl Ketone	BRL	ug/L	5.0	0.12	1	8260B	7/1/13 17:01	VHL	P3G0028
Methylene Chloride	BRL	ug/L	1.0	0.44	1	8260B	7/1/13 17:01	VHL	P3G0028
Methyl-tert-Butyl Ether	BRL	ug/L	0.50	0.070	1	8260B	7/1/13 17:01	VHL	P3G0028
Naphthalene	BRL	ug/L	1.0	0.098	1	8260B	7/1/13 17:01	VHL	P3G0028
n-Butylbenzene	BRL	ug/L	1.0	0.11	1	8260B	7/1/13 17:01	VHL	P3G0028
n-Propylbenzene	BRL	ug/L	0.50	0.060	1	8260B	7/1/13 17:01	VHL	P3G0028
o-Xylene	BRL	ug/L	0.50	0.046	1	8260B	7/1/13 17:01	VHL	P3G0028
sec-Butylbenzene	BRL	ug/L	0.50	0.087	1	8260B	7/1/13 17:01	VHL	P3G0028
Styrene	BRL	ug/L	0.50	0.047	1	8260B	7/1/13 17:01	VHL	P3G0028
tert-Butylbenzene	BRL	ug/L	0.50	0.080	1	8260B	7/1/13 17:01	VHL	P3G0028
Tetrachloroethylene	BRL	ug/L	0.50	0.069	1	8260B	7/1/13 17:01	VHL	P3G0028
Toluene	BRL	ug/L	0.50	0.042	1	8260B	7/1/13 17:01	VHL	P3G0028
trans-1,2-Dichloroethylene	BRL	ug/L	0.50	0.12	1	8260B	7/1/13 17:01	VHL	P3G0028
trans-1,3-Dichloropropylene	BRL	ug/L	0.50	0.043	1	8260B	7/1/13 17:01	VHL	P3G0028
Trichloroethylene	BRL	ug/L	0.50	0.054	1	8260B	7/1/13 17:01	VHL	P3G0028
Trichlorofluoromethane	BRL	ug/L	0.50	0.088	1	8260B	7/1/13 17:01	VHL	P3G0028
Vinyl acetate	BRL	ug/L	2.0	0.10	1	8260B	7/1/13 17:01	VHL	P3G0028
Vinyl chloride	BRL	ug/L	0.50	0.16	1	8260B	7/1/13 17:01	VHL	P3G0028

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*110 %*	*80-124*
Dibromofluoromethane	*113 %*	*75-129*
Toluene-d8	*115 %*	*77-123*

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: Field Blank
Prism Sample ID: 3060682-02
Prism Work Order: 3060682
Time Collected: 06/27/13 13:25
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Volatile Organic Compounds by GC/MS									
1,1,1,2-Tetrachloroethane	BRL	ug/L	0.50	0.15	1	8260B	7/1/13 17:27	VHL	P3G0028
1,1,1-Trichloroethane	BRL	ug/L	0.50	0.063	1	8260B	7/1/13 17:27	VHL	P3G0028
1,1,2,2-Tetrachloroethane	BRL	ug/L	0.50	0.071	1	8260B	7/1/13 17:27	VHL	P3G0028
1,1,2-Trichloroethane	BRL	ug/L	0.50	0.17	1	8260B	7/1/13 17:27	VHL	P3G0028
1,1-Dichloroethane	BRL	ug/L	0.50	0.096	1	8260B	7/1/13 17:27	VHL	P3G0028
1,1-Dichloroethylene	BRL	ug/L	0.50	0.078	1	8260B	7/1/13 17:27	VHL	P3G0028
1,1-Dichloropropylene	BRL	ug/L	0.50	0.061	1	8260B	7/1/13 17:27	VHL	P3G0028
1,2,3-Trichlorobenzene	BRL	ug/L	2.0	0.20	1	8260B	7/1/13 17:27	VHL	P3G0028
1,2,3-Trichloropropane	BRL	ug/L	1.0	0.081	1	8260B	7/1/13 17:27	VHL	P3G0028
1,2,4-Trichlorobenzene	BRL	ug/L	1.0	0.10	1	8260B	7/1/13 17:27	VHL	P3G0028
1,2,4-Trimethylbenzene	BRL	ug/L	0.50	0.048	1	8260B	7/1/13 17:27	VHL	P3G0028
1,2-Dibromo-3-chloropropane	BRL	ug/L	2.0	0.59	1	8260B	7/1/13 17:27	VHL	P3G0028
1,2-Dibromoethane	BRL	ug/L	0.50	0.14	1	8260B	7/1/13 17:27	VHL	P3G0028
1,2-Dichlorobenzene	BRL	ug/L	0.50	0.076	1	8260B	7/1/13 17:27	VHL	P3G0028
1,2-Dichloroethane	BRL	ug/L	0.50	0.14	1	8260B	7/1/13 17:27	VHL	P3G0028
1,2-Dichloropropane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 17:27	VHL	P3G0028
1,3,5-Trimethylbenzene	BRL	ug/L	0.50	0.057	1	8260B	7/1/13 17:27	VHL	P3G0028
1,3-Dichlorobenzene	BRL	ug/L	0.50	0.074	1	8260B	7/1/13 17:27	VHL	P3G0028
1,3-Dichloropropane	BRL	ug/L	0.50	0.11	1	8260B	7/1/13 17:27	VHL	P3G0028
1,4-Dichlorobenzene	BRL	ug/L	0.50	0.068	1	8260B	7/1/13 17:27	VHL	P3G0028
2,2-Dichloropropane	BRL	ug/L	2.0	0.11	1	8260B	7/1/13 17:27	VHL	P3G0028
2-Chloroethyl Vinyl Ether	BRL	ug/L	2.0	0.22	1	8260B	7/1/13 17:27	VHL	P3G0028
2-Chlorotoluene	BRL	ug/L	0.50	0.038	1	8260B	7/1/13 17:27	VHL	P3G0028
4-Chlorotoluene	BRL	ug/L	0.50	0.053	1	8260B	7/1/13 17:27	VHL	P3G0028
4-Isopropyltoluene	BRL	ug/L	0.50	0.065	1	8260B	7/1/13 17:27	VHL	P3G0028
Acetone	**5.5**	**ug/L**	**5.0**	**0.62**	**1**	**8260B**	**7/1/13 17:27**	**VHL**	**P3G0028**
Acrolein	BRL	ug/L	20	1.1	1	8260B	7/1/13 17:27	VHL	P3G0028
Acrylonitrile	BRL	ug/L	20	0.86	1	8260B	7/1/13 17:27	VHL	P3G0028
Benzene	BRL	ug/L	0.50	0.072	1	8260B	7/1/13 17:27	VHL	P3G0028
Bromobenzene	BRL	ug/L	0.50	0.064	1	8260B	7/1/13 17:27	VHL	P3G0028
Bromochloromethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 17:27	VHL	P3G0028
Bromodichloromethane	BRL	ug/L	0.50	0.062	1	8260B	7/1/13 17:27	VHL	P3G0028
Bromoform	BRL	ug/L	1.0	0.27	1	8260B	7/1/13 17:27	VHL	P3G0028
Bromomethane	BRL	ug/L	1.0	0.47	1	8260B	7/1/13 17:27	VHL	P3G0028
Carbon disulfide	BRL	ug/L	5.0	1.4	1	8260B	7/1/13 17:27	VHL	P3G0028
Carbon Tetrachloride	BRL	ug/L	0.50	0.12	1	8260B	7/1/13 17:27	VHL	P3G0028
Chlorobenzene	BRL	ug/L	0.50	0.061	1	8260B	7/1/13 17:27	VHL	P3G0028
Chloroethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 17:27	VHL	P3G0028
Chloroform	BRL	ug/L	0.50	0.089	1	8260B	7/1/13 17:27	VHL	P3G0028
Chloromethane	BRL	ug/L	0.50	0.11	1	8260B	7/1/13 17:27	VHL	P3G0028
cis-1,2-Dichloroethylene	BRL	ug/L	0.50	0.076	1	8260B	7/1/13 17:27	VHL	P3G0028
cis-1,3-Dichloropropylene	BRL	ug/L	0.50	0.10	1	8260B	7/1/13 17:27	VHL	P3G0028

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: Field Blank
Prism Sample ID: 3060682-02
Prism Work Order: 3060682
Time Collected: 06/27/13 13:25
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Dibromochloromethane	BRL	ug/L	0.50	0.30	1	8260B	7/1/13 17:27	VHL	P3G0028
Dibromomethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 17:27	VHL	P3G0028
Dichlorodifluoromethane	BRL	ug/L	1.0	0.11	1	8260B	7/1/13 17:27	VHL	P3G0028
Ethylbenzene	BRL	ug/L	0.50	0.067	1	8260B	7/1/13 17:27	VHL	P3G0028
Hexachlorobutadiene	BRL	ug/L	2.0	0.36	1	8260B	7/1/13 17:27	VHL	P3G0028
Isopropyl Ether	BRL	ug/L	0.50	0.043	1	8260B	7/1/13 17:27	VHL	P3G0028
Isopropylbenzene (Cumene)	BRL	ug/L	0.50	0.072	1	8260B	7/1/13 17:27	VHL	P3G0028
m,p-Xylenes	BRL	ug/L	1.0	0.081	1	8260B	7/1/13 17:27	VHL	P3G0028
Methyl Butyl Ketone (2-Hexanone)	BRL	ug/L	5.0	0.19	1	8260B	7/1/13 17:27	VHL	P3G0028
Methyl Ethyl Ketone (2-Butanone)	**4.3 J**	**ug/L**	**5.0**	**0.90**	**1**	**8260B**	**7/1/13 17:27**	**VHL**	**P3G0028**
Methyl Isobutyl Ketone	BRL	ug/L	5.0	0.12	1	8260B	7/1/13 17:27	VHL	P3G0028
Methylene Chloride	BRL	ug/L	1.0	0.44	1	8260B	7/1/13 17:27	VHL	P3G0028
Methyl-tert-Butyl Ether	BRL	ug/L	0.50	0.070	1	8260B	7/1/13 17:27	VHL	P3G0028
Naphthalene	BRL	ug/L	1.0	0.098	1	8260B	7/1/13 17:27	VHL	P3G0028
n-Butylbenzene	BRL	ug/L	1.0	0.11	1	8260B	7/1/13 17:27	VHL	P3G0028
n-Propylbenzene	BRL	ug/L	0.50	0.060	1	8260B	7/1/13 17:27	VHL	P3G0028
o-Xylene	BRL	ug/L	0.50	0.046	1	8260B	7/1/13 17:27	VHL	P3G0028
sec-Butylbenzene	BRL	ug/L	0.50	0.087	1	8260B	7/1/13 17:27	VHL	P3G0028
Styrene	BRL	ug/L	0.50	0.047	1	8260B	7/1/13 17:27	VHL	P3G0028
tert-Butylbenzene	BRL	ug/L	0.50	0.080	1	8260B	7/1/13 17:27	VHL	P3G0028
Tetrachloroethylene	BRL	ug/L	0.50	0.069	1	8260B	7/1/13 17:27	VHL	P3G0028
Toluene	BRL	ug/L	0.50	0.042	1	8260B	7/1/13 17:27	VHL	P3G0028
trans-1,2-Dichloroethylene	BRL	ug/L	0.50	0.12	1	8260B	7/1/13 17:27	VHL	P3G0028
trans-1,3-Dichloropropylene	BRL	ug/L	0.50	0.043	1	8260B	7/1/13 17:27	VHL	P3G0028
Trichloroethylene	BRL	ug/L	0.50	0.054	1	8260B	7/1/13 17:27	VHL	P3G0028
Trichlorofluoromethane	BRL	ug/L	0.50	0.088	1	8260B	7/1/13 17:27	VHL	P3G0028
Vinyl acetate	BRL	ug/L	2.0	0.10	1	8260B	7/1/13 17:27	VHL	P3G0028
Vinyl chloride	BRL	ug/L	0.50	0.16	1	8260B	7/1/13 17:27	VHL	P3G0028

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*107 %*	*80-124*
Dibromofluoromethane	*115 %*	*75-129*
Toluene-d8	*113 %*	*77-123*

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-6
Prism Sample ID: 3060682-03
Prism Work Order: 3060682
Time Collected: 06/27/13 15:00
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Anions by Ion Chromatography									
Nitrate as N	**1.2 A**	**mg/L**	**0.10**	**0.00090**	**1**	***9056A**	**6/28/13 20:26**	**CDE**	**P3G0015**
General Chemistry Parameters									
Phosphorus-Total	BRL	mg/L	0.050	0.0097	1	*SM4500-P F	7/2/13 10:41	CLB	P3G0005
Organochlorine Pesticides by GC/ECD									
4,4'-DDD	BRL	ug/L	0.050	0.0036	1	8081B	7/17/13 0:39	JMV	P3G0080
4,4'-DDE	BRL CCV	ug/L	0.050	0.0038	1	8081B	7/17/13 0:39	JMV	P3G0080
4,4'-DDT	BRL CCV	ug/L	0.050	0.021	1	8081B	7/17/13 0:39	JMV	P3G0080
Aldrin	BRL CCV	ug/L	0.050	0.010	1	8081B	7/17/13 0:39	JMV	P3G0080
alpha-BHC	BRL CCV	ug/L	0.050	0.0044	1	8081B	7/17/13 0:39	JMV	P3G0080
cis-Chlordane	BRL CCV	ug/L	0.050	0.0070	1	8081B	7/17/13 0:39	JMV	P3G0080
beta-BHC	BRL CCV	ug/L	0.050	0.0066	1	8081B	7/17/13 0:39	JMV	P3G0080
Chlordane	BRL	ug/L	0.50	0.12	1	8081B	7/17/13 0:39	JMV	P3G0080
delta-BHC	BRL CCV	ug/L	0.050	0.0033	1	8081B	7/17/13 0:39	JMV	P3G0080
Dieldrin	BRL	ug/L	0.050	0.0046	1	8081B	7/17/13 0:39	JMV	P3G0080
Endosulfan I	BRL CCV	ug/L	0.050	0.0084	1	8081B	7/17/13 0:39	JMV	P3G0080
Endosulfan II	BRL	ug/L	0.050	0.0047	1	8081B	7/17/13 0:39	JMV	P3G0080
Endosulfan Sulfate	BRL CCV	ug/L	0.050	0.0047	1	8081B	7/17/13 0:39	JMV	P3G0080
Endrin	BRL	ug/L	0.050	0.0046	1	8081B	7/17/13 0:39	JMV	P3G0080
Endrin Aldehyde	BRL	ug/L	0.050	0.0053	1	8081B	7/17/13 0:39	JMV	P3G0080
Endrin Ketone	BRL	ug/L	0.050	0.0043	1	8081B	7/17/13 0:39	JMV	P3G0080
gamma-BHC	BRL CCV	ug/L	0.050	0.0049	1	8081B	7/17/13 0:39	JMV	P3G0080
trans-Chlordane	BRL CCV	ug/L	0.050	0.0060	1	8081B	7/17/13 0:39	JMV	P3G0080
Heptachlor	BRL	ug/L	0.050	0.0077	1	8081B	7/17/13 0:39	JMV	P3G0080
Heptachlor Epoxide	BRL CCV	ug/L	0.050	0.0046	1	8081B	7/17/13 0:39	JMV	P3G0080
Methoxychlor	BRL	ug/L	0.050	0.0087	1	8081B	7/17/13 0:39	JMV	P3G0080
Toxaphene	BRL	ug/L	0.50	0.15	1	8081B	7/17/13 0:39	JMV	P3G0080

Surrogate	Recovery	Control Limits
Decachlorobiphenyl	*117 %*	*13-186*
Tetrachloro-m-xylene	*91 %*	*40-134*

Semivolatile Organic Compounds by GC/MS									
1,2,4-Trichlorobenzene	BRL	ug/L	10	2.2	1	8270D	7/9/13 13:57	KC	P3G0051
1,2-Dichlorobenzene	BRL	ug/L	10	1.8	1	8270D	7/9/13 13:57	KC	P3G0051
1,3-Dichlorobenzene	BRL	ug/L	10	1.8	1	8270D	7/9/13 13:57	KC	P3G0051
1,4-Dichlorobenzene	BRL	ug/L	10	2.0	1	8270D	7/9/13 13:57	KC	P3G0051
1-Methylnaphthalene	BRL	ug/L	10	2.5	1	8270D	7/9/13 13:57	KC	P3G0051
2,4,5-Trichlorophenol	BRL	ug/L	10	2.5	1	8270D	7/9/13 13:57	KC	P3G0051
2,4,6-Trichlorophenol	BRL	ug/L	10	2.3	1	8270D	7/9/13 13:57	KC	P3G0051
2,4-Dichlorophenol	BRL	ug/L	10	2.4	1	8270D	7/9/13 13:57	KC	P3G0051
2,4-Dimethylphenol	BRL	ug/L	10	2.4	1	8270D	7/9/13 13:57	KC	P3G0051
2,4-Dinitrophenol	BRL CCV, IC\	ug/L	10	2.4	1	8270D	7/9/13 13:57	KC	P3G0051
2,4-Dinitrotoluene	BRL	ug/L	10	0.95	1	8270D	7/9/13 13:57	KC	P3G0051

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-6
Prism Sample ID: 3060682-03
Prism Work Order: 3060682
Time Collected: 06/27/13 15:00
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
2,6-Dinitrotoluene	BRL	ug/L	10	1.6	1	8270D	7/9/13 13:57	KC	P3G0051
2-Chloronaphthalene	BRL	ug/L	10	2.3	1	8270D	7/9/13 13:57	KC	P3G0051
2-Chlorophenol	BRL	ug/L	10	2.1	1	8270D	7/9/13 13:57	KC	P3G0051
2-Methylnaphthalene	BRL	ug/L	10	2.6	1	8270D	7/9/13 13:57	KC	P3G0051
2-Methylphenol	BRL	ug/L	10	2.4	1	8270D	7/9/13 13:57	KC	P3G0051
2-Nitroaniline	BRL	ug/L	10	1.9	1	8270D	7/9/13 13:57	KC	P3G0051
2-Nitrophenol	BRL	ug/L	10	2.5	1	8270D	7/9/13 13:57	KC	P3G0051
3,3'-Dichlorobenzidine	BRL	ug/L	10	0.96	1	8270D	7/9/13 13:57	KC	P3G0051
3/4-Methylphenol	BRL	ug/L	10	2.4	1	8270D	7/9/13 13:57	KC	P3G0051
3-Nitroaniline	BRL	ug/L	10	1.3	1	8270D	7/9/13 13:57	KC	P3G0051
4,6-Dinitro-2-methylphenol	BRL	ug/L	10	2.7	1	8270D	7/9/13 13:57	KC	P3G0051
4-Bromophenyl phenyl ether	BRL	ug/L	10	1.8	1	8270D	7/9/13 13:57	KC	P3G0051
4-Chloro-3-methylphenol	BRL	ug/L	10	2.3	1	8270D	7/9/13 13:57	KC	P3G0051
4-Chloroaniline	BRL	ug/L	10	2.5	1	8270D	7/9/13 13:57	KC	P3G0051
4-Chlorophenyl phenyl ether	BRL	ug/L	10	1.8	1	8270D	7/9/13 13:57	KC	P3G0051
4-Nitroaniline	BRL	ug/L	10	0.91	1	8270D	7/9/13 13:57	KC	P3G0051
4-Nitrophenol	BRL	ug/L	10	2.6	1	8270D	7/9/13 13:57	KC	P3G0051
Acenaphthene	BRL	ug/L	10	2.1	1	8270D	7/9/13 13:57	KC	P3G0051
Acenaphthylene	BRL	ug/L	10	2.2	1	8270D	7/9/13 13:57	KC	P3G0051
Aniline	BRL	ug/L	10	2.2	1	8270D	7/9/13 13:57	KC	P3G0051
Anthracene	BRL	ug/L	10	1.2	1	8270D	7/9/13 13:57	KC	P3G0051
Azobenzene	BRL	ug/L	10	1.8	1	8270D	7/9/13 13:57	KC	P3G0051
Benzo(a)anthracene	BRL	ug/L	10	0.95	1	8270D	7/9/13 13:57	KC	P3G0051
Benzo(a)pyrene	BRL	ug/L	10	1.1	1	8270D	7/9/13 13:57	KC	P3G0051
Benzo(b)fluoranthene	BRL	ug/L	10	1.4	1	8270D	7/9/13 13:57	KC	P3G0051
Benzo(g,h,i)perylene	BRL	ug/L	10	2.1	1	8270D	7/9/13 13:57	KC	P3G0051
Benzo(k)fluoranthene	BRL	ug/L	10	1.1	1	8270D	7/9/13 13:57	KC	P3G0051
Benzoic Acid	BRL	ug/L	100	50	1	8270D	7/9/13 13:57	KC	P3G0051
Benzyl alcohol	BRL	ug/L	10	2.1	1	8270D	7/9/13 13:57	KC	P3G0051
bis(2-Chloroethoxy)methane	BRL	ug/L	10	2.2	1	8270D	7/9/13 13:57	KC	P3G0051
Bis(2-Chloroethyl)ether	BRL CCV	ug/L	10	1.9	1	8270D	7/9/13 13:57	KC	P3G0051
Bis(2-chloroisopropyl)ether	BRL CCV	ug/L	10	2.3	1	8270D	7/9/13 13:57	KC	P3G0051
Bis(2-Ethylhexyl)phthalate	BRL	ug/L	10	1.8	1	8270D	7/9/13 13:57	KC	P3G0051
Butyl benzyl phthalate	BRL	ug/L	10	1.5	1	8270D	7/9/13 13:57	KC	P3G0051
Chrysene	BRL	ug/L	10	1.2	1	8270D	7/9/13 13:57	KC	P3G0051
Dibenzo(a,h)anthracene	BRL	ug/L	10	1.8	1	8270D	7/9/13 13:57	KC	P3G0051
Dibenzofuran	BRL	ug/L	10	2.2	1	8270D	7/9/13 13:57	KC	P3G0051
Diethyl phthalate	BRL	ug/L	10	1.4	1	8270D	7/9/13 13:57	KC	P3G0051
Dimethyl phthalate	BRL	ug/L	10	1.6	1	8270D	7/9/13 13:57	KC	P3G0051
Di-n-butyl phthalate	**6.3 J**	**ug/L**	**10**	**1.8**	**1**	**8270D**	**7/9/13 13:57**	**KC**	**P3G0051**
Di-n-octyl phthalate	BRL	ug/L	10	1.9	1	8270D	7/9/13 13:57	KC	P3G0051
Fluoranthene	BRL	ug/L	10	0.94	1	8270D	7/9/13 13:57	KC	P3G0051
Fluorene	BRL	ug/L	10	1.8	1	8270D	7/9/13 13:57	KC	P3G0051

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-6
Prism Sample ID: 3060682-03
Prism Work Order: 3060682
Time Collected: 06/27/13 15:00
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Hexachlorobenzene	BRL	ug/L	10	1.4	1	8270D	7/9/13 13:57	KC	P3G0051
Hexachlorobutadiene	BRL	ug/L	10	2.3	1	8270D	7/9/13 13:57	KC	P3G0051
Hexachlorocyclopentadiene	BRL	ug/L	10	1.8	1	8270D	7/9/13 13:57	KC	P3G0051
Hexachloroethane	BRL	ug/L	10	1.9	1	8270D	7/9/13 13:57	KC	P3G0051
Indeno(1,2,3-cd)pyrene	BRL	ug/L	10	1.6	1	8270D	7/9/13 13:57	KC	P3G0051
Isophorone	BRL	ug/L	10	2.4	1	8270D	7/9/13 13:57	KC	P3G0051
Naphthalene	BRL	ug/L	10	2.3	1	8270D	7/9/13 13:57	KC	P3G0051
Nitrobenzene	BRL	ug/L	10	2.0	1	8270D	7/9/13 13:57	KC	P3G0051
N-Nitroso-di-n-propylamine	BRL	ug/L	10	2.3	1	8270D	7/9/13 13:57	KC	P3G0051
N-Nitrosodiphenylamine	BRL	ug/L	10	1.6	1	8270D	7/9/13 13:57	KC	P3G0051
Pentachlorophenol	BRL	ug/L	10	1.6	1	8270D	7/9/13 13:57	KC	P3G0051
Phenanthrene	BRL	ug/L	10	1.2	1	8270D	7/9/13 13:57	KC	P3G0051
Phenol	BRL	ug/L	10	2.2	1	8270D	7/9/13 13:57	KC	P3G0051
Pyrene	BRL	ug/L	10	1.4	1	8270D	7/9/13 13:57	KC	P3G0051

Surrogate	Recovery	Control Limits
2,4,6-Tribromophenol	*95 %*	*49-109*
2-Fluorobiphenyl	*79 %*	*55-96*
2-Fluorophenol	*52 %*	*27-74*
Nitrobenzene-d5	*83 %*	*53-99*
Phenol-d5	*39 %*	*11-52*
Terphenyl-d14	*81 %*	*42-133*

Total Metals

Mercury	BRL	mg/L	0.00020	0.000041	1	*7470A	7/3/13 14:00	MEH	P3G0075
Antimony	BRL	mg/L	0.010	0.00092	1	*6010C	7/1/13 20:13	BGM	P3G0009
Arsenic	BRL	mg/L	0.010	0.0010	1	*6010C	7/1/13 20:13	BGM	P3G0009
Beryllium	BRL	mg/L	0.0020	0.00012	1	*6010C	7/1/13 20:13	BGM	P3G0009
Cadmium	BRL	mg/L	0.0010	0.000044	1	*6010C	7/1/13 20:13	BGM	P3G0009
Chromium	BRL	mg/L	0.0050	0.00039	1	*6010C	7/1/13 20:13	BGM	P3G0009
Copper	BRL	mg/L	0.010	0.00036	1	*6010C	7/1/13 20:13	BGM	P3G0009
Lead	BRL	mg/L	0.0050	0.00061	1	*6010C	7/1/13 20:13	BGM	P3G0009
Nickel	BRL	mg/L	0.010	0.00030	1	*6010C	7/1/13 20:13	BGM	P3G0009
Selenium	BRL	mg/L	0.020	0.0022	1	*6010C	7/1/13 20:13	BGM	P3G0009
Silver	BRL	mg/L	0.0050	0.00026	1	*6010C	7/1/13 20:13	BGM	P3G0009
Thallium	BRL	mg/L	0.010	0.0026	1	*6010C	7/1/13 20:13	BGM	P3G0009
Zinc	BRL	mg/L	0.030	0.00051	1	*6010C	7/1/13 20:13	BGM	P3G0009

Volatile Organic Compounds by GC/MS

1,1,1,2-Tetrachloroethane	BRL	ug/L	0.50	0.15	1	8260B	7/1/13 14:27	VHL	P3G0028
1,1,1-Trichloroethane	BRL	ug/L	0.50	0.063	1	8260B	7/1/13 14:27	VHL	P3G0028
1,1,2,2-Tetrachloroethane	BRL	ug/L	0.50	0.071	1	8260B	7/1/13 14:27	VHL	P3G0028
1,1,2-Trichloroethane	BRL	ug/L	0.50	0.17	1	8260B	7/1/13 14:27	VHL	P3G0028
1,1-Dichloroethane	BRL	ug/L	0.50	0.096	1	8260B	7/1/13 14:27	VHL	P3G0028
1,1-Dichloroethylene	BRL	ug/L	0.50	0.078	1	8260B	7/1/13 14:27	VHL	P3G0028
1,1-Dichloropropylene	BRL	ug/L	0.50	0.061	1	8260B	7/1/13 14:27	VHL	P3G0028

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-6
Prism Sample ID: 3060682-03
Prism Work Order: 3060682
Time Collected: 06/27/13 15:00
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,2,3-Trichlorobenzene	BRL	ug/L	2.0	0.20	1	8260B	7/1/13 14:27	VHL	P3G0028
1,2,3-Trichloropropane	BRL	ug/L	1.0	0.081	1	8260B	7/1/13 14:27	VHL	P3G0028
1,2,4-Trichlorobenzene	BRL	ug/L	1.0	0.10	1	8260B	7/1/13 14:27	VHL	P3G0028
1,2,4-Trimethylbenzene	BRL	ug/L	0.50	0.048	1	8260B	7/1/13 14:27	VHL	P3G0028
1,2-Dibromo-3-chloropropane	BRL	ug/L	2.0	0.59	1	8260B	7/1/13 14:27	VHL	P3G0028
1,2-Dibromoethane	BRL	ug/L	0.50	0.14	1	8260B	7/1/13 14:27	VHL	P3G0028
1,2-Dichlorobenzene	BRL	ug/L	0.50	0.076	1	8260B	7/1/13 14:27	VHL	P3G0028
1,2-Dichloroethane	BRL	ug/L	0.50	0.14	1	8260B	7/1/13 14:27	VHL	P3G0028
1,2-Dichloropropane	**1.0**	**ug/L**	**0.50**	**0.13**	**1**	**8260B**	**7/1/13 14:27**	**VHL**	**P3G0028**
1,3,5-Trimethylbenzene	BRL	ug/L	0.50	0.057	1	8260B	7/1/13 14:27	VHL	P3G0028
1,3-Dichlorobenzene	BRL	ug/L	0.50	0.074	1	8260B	7/1/13 14:27	VHL	P3G0028
1,3-Dichloropropane	BRL	ug/L	0.50	0.11	1	8260B	7/1/13 14:27	VHL	P3G0028
1,4-Dichlorobenzene	BRL	ug/L	0.50	0.068	1	8260B	7/1/13 14:27	VHL	P3G0028
2,2-Dichloropropane	BRL	ug/L	2.0	0.11	1	8260B	7/1/13 14:27	VHL	P3G0028
2-Chloroethyl Vinyl Ether	BRL	ug/L	2.0	0.22	1	8260B	7/1/13 14:27	VHL	P3G0028
2-Chlorotoluene	BRL	ug/L	0.50	0.038	1	8260B	7/1/13 14:27	VHL	P3G0028
4-Chlorotoluene	BRL	ug/L	0.50	0.053	1	8260B	7/1/13 14:27	VHL	P3G0028
4-Isopropyltoluene	BRL	ug/L	0.50	0.065	1	8260B	7/1/13 14:27	VHL	P3G0028
Acetone	BRL	ug/L	5.0	0.62	1	8260B	7/1/13 14:27	VHL	P3G0028
Acrolein	BRL	ug/L	20	1.1	1	8260B	7/1/13 14:27	VHL	P3G0028
Acrylonitrile	BRL	ug/L	20	0.86	1	8260B	7/1/13 14:27	VHL	P3G0028
Benzene	BRL	ug/L	0.50	0.072	1	8260B	7/1/13 14:27	VHL	P3G0028
Bromobenzene	BRL	ug/L	0.50	0.064	1	8260B	7/1/13 14:27	VHL	P3G0028
Bromochloromethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 14:27	VHL	P3G0028
Bromodichloromethane	BRL	ug/L	0.50	0.062	1	8260B	7/1/13 14:27	VHL	P3G0028
Bromoform	BRL	ug/L	1.0	0.27	1	8260B	7/1/13 14:27	VHL	P3G0028
Bromomethane	BRL	ug/L	1.0	0.47	1	8260B	7/1/13 14:27	VHL	P3G0028
Carbon disulfide	BRL	ug/L	5.0	1.4	1	8260B	7/1/13 14:27	VHL	P3G0028
Carbon Tetrachloride	BRL	ug/L	0.50	0.12	1	8260B	7/1/13 14:27	VHL	P3G0028
Chlorobenzene	BRL	ug/L	0.50	0.061	1	8260B	7/1/13 14:27	VHL	P3G0028
Chloroethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 14:27	VHL	P3G0028
Chloroform	BRL	ug/L	0.50	0.089	1	8260B	7/1/13 14:27	VHL	P3G0028
Chloromethane	BRL	ug/L	0.50	0.11	1	8260B	7/1/13 14:27	VHL	P3G0028
cis-1,2-Dichloroethylene	BRL	ug/L	0.50	0.076	1	8260B	7/1/13 14:27	VHL	P3G0028
cis-1,3-Dichloropropylene	BRL	ug/L	0.50	0.10	1	8260B	7/1/13 14:27	VHL	P3G0028
Dibromochloromethane	BRL	ug/L	0.50	0.30	1	8260B	7/1/13 14:27	VHL	P3G0028
Dibromomethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 14:27	VHL	P3G0028
Dichlorodifluoromethane	BRL	ug/L	1.0	0.11	1	8260B	7/1/13 14:27	VHL	P3G0028
Ethylbenzene	BRL	ug/L	0.50	0.067	1	8260B	7/1/13 14:27	VHL	P3G0028
Hexachlorobutadiene	BRL	ug/L	2.0	0.36	1	8260B	7/1/13 14:27	VHL	P3G0028
Isopropyl Ether	BRL	ug/L	0.50	0.043	1	8260B	7/1/13 14:27	VHL	P3G0028
Isopropylbenzene (Cumene)	BRL	ug/L	0.50	0.072	1	8260B	7/1/13 14:27	VHL	P3G0028
m,p-Xylenes	BRL	ug/L	1.0	0.081	1	8260B	7/1/13 14:27	VHL	P3G0028

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-6
Prism Sample ID: 3060682-03
Prism Work Order: 3060682
Time Collected: 06/27/13 15:00
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Methyl Butyl Ketone (2-Hexanone)	BRL	ug/L	5.0	0.19	1	8260B	7/1/13 14:27	VHL	P3G0028
Methyl Ethyl Ketone (2-Butanone)	BRL	ug/L	5.0	0.90	1	8260B	7/1/13 14:27	VHL	P3G0028
Methyl Isobutyl Ketone	BRL	ug/L	5.0	0.12	1	8260B	7/1/13 14:27	VHL	P3G0028
Methylene Chloride	BRL	ug/L	1.0	0.44	1	8260B	7/1/13 14:27	VHL	P3G0028
Methyl-tert-Butyl Ether	**6.8**	**ug/L**	**0.50**	**0.070**	**1**	**8260B**	**7/1/13 14:27**	**VHL**	**P3G0028**
Naphthalene	BRL	ug/L	1.0	0.098	1	8260B	7/1/13 14:27	VHL	P3G0028
n-Butylbenzene	BRL	ug/L	1.0	0.11	1	8260B	7/1/13 14:27	VHL	P3G0028
n-Propylbenzene	BRL	ug/L	0.50	0.060	1	8260B	7/1/13 14:27	VHL	P3G0028
o-Xylene	BRL	ug/L	0.50	0.046	1	8260B	7/1/13 14:27	VHL	P3G0028
sec-Butylbenzene	**2.2**	**ug/L**	**0.50**	**0.087**	**1**	**8260B**	**7/1/13 14:27**	**VHL**	**P3G0028**
Styrene	BRL	ug/L	0.50	0.047	1	8260B	7/1/13 14:27	VHL	P3G0028
tert-Butylbenzene	BRL	ug/L	0.50	0.080	1	8260B	7/1/13 14:27	VHL	P3G0028
Tetrachloroethylene	BRL	ug/L	0.50	0.069	1	8260B	7/1/13 14:27	VHL	P3G0028
Toluene	BRL	ug/L	0.50	0.042	1	8260B	7/1/13 14:27	VHL	P3G0028
trans-1,2-Dichloroethylene	BRL	ug/L	0.50	0.12	1	8260B	7/1/13 14:27	VHL	P3G0028
trans-1,3-Dichloropropylene	BRL	ug/L	0.50	0.043	1	8260B	7/1/13 14:27	VHL	P3G0028
Trichloroethylene	BRL	ug/L	0.50	0.054	1	8260B	7/1/13 14:27	VHL	P3G0028
Trichlorofluoromethane	BRL	ug/L	0.50	0.088	1	8260B	7/1/13 14:27	VHL	P3G0028
Vinyl acetate	BRL	ug/L	2.0	0.10	1	8260B	7/1/13 14:27	VHL	P3G0028
Vinyl chloride	BRL	ug/L	0.50	0.16	1	8260B	7/1/13 14:27	VHL	P3G0028

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*109 %*	*80-124*
Dibromofluoromethane	*115 %*	*75-129*
Toluene-d8	*115 %*	*77-123*

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: Duplicate (MW)
Prism Sample ID: 3060682-04
Prism Work Order: 3060682
Time Collected: 06/27/13 15:10
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Anions by Ion Chromatography									
Nitrate as N	**0.96 A**	**mg/L**	**0.10**	**0.00090**	**1**	***9056A**	**6/28/13 20:40**	**CDE**	**P3G0015**
General Chemistry Parameters									
Phosphorus-Total	BRL	mg/L	0.050	0.0097	1	*SM4500-P F	7/2/13 10:41	CLB	P3G0005
Organochlorine Pesticides by GC/ECD									
4,4'-DDD	BRL	ug/L	0.050	0.0036	1	8081B	7/17/13 1:22	JMV	P3G0080
4,4'-DDE	BRL CCV	ug/L	0.050	0.0038	1	8081B	7/17/13 1:22	JMV	P3G0080
4,4'-DDT	BRL CCV	ug/L	0.050	0.021	1	8081B	7/17/13 1:22	JMV	P3G0080
Aldrin	BRL CCV	ug/L	0.050	0.010	1	8081B	7/17/13 1:22	JMV	P3G0080
alpha-BHC	BRL CCV	ug/L	0.050	0.0044	1	8081B	7/17/13 1:22	JMV	P3G0080
cis-Chlordane	BRL CCV	ug/L	0.050	0.0070	1	8081B	7/17/13 1:22	JMV	P3G0080
beta-BHC	BRL CCV	ug/L	0.050	0.0066	1	8081B	7/17/13 1:22	JMV	P3G0080
Chlordane	BRL	ug/L	0.50	0.12	1	8081B	7/17/13 1:22	JMV	P3G0080
delta-BHC	BRL CCV	ug/L	0.050	0.0033	1	8081B	7/17/13 1:22	JMV	P3G0080
Dieldrin	BRL	ug/L	0.050	0.0046	1	8081B	7/17/13 1:22	JMV	P3G0080
Endosulfan I	BRL CCV	ug/L	0.050	0.0084	1	8081B	7/17/13 1:22	JMV	P3G0080
Endosulfan II	BRL	ug/L	0.050	0.0047	1	8081B	7/17/13 1:22	JMV	P3G0080
Endosulfan Sulfate	BRL CCV	ug/L	0.050	0.0047	1	8081B	7/17/13 1:22	JMV	P3G0080
Endrin	BRL	ug/L	0.050	0.0046	1	8081B	7/17/13 1:22	JMV	P3G0080
Endrin Aldehyde	BRL	ug/L	0.050	0.0053	1	8081B	7/17/13 1:22	JMV	P3G0080
Endrin Ketone	BRL	ug/L	0.050	0.0043	1	8081B	7/17/13 1:22	JMV	P3G0080
gamma-BHC	BRL CCV	ug/L	0.050	0.0049	1	8081B	7/17/13 1:22	JMV	P3G0080
trans-Chlordane	BRL CCV	ug/L	0.050	0.0060	1	8081B	7/17/13 1:22	JMV	P3G0080
Heptachlor	BRL	ug/L	0.050	0.0077	1	8081B	7/17/13 1:22	JMV	P3G0080
Heptachlor Epoxide	BRL CCV	ug/L	0.050	0.0046	1	8081B	7/17/13 1:22	JMV	P3G0080
Methoxychlor	BRL	ug/L	0.050	0.0087	1	8081B	7/17/13 1:22	JMV	P3G0080
Toxaphene	BRL	ug/L	0.50	0.15	1	8081B	7/17/13 1:22	JMV	P3G0080

Surrogate	Recovery	Control Limits
Decachlorobiphenyl	*109 %*	*13-186*
Tetrachloro-m-xylene	*77 %*	*40-134*

Semivolatile Organic Compounds by GC/MS									
1,2,4-Trichlorobenzene	BRL	ug/L	10	2.2	1	8270D	7/9/13 14:26	KC	P3G0051
1,2-Dichlorobenzene	BRL	ug/L	10	1.8	1	8270D	7/9/13 14:26	KC	P3G0051
1,3-Dichlorobenzene	BRL	ug/L	10	1.8	1	8270D	7/9/13 14:26	KC	P3G0051
1,4-Dichlorobenzene	BRL	ug/L	10	2.0	1	8270D	7/9/13 14:26	KC	P3G0051
1-Methylnaphthalene	BRL	ug/L	10	2.5	1	8270D	7/9/13 14:26	KC	P3G0051
2,4,5-Trichlorophenol	BRL	ug/L	10	2.5	1	8270D	7/9/13 14:26	KC	P3G0051
2,4,6-Trichlorophenol	BRL	ug/L	10	2.3	1	8270D	7/9/13 14:26	KC	P3G0051
2,4-Dichlorophenol	BRL	ug/L	10	2.4	1	8270D	7/9/13 14:26	KC	P3G0051
2,4-Dimethylphenol	BRL	ug/L	10	2.4	1	8270D	7/9/13 14:26	KC	P3G0051
2,4-Dinitrophenol	BRL CCV, IC\	ug/L	10	2.4	1	8270D	7/9/13 14:26	KC	P3G0051
2,4-Dinitrotoluene	BRL	ug/L	10	0.95	1	8270D	7/9/13 14:26	KC	P3G0051

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: Duplicate (MW)
Prism Sample ID: 3060682-04
Prism Work Order: 3060682
Time Collected: 06/27/13 15:10
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
2,6-Dinitrotoluene	BRL	ug/L	10	1.6	1	8270D	7/9/13 14:26	KC	P3G0051
2-Chloronaphthalene	BRL	ug/L	10	2.3	1	8270D	7/9/13 14:26	KC	P3G0051
2-Chlorophenol	BRL	ug/L	10	2.1	1	8270D	7/9/13 14:26	KC	P3G0051
2-Methylnaphthalene	BRL	ug/L	10	2.6	1	8270D	7/9/13 14:26	KC	P3G0051
2-Methylphenol	BRL	ug/L	10	2.4	1	8270D	7/9/13 14:26	KC	P3G0051
2-Nitroaniline	BRL	ug/L	10	1.9	1	8270D	7/9/13 14:26	KC	P3G0051
2-Nitrophenol	BRL	ug/L	10	2.5	1	8270D	7/9/13 14:26	KC	P3G0051
3,3'-Dichlorobenzidine	BRL	ug/L	10	0.96	1	8270D	7/9/13 14:26	KC	P3G0051
3/4-Methylphenol	BRL	ug/L	10	2.4	1	8270D	7/9/13 14:26	KC	P3G0051
3-Nitroaniline	BRL	ug/L	10	1.3	1	8270D	7/9/13 14:26	KC	P3G0051
4,6-Dinitro-2-methylphenol	BRL	ug/L	10	2.7	1	8270D	7/9/13 14:26	KC	P3G0051
4-Bromophenyl phenyl ether	BRL	ug/L	10	1.8	1	8270D	7/9/13 14:26	KC	P3G0051
4-Chloro-3-methylphenol	BRL	ug/L	10	2.3	1	8270D	7/9/13 14:26	KC	P3G0051
4-Chloroaniline	BRL	ug/L	10	2.5	1	8270D	7/9/13 14:26	KC	P3G0051
4-Chlorophenyl phenyl ether	BRL	ug/L	10	1.8	1	8270D	7/9/13 14:26	KC	P3G0051
4-Nitroaniline	BRL	ug/L	10	0.91	1	8270D	7/9/13 14:26	KC	P3G0051
4-Nitrophenol	BRL	ug/L	10	2.6	1	8270D	7/9/13 14:26	KC	P3G0051
Acenaphthene	BRL	ug/L	10	2.1	1	8270D	7/9/13 14:26	KC	P3G0051
Acenaphthylene	BRL	ug/L	10	2.2	1	8270D	7/9/13 14:26	KC	P3G0051
Aniline	BRL	ug/L	10	2.2	1	8270D	7/9/13 14:26	KC	P3G0051
Anthracene	BRL	ug/L	10	1.2	1	8270D	7/9/13 14:26	KC	P3G0051
Azobenzene	BRL	ug/L	10	1.8	1	8270D	7/9/13 14:26	KC	P3G0051
Benzo(a)anthracene	BRL	ug/L	10	0.95	1	8270D	7/9/13 14:26	KC	P3G0051
Benzo(a)pyrene	BRL	ug/L	10	1.1	1	8270D	7/9/13 14:26	KC	P3G0051
Benzo(b)fluoranthene	BRL	ug/L	10	1.4	1	8270D	7/9/13 14:26	KC	P3G0051
Benzo(g,h,i)perylene	BRL	ug/L	10	2.1	1	8270D	7/9/13 14:26	KC	P3G0051
Benzo(k)fluoranthene	BRL	ug/L	10	1.1	1	8270D	7/9/13 14:26	KC	P3G0051
Benzoic Acid	BRL	ug/L	100	50	1	8270D	7/9/13 14:26	KC	P3G0051
Benzyl alcohol	BRL	ug/L	10	2.1	1	8270D	7/9/13 14:26	KC	P3G0051
bis(2-Chloroethoxy)methane	BRL	ug/L	10	2.2	1	8270D	7/9/13 14:26	KC	P3G0051
Bis(2-Chloroethyl)ether	BRL CCV	ug/L	10	1.9	1	8270D	7/9/13 14:26	KC	P3G0051
Bis(2-chloroisopropyl)ether	BRL CCV	ug/L	10	2.3	1	8270D	7/9/13 14:26	KC	P3G0051
Bis(2-Ethylhexyl)phthalate	BRL	ug/L	10	1.8	1	8270D	7/9/13 14:26	KC	P3G0051
Butyl benzyl phthalate	BRL	ug/L	10	1.5	1	8270D	7/9/13 14:26	KC	P3G0051
Chrysene	BRL	ug/L	10	1.2	1	8270D	7/9/13 14:26	KC	P3G0051
Dibenzo(a,h)anthracene	BRL	ug/L	10	1.8	1	8270D	7/9/13 14:26	KC	P3G0051
Dibenzofuran	BRL	ug/L	10	2.2	1	8270D	7/9/13 14:26	KC	P3G0051
Diethyl phthalate	BRL	ug/L	10	1.4	1	8270D	7/9/13 14:26	KC	P3G0051
Dimethyl phthalate	BRL	ug/L	10	1.6	1	8270D	7/9/13 14:26	KC	P3G0051
Di-n-butyl phthalate	**6.5 J**	**ug/L**	**10**	**1.8**	**1**	**8270D**	**7/9/13 14:26**	**KC**	**P3G0051**
Di-n-octyl phthalate	BRL	ug/L	10	1.9	1	8270D	7/9/13 14:26	KC	P3G0051
Fluoranthene	BRL	ug/L	10	0.94	1	8270D	7/9/13 14:26	KC	P3G0051
Fluorene	BRL	ug/L	10	1.8	1	8270D	7/9/13 14:26	KC	P3G0051

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: Duplicate (MW)
Prism Sample ID: 3060682-04
Prism Work Order: 3060682
Time Collected: 06/27/13 15:10
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Hexachlorobenzene	BRL	ug/L	10	1.4	1	8270D	7/9/13 14:26	KC	P3G0051
Hexachlorobutadiene	BRL	ug/L	10	2.3	1	8270D	7/9/13 14:26	KC	P3G0051
Hexachlorocyclopentadiene	BRL	ug/L	10	1.8	1	8270D	7/9/13 14:26	KC	P3G0051
Hexachloroethane	BRL	ug/L	10	1.9	1	8270D	7/9/13 14:26	KC	P3G0051
Indeno(1,2,3-cd)pyrene	BRL	ug/L	10	1.6	1	8270D	7/9/13 14:26	KC	P3G0051
Isophorone	BRL	ug/L	10	2.4	1	8270D	7/9/13 14:26	KC	P3G0051
Naphthalene	BRL	ug/L	10	2.3	1	8270D	7/9/13 14:26	KC	P3G0051
Nitrobenzene	BRL	ug/L	10	2.0	1	8270D	7/9/13 14:26	KC	P3G0051
N-Nitroso-di-n-propylamine	BRL	ug/L	10	2.3	1	8270D	7/9/13 14:26	KC	P3G0051
N-Nitrosodiphenylamine	BRL	ug/L	10	1.6	1	8270D	7/9/13 14:26	KC	P3G0051
Pentachlorophenol	BRL	ug/L	10	1.6	1	8270D	7/9/13 14:26	KC	P3G0051
Phenanthrene	BRL	ug/L	10	1.2	1	8270D	7/9/13 14:26	KC	P3G0051
Phenol	BRL	ug/L	10	2.2	1	8270D	7/9/13 14:26	KC	P3G0051
Pyrene	BRL	ug/L	10	1.4	1	8270D	7/9/13 14:26	KC	P3G0051

Surrogate	Recovery	Control Limits
2,4,6-Tribromophenol	*92 %*	*49-109*
2-Fluorobiphenyl	*69 %*	*55-96*
2-Fluorophenol	*44 %*	*27-74*
Nitrobenzene-d5	*72 %*	*53-99*
Phenol-d5	*30 %*	*11-52*
Terphenyl-d14	*72 %*	*42-133*

Total Metals

Mercury	BRL	mg/L	0.00020	0.000041	1	*7470A	7/3/13 13:48	MEH	P3G0075
Antimony	BRL	mg/L	0.010	0.00092	1	*6010C	7/1/13 20:37	BGM	P3G0009
Arsenic	BRL	mg/L	0.010	0.0010	1	*6010C	7/1/13 20:37	BGM	P3G0009
Beryllium	BRL	mg/L	0.0020	0.00012	1	*6010C	7/1/13 20:37	BGM	P3G0009
Cadmium	BRL	mg/L	0.0010	0.000044	1	*6010C	7/1/13 20:37	BGM	P3G0009
Chromium	BRL	mg/L	0.0050	0.00039	1	*6010C	7/1/13 20:37	BGM	P3G0009
Copper	BRL	mg/L	0.010	0.00036	1	*6010C	7/1/13 20:37	BGM	P3G0009
Lead	BRL	mg/L	0.0050	0.00061	1	*6010C	7/1/13 20:37	BGM	P3G0009
Nickel	BRL	mg/L	0.010	0.00030	1	*6010C	7/1/13 20:37	BGM	P3G0009
Selenium	BRL	mg/L	0.020	0.0022	1	*6010C	7/1/13 20:37	BGM	P3G0009
Silver	BRL	mg/L	0.0050	0.00026	1	*6010C	7/1/13 20:37	BGM	P3G0009
Thallium	BRL	mg/L	0.010	0.0026	1	*6010C	7/1/13 20:37	BGM	P3G0009
Zinc	BRL	mg/L	0.030	0.00051	1	*6010C	7/1/13 20:37	BGM	P3G0009

Volatile Organic Compounds by GC/MS

1,1,1,2-Tetrachloroethane	BRL	ug/L	0.50	0.15	1	8260B	7/1/13 14:53	VHL	P3G0028
1,1,1-Trichloroethane	BRL	ug/L	0.50	0.063	1	8260B	7/1/13 14:53	VHL	P3G0028
1,1,2,2-Tetrachloroethane	BRL	ug/L	0.50	0.071	1	8260B	7/1/13 14:53	VHL	P3G0028
1,1,2-Trichloroethane	BRL	ug/L	0.50	0.17	1	8260B	7/1/13 14:53	VHL	P3G0028
1,1-Dichloroethane	BRL	ug/L	0.50	0.096	1	8260B	7/1/13 14:53	VHL	P3G0028
1,1-Dichloroethylene	BRL	ug/L	0.50	0.078	1	8260B	7/1/13 14:53	VHL	P3G0028
1,1-Dichloropropylene	BRL	ug/L	0.50	0.061	1	8260B	7/1/13 14:53	VHL	P3G0028

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: Duplicate (MW)
Prism Sample ID: 3060682-04
Prism Work Order: 3060682
Time Collected: 06/27/13 15:10
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,2,3-Trichlorobenzene	BRL	ug/L	2.0	0.20	1	8260B	7/1/13 14:53	VHL	P3G0028
1,2,3-Trichloropropane	BRL	ug/L	1.0	0.081	1	8260B	7/1/13 14:53	VHL	P3G0028
1,2,4-Trichlorobenzene	BRL	ug/L	1.0	0.10	1	8260B	7/1/13 14:53	VHL	P3G0028
1,2,4-Trimethylbenzene	BRL	ug/L	0.50	0.048	1	8260B	7/1/13 14:53	VHL	P3G0028
1,2-Dibromo-3-chloropropane	BRL	ug/L	2.0	0.59	1	8260B	7/1/13 14:53	VHL	P3G0028
1,2-Dibromoethane	BRL	ug/L	0.50	0.14	1	8260B	7/1/13 14:53	VHL	P3G0028
1,2-Dichlorobenzene	BRL	ug/L	0.50	0.076	1	8260B	7/1/13 14:53	VHL	P3G0028
1,2-Dichloroethane	BRL	ug/L	0.50	0.14	1	8260B	7/1/13 14:53	VHL	P3G0028
1,2-Dichloropropane	**0.95**	**ug/L**	**0.50**	**0.13**	**1**	**8260B**	**7/1/13 14:53**	**VHL**	**P3G0028**
1,3,5-Trimethylbenzene	BRL	ug/L	0.50	0.057	1	8260B	7/1/13 14:53	VHL	P3G0028
1,3-Dichlorobenzene	BRL	ug/L	0.50	0.074	1	8260B	7/1/13 14:53	VHL	P3G0028
1,3-Dichloropropane	BRL	ug/L	0.50	0.11	1	8260B	7/1/13 14:53	VHL	P3G0028
1,4-Dichlorobenzene	BRL	ug/L	0.50	0.068	1	8260B	7/1/13 14:53	VHL	P3G0028
2,2-Dichloropropane	BRL	ug/L	2.0	0.11	1	8260B	7/1/13 14:53	VHL	P3G0028
2-Chloroethyl Vinyl Ether	BRL	ug/L	2.0	0.22	1	8260B	7/1/13 14:53	VHL	P3G0028
2-Chlorotoluene	BRL	ug/L	0.50	0.038	1	8260B	7/1/13 14:53	VHL	P3G0028
4-Chlorotoluene	BRL	ug/L	0.50	0.053	1	8260B	7/1/13 14:53	VHL	P3G0028
4-Isopropyltoluene	BRL	ug/L	0.50	0.065	1	8260B	7/1/13 14:53	VHL	P3G0028
Acetone	BRL	ug/L	5.0	0.62	1	8260B	7/1/13 14:53	VHL	P3G0028
Acrolein	BRL	ug/L	20	1.1	1	8260B	7/1/13 14:53	VHL	P3G0028
Acrylonitrile	BRL	ug/L	20	0.86	1	8260B	7/1/13 14:53	VHL	P3G0028
Benzene	BRL	ug/L	0.50	0.072	1	8260B	7/1/13 14:53	VHL	P3G0028
Bromobenzene	BRL	ug/L	0.50	0.064	1	8260B	7/1/13 14:53	VHL	P3G0028
Bromochloromethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 14:53	VHL	P3G0028
Bromodichloromethane	BRL	ug/L	0.50	0.062	1	8260B	7/1/13 14:53	VHL	P3G0028
Bromoform	BRL	ug/L	1.0	0.27	1	8260B	7/1/13 14:53	VHL	P3G0028
Bromomethane	BRL	ug/L	1.0	0.47	1	8260B	7/1/13 14:53	VHL	P3G0028
Carbon disulfide	BRL	ug/L	5.0	1.4	1	8260B	7/1/13 14:53	VHL	P3G0028
Carbon Tetrachloride	BRL	ug/L	0.50	0.12	1	8260B	7/1/13 14:53	VHL	P3G0028
Chlorobenzene	BRL	ug/L	0.50	0.061	1	8260B	7/1/13 14:53	VHL	P3G0028
Chloroethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 14:53	VHL	P3G0028
Chloroform	BRL	ug/L	0.50	0.089	1	8260B	7/1/13 14:53	VHL	P3G0028
Chloromethane	BRL	ug/L	0.50	0.11	1	8260B	7/1/13 14:53	VHL	P3G0028
cis-1,2-Dichloroethylene	BRL	ug/L	0.50	0.076	1	8260B	7/1/13 14:53	VHL	P3G0028
cis-1,3-Dichloropropylene	BRL	ug/L	0.50	0.10	1	8260B	7/1/13 14:53	VHL	P3G0028
Dibromochloromethane	BRL	ug/L	0.50	0.30	1	8260B	7/1/13 14:53	VHL	P3G0028
Dibromomethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 14:53	VHL	P3G0028
Dichlorodifluoromethane	BRL	ug/L	1.0	0.11	1	8260B	7/1/13 14:53	VHL	P3G0028
Ethylbenzene	BRL	ug/L	0.50	0.067	1	8260B	7/1/13 14:53	VHL	P3G0028
Hexachlorobutadiene	BRL	ug/L	2.0	0.36	1	8260B	7/1/13 14:53	VHL	P3G0028
Isopropyl Ether	BRL	ug/L	0.50	0.043	1	8260B	7/1/13 14:53	VHL	P3G0028
Isopropylbenzene (Cumene)	BRL	ug/L	0.50	0.072	1	8260B	7/1/13 14:53	VHL	P3G0028
m,p-Xylenes	BRL	ug/L	1.0	0.081	1	8260B	7/1/13 14:53	VHL	P3G0028

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: Duplicate (MW)
Prism Sample ID: 3060682-04
Prism Work Order: 3060682
Time Collected: 06/27/13 15:10
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Methyl Butyl Ketone (2-Hexanone)	BRL	ug/L	5.0	0.19	1	8260B	7/1/13 14:53	VHL	P3G0028
Methyl Ethyl Ketone (2-Butanone)	BRL	ug/L	5.0	0.90	1	8260B	7/1/13 14:53	VHL	P3G0028
Methyl Isobutyl Ketone	BRL	ug/L	5.0	0.12	1	8260B	7/1/13 14:53	VHL	P3G0028
Methylene Chloride	BRL	ug/L	1.0	0.44	1	8260B	7/1/13 14:53	VHL	P3G0028
Methyl-tert-Butyl Ether	**7.0**	**ug/L**	**0.50**	**0.070**	**1**	**8260B**	**7/1/13 14:53**	**VHL**	**P3G0028**
Naphthalene	BRL	ug/L	1.0	0.098	1	8260B	7/1/13 14:53	VHL	P3G0028
n-Butylbenzene	BRL	ug/L	1.0	0.11	1	8260B	7/1/13 14:53	VHL	P3G0028
n-Propylbenzene	BRL	ug/L	0.50	0.060	1	8260B	7/1/13 14:53	VHL	P3G0028
o-Xylene	BRL	ug/L	0.50	0.046	1	8260B	7/1/13 14:53	VHL	P3G0028
sec-Butylbenzene	**2.2**	**ug/L**	**0.50**	**0.087**	**1**	**8260B**	**7/1/13 14:53**	**VHL**	**P3G0028**
Styrene	BRL	ug/L	0.50	0.047	1	8260B	7/1/13 14:53	VHL	P3G0028
tert-Butylbenzene	BRL	ug/L	0.50	0.080	1	8260B	7/1/13 14:53	VHL	P3G0028
Tetrachloroethylene	BRL	ug/L	0.50	0.069	1	8260B	7/1/13 14:53	VHL	P3G0028
Toluene	BRL	ug/L	0.50	0.042	1	8260B	7/1/13 14:53	VHL	P3G0028
trans-1,2-Dichloroethylene	BRL	ug/L	0.50	0.12	1	8260B	7/1/13 14:53	VHL	P3G0028
trans-1,3-Dichloropropylene	BRL	ug/L	0.50	0.043	1	8260B	7/1/13 14:53	VHL	P3G0028
Trichloroethylene	BRL	ug/L	0.50	0.054	1	8260B	7/1/13 14:53	VHL	P3G0028
Trichlorofluoromethane	BRL	ug/L	0.50	0.088	1	8260B	7/1/13 14:53	VHL	P3G0028
Vinyl acetate	BRL	ug/L	2.0	0.10	1	8260B	7/1/13 14:53	VHL	P3G0028
Vinyl chloride	BRL	ug/L	0.50	0.16	1	8260B	7/1/13 14:53	VHL	P3G0028

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*107 %*	*80-124*
Dibromofluoromethane	*113 %*	*75-129*
Toluene-d8	*112 %*	*77-123*

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-7
Prism Sample ID: 3060682-05
Prism Work Order: 3060682
Time Collected: 06/27/13 13:20
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Anions by Ion Chromatography									
Nitrate as N	BRL A	mg/L	0.10	0.00090	1	*9056A	6/28/13 20:53	CDE	P3G0015
General Chemistry Parameters									
Phosphorus-Total	BRL	mg/L	0.050	0.0097	1	*SM4500-P F	7/2/13 10:41	CLB	P3G0005
Organochlorine Pesticides by GC/ECD									
4,4'-DDD	BRL	ug/L	0.052	0.0038	1	8081B	7/17/13 2:04	JMV	P3G0080
4,4'-DDE	BRL CCV	ug/L	0.052	0.0040	1	8081B	7/17/13 2:04	JMV	P3G0080
4,4'-DDT	BRL CCV	ug/L	0.052	0.022	1	8081B	7/17/13 2:04	JMV	P3G0080
Aldrin	BRL CCV	ug/L	0.052	0.011	1	8081B	7/17/13 2:04	JMV	P3G0080
alpha-BHC	BRL CCV	ug/L	0.052	0.0046	1	8081B	7/17/13 2:04	JMV	P3G0080
cis-Chlordane	BRL CCV	ug/L	0.052	0.0073	1	8081B	7/17/13 2:04	JMV	P3G0080
beta-BHC	BRL CCV	ug/L	0.052	0.0069	1	8081B	7/17/13 2:04	JMV	P3G0080
Chlordane	BRL	ug/L	0.52	0.13	1	8081B	7/17/13 2:04	JMV	P3G0080
delta-BHC	BRL CCV	ug/L	0.052	0.0034	1	8081B	7/17/13 2:04	JMV	P3G0080
Dieldrin	BRL	ug/L	0.052	0.0048	1	8081B	7/17/13 2:04	JMV	P3G0080
Endosulfan I	BRL CCV	ug/L	0.052	0.0088	1	8081B	7/17/13 2:04	JMV	P3G0080
Endosulfan II	BRL	ug/L	0.052	0.0049	1	8081B	7/17/13 2:04	JMV	P3G0080
Endosulfan Sulfate	BRL CCV	ug/L	0.052	0.0049	1	8081B	7/17/13 2:04	JMV	P3G0080
Endrin	BRL	ug/L	0.052	0.0048	1	8081B	7/17/13 2:04	JMV	P3G0080
Endrin Aldehyde	BRL	ug/L	0.052	0.0055	1	8081B	7/17/13 2:04	JMV	P3G0080
Endrin Ketone	BRL	ug/L	0.052	0.0045	1	8081B	7/17/13 2:04	JMV	P3G0080
gamma-BHC	BRL CCV	ug/L	0.052	0.0051	1	8081B	7/17/13 2:04	JMV	P3G0080
trans-Chlordane	BRL CCV	ug/L	0.052	0.0062	1	8081B	7/17/13 2:04	JMV	P3G0080
Heptachlor	BRL	ug/L	0.052	0.0080	1	8081B	7/17/13 2:04	JMV	P3G0080
Heptachlor Epoxide	BRL CCV	ug/L	0.052	0.0048	1	8081B	7/17/13 2:04	JMV	P3G0080
Methoxychlor	BRL	ug/L	0.052	0.0091	1	8081B	7/17/13 2:04	JMV	P3G0080
Toxaphene	BRL	ug/L	0.52	0.16	1	8081B	7/17/13 2:04	JMV	P3G0080

Surrogate	Recovery	Control Limits
Decachlorobiphenyl	*106 %*	*13-186*
Tetrachloro-m-xylene	*78 %*	*40-134*

Semivolatile Organic Compounds by GC/MS									
1,2,4-Trichlorobenzene	BRL	ug/L	10	2.3	1	8270D	7/9/13 14:56	KC	P3G0051
1,2-Dichlorobenzene	BRL	ug/L	10	1.9	1	8270D	7/9/13 14:56	KC	P3G0051
1,3-Dichlorobenzene	BRL	ug/L	10	1.9	1	8270D	7/9/13 14:56	KC	P3G0051
1,4-Dichlorobenzene	BRL	ug/L	10	2.1	1	8270D	7/9/13 14:56	KC	P3G0051
1-Methylnaphthalene	BRL	ug/L	10	2.6	1	8270D	7/9/13 14:56	KC	P3G0051
2,4,5-Trichlorophenol	BRL	ug/L	10	2.6	1	8270D	7/9/13 14:56	KC	P3G0051
2,4,6-Trichlorophenol	BRL	ug/L	10	2.4	1	8270D	7/9/13 14:56	KC	P3G0051
2,4-Dichlorophenol	BRL	ug/L	10	2.5	1	8270D	7/9/13 14:56	KC	P3G0051
2,4-Dimethylphenol	BRL	ug/L	10	2.6	1	8270D	7/9/13 14:56	KC	P3G0051
2,4-Dinitrophenol	BRL CCV, IC\	ug/L	10	2.5	1	8270D	7/9/13 14:56	KC	P3G0051
2,4-Dinitrotoluene	BRL	ug/L	10	0.99	1	8270D	7/9/13 14:56	KC	P3G0051

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-7
Prism Sample ID: 3060682-05
Prism Work Order: 3060682
Time Collected: 06/27/13 13:20
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
2,6-Dinitrotoluene	BRL	ug/L	10	1.7	1	8270D	7/9/13 14:56	KC	P3G0051
2-Chloronaphthalene	BRL	ug/L	10	2.4	1	8270D	7/9/13 14:56	KC	P3G0051
2-Chlorophenol	BRL	ug/L	10	2.2	1	8270D	7/9/13 14:56	KC	P3G0051
2-Methylnaphthalene	BRL	ug/L	10	2.7	1	8270D	7/9/13 14:56	KC	P3G0051
2-Methylphenol	BRL	ug/L	10	2.5	1	8270D	7/9/13 14:56	KC	P3G0051
2-Nitroaniline	BRL	ug/L	10	2.0	1	8270D	7/9/13 14:56	KC	P3G0051
2-Nitrophenol	BRL	ug/L	10	2.6	1	8270D	7/9/13 14:56	KC	P3G0051
3,3'-Dichlorobenzidine	BRL	ug/L	10	1.0	1	8270D	7/9/13 14:56	KC	P3G0051
3/4-Methylphenol	BRL	ug/L	10	2.5	1	8270D	7/9/13 14:56	KC	P3G0051
3-Nitroaniline	BRL	ug/L	10	1.4	1	8270D	7/9/13 14:56	KC	P3G0051
4,6-Dinitro-2-methylphenol	BRL	ug/L	10	2.8	1	8270D	7/9/13 14:56	KC	P3G0051
4-Bromophenyl phenyl ether	BRL	ug/L	10	1.8	1	8270D	7/9/13 14:56	KC	P3G0051
4-Chloro-3-methylphenol	BRL	ug/L	10	2.4	1	8270D	7/9/13 14:56	KC	P3G0051
4-Chloroaniline	BRL	ug/L	10	2.6	1	8270D	7/9/13 14:56	KC	P3G0051
4-Chlorophenyl phenyl ether	BRL	ug/L	10	1.9	1	8270D	7/9/13 14:56	KC	P3G0051
4-Nitroaniline	BRL	ug/L	10	0.95	1	8270D	7/9/13 14:56	KC	P3G0051
4-Nitrophenol	BRL	ug/L	10	2.7	1	8270D	7/9/13 14:56	KC	P3G0051
Acenaphthene	BRL	ug/L	10	2.2	1	8270D	7/9/13 14:56	KC	P3G0051
Acenaphthylene	BRL	ug/L	10	2.3	1	8270D	7/9/13 14:56	KC	P3G0051
Aniline	BRL	ug/L	10	2.3	1	8270D	7/9/13 14:56	KC	P3G0051
Anthracene	BRL	ug/L	10	1.3	1	8270D	7/9/13 14:56	KC	P3G0051
Azobenzene	BRL	ug/L	10	1.9	1	8270D	7/9/13 14:56	KC	P3G0051
Benzo(a)anthracene	BRL	ug/L	10	0.99	1	8270D	7/9/13 14:56	KC	P3G0051
Benzo(a)pyrene	BRL	ug/L	10	1.1	1	8270D	7/9/13 14:56	KC	P3G0051
Benzo(b)fluoranthene	BRL	ug/L	10	1.4	1	8270D	7/9/13 14:56	KC	P3G0051
Benzo(g,h,i)perylene	BRL	ug/L	10	2.2	1	8270D	7/9/13 14:56	KC	P3G0051
Benzo(k)fluoranthene	BRL	ug/L	10	1.1	1	8270D	7/9/13 14:56	KC	P3G0051
Benzoic Acid	BRL	ug/L	100	52	1	8270D	7/9/13 14:56	KC	P3G0051
Benzyl alcohol	BRL	ug/L	10	2.1	1	8270D	7/9/13 14:56	KC	P3G0051
bis(2-Chloroethoxy)methane	BRL	ug/L	10	2.3	1	8270D	7/9/13 14:56	KC	P3G0051
Bis(2-Chloroethyl)ether	BRL CCV	ug/L	10	1.9	1	8270D	7/9/13 14:56	KC	P3G0051
Bis(2-chloroisopropyl)ether	BRL CCV	ug/L	10	2.4	1	8270D	7/9/13 14:56	KC	P3G0051
Bis(2-Ethylhexyl)phthalate	BRL	ug/L	10	1.8	1	8270D	7/9/13 14:56	KC	P3G0051
Butyl benzyl phthalate	BRL	ug/L	10	1.6	1	8270D	7/9/13 14:56	KC	P3G0051
Chrysene	BRL	ug/L	10	1.2	1	8270D	7/9/13 14:56	KC	P3G0051
Dibenzo(a,h)anthracene	BRL	ug/L	10	1.8	1	8270D	7/9/13 14:56	KC	P3G0051
Dibenzofuran	BRL	ug/L	10	2.3	1	8270D	7/9/13 14:56	KC	P3G0051
Diethyl phthalate	BRL	ug/L	10	1.5	1	8270D	7/9/13 14:56	KC	P3G0051
Dimethyl phthalate	BRL	ug/L	10	1.7	1	8270D	7/9/13 14:56	KC	P3G0051
Di-n-butyl phthalate	BRL	ug/L	10	1.9	1	8270D	7/9/13 14:56	KC	P3G0051
Di-n-octyl phthalate	BRL	ug/L	10	2.0	1	8270D	7/9/13 14:56	KC	P3G0051
Fluoranthene	BRL	ug/L	10	0.98	1	8270D	7/9/13 14:56	KC	P3G0051
Fluorene	BRL	ug/L	10	1.9	1	8270D	7/9/13 14:56	KC	P3G0051

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-7
Prism Sample ID: 3060682-05
Prism Work Order: 3060682
Time Collected: 06/27/13 13:20
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Hexachlorobenzene	BRL	ug/L	10	1.5	1	8270D	7/9/13 14:56	KC	P3G0051
Hexachlorobutadiene	BRL	ug/L	10	2.4	1	8270D	7/9/13 14:56	KC	P3G0051
Hexachlorocyclopentadiene	BRL	ug/L	10	1.9	1	8270D	7/9/13 14:56	KC	P3G0051
Hexachloroethane	BRL	ug/L	10	2.0	1	8270D	7/9/13 14:56	KC	P3G0051
Indeno(1,2,3-cd)pyrene	BRL	ug/L	10	1.7	1	8270D	7/9/13 14:56	KC	P3G0051
Isophorone	BRL	ug/L	10	2.5	1	8270D	7/9/13 14:56	KC	P3G0051
Naphthalene	BRL	ug/L	10	2.4	1	8270D	7/9/13 14:56	KC	P3G0051
Nitrobenzene	BRL	ug/L	10	2.0	1	8270D	7/9/13 14:56	KC	P3G0051
N-Nitroso-di-n-propylamine	BRL	ug/L	10	2.4	1	8270D	7/9/13 14:56	KC	P3G0051
N-Nitrosodiphenylamine	BRL	ug/L	10	1.6	1	8270D	7/9/13 14:56	KC	P3G0051
Pentachlorophenol	BRL	ug/L	10	1.7	1	8270D	7/9/13 14:56	KC	P3G0051
Phenanthrene	BRL	ug/L	10	1.2	1	8270D	7/9/13 14:56	KC	P3G0051
Phenol	BRL	ug/L	10	2.3	1	8270D	7/9/13 14:56	KC	P3G0051
Pyrene	BRL	ug/L	10	1.4	1	8270D	7/9/13 14:56	KC	P3G0051

Surrogate	Recovery	Control Limits
2,4,6-Tribromophenol	*90 %*	*49-109*
2-Fluorobiphenyl	*73 %*	*55-96*
2-Fluorophenol	*50 %*	*27-74*
Nitrobenzene-d5	*80 %*	*53-99*
Phenol-d5	*32 %*	*11-52*
Terphenyl-d14	*79 %*	*42-133*

Total Metals

Mercury	BRL	mg/L	0.00020	0.000041	1	*7470A	7/3/13 14:03	MEH	P3G0075
Antimony	BRL	mg/L	0.010	0.00092	1	*6010C	7/1/13 20:45	BGM	P3G0009
Arsenic	BRL	mg/L	0.010	0.0010	1	*6010C	7/1/13 20:45	BGM	P3G0009
Beryllium	**0.0027**	**mg/L**	**0.0020**	**0.00012**	**1**	***6010C**	**7/1/13 20:45**	**BGM**	**P3G0009**
Cadmium	BRL	mg/L	0.0010	0.000044	1	*6010C	7/1/13 20:45	BGM	P3G0009
Chromium	BRL	mg/L	0.0050	0.00039	1	*6010C	7/1/13 20:45	BGM	P3G0009
Copper	BRL	mg/L	0.010	0.00036	1	*6010C	7/1/13 20:45	BGM	P3G0009
Lead	BRL	mg/L	0.0050	0.00061	1	*6010C	7/1/13 20:45	BGM	P3G0009
Nickel	**0.020**	**mg/L**	**0.010**	**0.00030**	**1**	***6010C**	**7/1/13 20:45**	**BGM**	**P3G0009**
Selenium	BRL	mg/L	0.020	0.0022	1	*6010C	7/1/13 20:45	BGM	P3G0009
Silver	BRL	mg/L	0.0050	0.00026	1	*6010C	7/1/13 20:45	BGM	P3G0009
Thallium	BRL	mg/L	0.010	0.0026	1	*6010C	7/1/13 20:45	BGM	P3G0009
Zinc	**0.044**	**mg/L**	**0.030**	**0.00051**	**1**	***6010C**	**7/1/13 20:45**	**BGM**	**P3G0009**

Volatile Organic Compounds by GC/MS

1,1,1,2-Tetrachloroethane	BRL	ug/L	0.50	0.15	1	8260B	7/1/13 15:19	VHL	P3G0028
1,1,1-Trichloroethane	BRL	ug/L	0.50	0.063	1	8260B	7/1/13 15:19	VHL	P3G0028
1,1,2,2-Tetrachloroethane	BRL	ug/L	0.50	0.071	1	8260B	7/1/13 15:19	VHL	P3G0028
1,1,2-Trichloroethane	BRL	ug/L	0.50	0.17	1	8260B	7/1/13 15:19	VHL	P3G0028
1,1-Dichloroethane	BRL	ug/L	0.50	0.096	1	8260B	7/1/13 15:19	VHL	P3G0028
1,1-Dichloroethylene	BRL	ug/L	0.50	0.078	1	8260B	7/1/13 15:19	VHL	P3G0028
1,1-Dichloropropylene	BRL	ug/L	0.50	0.061	1	8260B	7/1/13 15:19	VHL	P3G0028

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-7
Prism Sample ID: 3060682-05
Prism Work Order: 3060682
Time Collected: 06/27/13 13:20
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,2,3-Trichlorobenzene	BRL	ug/L	2.0	0.20	1	8260B	7/1/13 15:19	VHL	P3G0028
1,2,3-Trichloropropane	BRL	ug/L	1.0	0.081	1	8260B	7/1/13 15:19	VHL	P3G0028
1,2,4-Trichlorobenzene	BRL	ug/L	1.0	0.10	1	8260B	7/1/13 15:19	VHL	P3G0028
1,2,4-Trimethylbenzene	BRL	ug/L	0.50	0.048	1	8260B	7/1/13 15:19	VHL	P3G0028
1,2-Dibromo-3-chloropropane	BRL	ug/L	2.0	0.59	1	8260B	7/1/13 15:19	VHL	P3G0028
1,2-Dibromoethane	BRL	ug/L	0.50	0.14	1	8260B	7/1/13 15:19	VHL	P3G0028
1,2-Dichlorobenzene	BRL	ug/L	0.50	0.076	1	8260B	7/1/13 15:19	VHL	P3G0028
1,2-Dichloroethane	BRL	ug/L	0.50	0.14	1	8260B	7/1/13 15:19	VHL	P3G0028
1,2-Dichloropropane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 15:19	VHL	P3G0028
1,3,5-Trimethylbenzene	BRL	ug/L	0.50	0.057	1	8260B	7/1/13 15:19	VHL	P3G0028
1,3-Dichlorobenzene	BRL	ug/L	0.50	0.074	1	8260B	7/1/13 15:19	VHL	P3G0028
1,3-Dichloropropane	BRL	ug/L	0.50	0.11	1	8260B	7/1/13 15:19	VHL	P3G0028
1,4-Dichlorobenzene	BRL	ug/L	0.50	0.068	1	8260B	7/1/13 15:19	VHL	P3G0028
2,2-Dichloropropane	BRL	ug/L	2.0	0.11	1	8260B	7/1/13 15:19	VHL	P3G0028
2-Chloroethyl Vinyl Ether	BRL	ug/L	2.0	0.22	1	8260B	7/1/13 15:19	VHL	P3G0028
2-Chlorotoluene	BRL	ug/L	0.50	0.038	1	8260B	7/1/13 15:19	VHL	P3G0028
4-Chlorotoluene	BRL	ug/L	0.50	0.053	1	8260B	7/1/13 15:19	VHL	P3G0028
4-Isopropyltoluene	BRL	ug/L	0.50	0.065	1	8260B	7/1/13 15:19	VHL	P3G0028
Acetone	BRL	ug/L	5.0	0.62	1	8260B	7/1/13 15:19	VHL	P3G0028
Acrolein	BRL	ug/L	20	1.1	1	8260B	7/1/13 15:19	VHL	P3G0028
Acrylonitrile	BRL	ug/L	20	0.86	1	8260B	7/1/13 15:19	VHL	P3G0028
Benzene	BRL	ug/L	0.50	0.072	1	8260B	7/1/13 15:19	VHL	P3G0028
Bromobenzene	BRL	ug/L	0.50	0.064	1	8260B	7/1/13 15:19	VHL	P3G0028
Bromochloromethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 15:19	VHL	P3G0028
Bromodichloromethane	BRL	ug/L	0.50	0.062	1	8260B	7/1/13 15:19	VHL	P3G0028
Bromoform	BRL	ug/L	1.0	0.27	1	8260B	7/1/13 15:19	VHL	P3G0028
Bromomethane	BRL	ug/L	1.0	0.47	1	8260B	7/1/13 15:19	VHL	P3G0028
Carbon disulfide	BRL	ug/L	5.0	1.4	1	8260B	7/1/13 15:19	VHL	P3G0028
Carbon Tetrachloride	BRL	ug/L	0.50	0.12	1	8260B	7/1/13 15:19	VHL	P3G0028
Chlorobenzene	BRL	ug/L	0.50	0.061	1	8260B	7/1/13 15:19	VHL	P3G0028
Chloroethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 15:19	VHL	P3G0028
Chloroform	BRL	ug/L	0.50	0.089	1	8260B	7/1/13 15:19	VHL	P3G0028
Chloromethane	BRL	ug/L	0.50	0.11	1	8260B	7/1/13 15:19	VHL	P3G0028
cis-1,2-Dichloroethylene	BRL	ug/L	0.50	0.076	1	8260B	7/1/13 15:19	VHL	P3G0028
cis-1,3-Dichloropropylene	BRL	ug/L	0.50	0.10	1	8260B	7/1/13 15:19	VHL	P3G0028
Dibromochloromethane	BRL	ug/L	0.50	0.30	1	8260B	7/1/13 15:19	VHL	P3G0028
Dibromomethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 15:19	VHL	P3G0028
Dichlorodifluoromethane	BRL	ug/L	1.0	0.11	1	8260B	7/1/13 15:19	VHL	P3G0028
Ethylbenzene	BRL	ug/L	0.50	0.067	1	8260B	7/1/13 15:19	VHL	P3G0028
Hexachlorobutadiene	BRL	ug/L	2.0	0.36	1	8260B	7/1/13 15:19	VHL	P3G0028
Isopropyl Ether	BRL	ug/L	0.50	0.043	1	8260B	7/1/13 15:19	VHL	P3G0028
Isopropylbenzene (Cumene)	BRL	ug/L	0.50	0.072	1	8260B	7/1/13 15:19	VHL	P3G0028
m,p-Xylenes	BRL	ug/L	1.0	0.081	1	8260B	7/1/13 15:19	VHL	P3G0028

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-7
Prism Sample ID: 3060682-05
Prism Work Order: 3060682
Time Collected: 06/27/13 13:20
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Methyl Butyl Ketone (2-Hexanone)	BRL	ug/L	5.0	0.19	1	8260B	7/1/13 15:19	VHL	P3G0028
Methyl Ethyl Ketone (2-Butanone)	BRL	ug/L	5.0	0.90	1	8260B	7/1/13 15:19	VHL	P3G0028
Methyl Isobutyl Ketone	BRL	ug/L	5.0	0.12	1	8260B	7/1/13 15:19	VHL	P3G0028
Methylene Chloride	BRL	ug/L	1.0	0.44	1	8260B	7/1/13 15:19	VHL	P3G0028
Methyl-tert-Butyl Ether	BRL	ug/L	0.50	0.070	1	8260B	7/1/13 15:19	VHL	P3G0028
Naphthalene	BRL	ug/L	1.0	0.098	1	8260B	7/1/13 15:19	VHL	P3G0028
n-Butylbenzene	BRL	ug/L	1.0	0.11	1	8260B	7/1/13 15:19	VHL	P3G0028
n-Propylbenzene	BRL	ug/L	0.50	0.060	1	8260B	7/1/13 15:19	VHL	P3G0028
o-Xylene	BRL	ug/L	0.50	0.046	1	8260B	7/1/13 15:19	VHL	P3G0028
sec-Butylbenzene	BRL	ug/L	0.50	0.087	1	8260B	7/1/13 15:19	VHL	P3G0028
Styrene	BRL	ug/L	0.50	0.047	1	8260B	7/1/13 15:19	VHL	P3G0028
tert-Butylbenzene	BRL	ug/L	0.50	0.080	1	8260B	7/1/13 15:19	VHL	P3G0028
Tetrachloroethylene	BRL	ug/L	0.50	0.069	1	8260B	7/1/13 15:19	VHL	P3G0028
Toluene	BRL	ug/L	0.50	0.042	1	8260B	7/1/13 15:19	VHL	P3G0028
trans-1,2-Dichloroethylene	BRL	ug/L	0.50	0.12	1	8260B	7/1/13 15:19	VHL	P3G0028
trans-1,3-Dichloropropylene	BRL	ug/L	0.50	0.043	1	8260B	7/1/13 15:19	VHL	P3G0028
Trichloroethylene	BRL	ug/L	0.50	0.054	1	8260B	7/1/13 15:19	VHL	P3G0028
Trichlorofluoromethane	BRL	ug/L	0.50	0.088	1	8260B	7/1/13 15:19	VHL	P3G0028
Vinyl acetate	BRL	ug/L	2.0	0.10	1	8260B	7/1/13 15:19	VHL	P3G0028
Vinyl chloride	BRL	ug/L	0.50	0.16	1	8260B	7/1/13 15:19	VHL	P3G0028

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*109 %*	*80-124*
Dibromofluoromethane	*118 %*	*75-129*
Toluene-d8	*115 %*	*77-123*

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-8
Prism Sample ID: 3060682-06
Prism Work Order: 3060682
Time Collected: 06/27/13 12:10
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Anions by Ion Chromatography									
Nitrate as N	**8.3**	**mg/L**	**0.10**	**0.00090**	**1**	***9056A**	**6/28/13 21:07**	**CDE**	**P3G0015**
General Chemistry Parameters									
Phosphorus-Total	BRL	mg/L	0.050	0.0097	1	*SM4500-P F	7/2/13 10:41	CLB	P3G0005
Organochlorine Pesticides by GC/ECD									
4,4'-DDD	BRL	ug/L	0.051	0.0037	1	8081B	7/17/13 2:47	JMV	P3G0080
4,4'-DDE	BRL CCV	ug/L	0.051	0.0039	1	8081B	7/17/13 2:47	JMV	P3G0080
4,4'-DDT	BRL CCV	ug/L	0.051	0.021	1	8081B	7/17/13 2:47	JMV	P3G0080
Aldrin	BRL CCV	ug/L	0.051	0.011	1	8081B	7/17/13 2:47	JMV	P3G0080
alpha-BHC	BRL CCV	ug/L	0.051	0.0045	1	8081B	7/17/13 2:47	JMV	P3G0080
cis-Chlordane	BRL CCV	ug/L	0.051	0.0071	1	8081B	7/17/13 2:47	JMV	P3G0080
beta-BHC	BRL CCV	ug/L	0.051	0.0067	1	8081B	7/17/13 2:47	JMV	P3G0080
Chlordane	BRL	ug/L	0.51	0.13	1	8081B	7/17/13 2:47	JMV	P3G0080
delta-BHC	BRL CCV	ug/L	0.051	0.0034	1	8081B	7/17/13 2:47	JMV	P3G0080
Dieldrin	BRL	ug/L	0.051	0.0047	1	8081B	7/17/13 2:47	JMV	P3G0080
Endosulfan I	BRL CCV	ug/L	0.051	0.0086	1	8081B	7/17/13 2:47	JMV	P3G0080
Endosulfan II	BRL	ug/L	0.051	0.0048	1	8081B	7/17/13 2:47	JMV	P3G0080
Endosulfan Sulfate	BRL CCV	ug/L	0.051	0.0048	1	8081B	7/17/13 2:47	JMV	P3G0080
Endrin	BRL	ug/L	0.051	0.0047	1	8081B	7/17/13 2:47	JMV	P3G0080
Endrin Aldehyde	BRL	ug/L	0.051	0.0054	1	8081B	7/17/13 2:47	JMV	P3G0080
Endrin Ketone	BRL	ug/L	0.051	0.0044	1	8081B	7/17/13 2:47	JMV	P3G0080
gamma-BHC	BRL CCV	ug/L	0.051	0.0050	1	8081B	7/17/13 2:47	JMV	P3G0080
trans-Chlordane	BRL CCV	ug/L	0.051	0.0061	1	8081B	7/17/13 2:47	JMV	P3G0080
Heptachlor	BRL	ug/L	0.051	0.0079	1	8081B	7/17/13 2:47	JMV	P3G0080
Heptachlor Epoxide	BRL CCV	ug/L	0.051	0.0047	1	8081B	7/17/13 2:47	JMV	P3G0080
Methoxychlor	BRL	ug/L	0.051	0.0089	1	8081B	7/17/13 2:47	JMV	P3G0080
Toxaphene	BRL	ug/L	0.51	0.16	1	8081B	7/17/13 2:47	JMV	P3G0080

Surrogate	Recovery	Control Limits
Decachlorobiphenyl	*112 %*	*13-186*
Tetrachloro-m-xylene	*86 %*	*40-134*

Semivolatile Organic Compounds by GC/MS									
1,2,4-Trichlorobenzene	BRL	ug/L	10	2.2	1	8270D	7/9/13 15:25	KC	P3G0051
1,2-Dichlorobenzene	BRL	ug/L	10	1.8	1	8270D	7/9/13 15:25	KC	P3G0051
1,3-Dichlorobenzene	BRL	ug/L	10	1.8	1	8270D	7/9/13 15:25	KC	P3G0051
1,4-Dichlorobenzene	BRL	ug/L	10	2.0	1	8270D	7/9/13 15:25	KC	P3G0051
1-Methylnaphthalene	BRL	ug/L	10	2.5	1	8270D	7/9/13 15:25	KC	P3G0051
2,4,5-Trichlorophenol	BRL	ug/L	10	2.5	1	8270D	7/9/13 15:25	KC	P3G0051
2,4,6-Trichlorophenol	BRL	ug/L	10	2.3	1	8270D	7/9/13 15:25	KC	P3G0051
2,4-Dichlorophenol	BRL	ug/L	10	2.4	1	8270D	7/9/13 15:25	KC	P3G0051
2,4-Dimethylphenol	BRL	ug/L	10	2.4	1	8270D	7/9/13 15:25	KC	P3G0051
2,4-Dinitrophenol	BRL CCV, IC\	ug/L	10	2.4	1	8270D	7/9/13 15:25	KC	P3G0051
2,4-Dinitrotoluene	BRL	ug/L	10	0.95	1	8270D	7/9/13 15:25	KC	P3G0051

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-8
Prism Sample ID: 3060682-06
Prism Work Order: 3060682
Time Collected: 06/27/13 12:10
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
2,6-Dinitrotoluene	BRL	ug/L	10	1.6	1	8270D	7/9/13 15:25	KC	P3G0051
2-Chloronaphthalene	BRL	ug/L	10	2.3	1	8270D	7/9/13 15:25	KC	P3G0051
2-Chlorophenol	BRL	ug/L	10	2.1	1	8270D	7/9/13 15:25	KC	P3G0051
2-Methylnaphthalene	BRL	ug/L	10	2.6	1	8270D	7/9/13 15:25	KC	P3G0051
2-Methylphenol	BRL	ug/L	10	2.4	1	8270D	7/9/13 15:25	KC	P3G0051
2-Nitroaniline	BRL	ug/L	10	1.9	1	8270D	7/9/13 15:25	KC	P3G0051
2-Nitrophenol	BRL	ug/L	10	2.5	1	8270D	7/9/13 15:25	KC	P3G0051
3,3'-Dichlorobenzidine	BRL	ug/L	10	0.96	1	8270D	7/9/13 15:25	KC	P3G0051
3/4-Methylphenol	BRL	ug/L	10	2.4	1	8270D	7/9/13 15:25	KC	P3G0051
3-Nitroaniline	BRL	ug/L	10	1.3	1	8270D	7/9/13 15:25	KC	P3G0051
4,6-Dinitro-2-methylphenol	BRL	ug/L	10	2.7	1	8270D	7/9/13 15:25	KC	P3G0051
4-Bromophenyl phenyl ether	BRL	ug/L	10	1.8	1	8270D	7/9/13 15:25	KC	P3G0051
4-Chloro-3-methylphenol	BRL	ug/L	10	2.3	1	8270D	7/9/13 15:25	KC	P3G0051
4-Chloroaniline	BRL	ug/L	10	2.5	1	8270D	7/9/13 15:25	KC	P3G0051
4-Chlorophenyl phenyl ether	BRL	ug/L	10	1.8	1	8270D	7/9/13 15:25	KC	P3G0051
4-Nitroaniline	BRL	ug/L	10	0.91	1	8270D	7/9/13 15:25	KC	P3G0051
4-Nitrophenol	BRL	ug/L	10	2.6	1	8270D	7/9/13 15:25	KC	P3G0051
Acenaphthene	BRL	ug/L	10	2.1	1	8270D	7/9/13 15:25	KC	P3G0051
Acenaphthylene	BRL	ug/L	10	2.2	1	8270D	7/9/13 15:25	KC	P3G0051
Aniline	BRL	ug/L	10	2.2	1	8270D	7/9/13 15:25	KC	P3G0051
Anthracene	BRL	ug/L	10	1.2	1	8270D	7/9/13 15:25	KC	P3G0051
Azobenzene	BRL	ug/L	10	1.8	1	8270D	7/9/13 15:25	KC	P3G0051
Benzo(a)anthracene	BRL	ug/L	10	0.95	1	8270D	7/9/13 15:25	KC	P3G0051
Benzo(a)pyrene	BRL	ug/L	10	1.1	1	8270D	7/9/13 15:25	KC	P3G0051
Benzo(b)fluoranthene	BRL	ug/L	10	1.4	1	8270D	7/9/13 15:25	KC	P3G0051
Benzo(g,h,i)perylene	BRL	ug/L	10	2.1	1	8270D	7/9/13 15:25	KC	P3G0051
Benzo(k)fluoranthene	BRL	ug/L	10	1.1	1	8270D	7/9/13 15:25	KC	P3G0051
Benzoic Acid	BRL	ug/L	100	50	1	8270D	7/9/13 15:25	KC	P3G0051
Benzyl alcohol	BRL	ug/L	10	2.1	1	8270D	7/9/13 15:25	KC	P3G0051
bis(2-Chloroethoxy)methane	BRL	ug/L	10	2.2	1	8270D	7/9/13 15:25	KC	P3G0051
Bis(2-Chloroethyl)ether	BRL CCV	ug/L	10	1.9	1	8270D	7/9/13 15:25	KC	P3G0051
Bis(2-chloroisopropyl)ether	BRL CCV	ug/L	10	2.3	1	8270D	7/9/13 15:25	KC	P3G0051
Bis(2-Ethylhexyl)phthalate	BRL	ug/L	10	1.8	1	8270D	7/9/13 15:25	KC	P3G0051
Butyl benzyl phthalate	BRL	ug/L	10	1.5	1	8270D	7/9/13 15:25	KC	P3G0051
Chrysene	BRL	ug/L	10	1.2	1	8270D	7/9/13 15:25	KC	P3G0051
Dibenzo(a,h)anthracene	BRL	ug/L	10	1.8	1	8270D	7/9/13 15:25	KC	P3G0051
Dibenzofuran	BRL	ug/L	10	2.2	1	8270D	7/9/13 15:25	KC	P3G0051
Diethyl phthalate	BRL	ug/L	10	1.4	1	8270D	7/9/13 15:25	KC	P3G0051
Dimethyl phthalate	BRL	ug/L	10	1.6	1	8270D	7/9/13 15:25	KC	P3G0051
Di-n-butyl phthalate	BRL	ug/L	10	1.8	1	8270D	7/9/13 15:25	KC	P3G0051
Di-n-octyl phthalate	BRL	ug/L	10	1.9	1	8270D	7/9/13 15:25	KC	P3G0051
Fluoranthene	BRL	ug/L	10	0.94	1	8270D	7/9/13 15:25	KC	P3G0051
Fluorene	BRL	ug/L	10	1.8	1	8270D	7/9/13 15:25	KC	P3G0051

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-8
Prism Sample ID: 3060682-06
Prism Work Order: 3060682
Time Collected: 06/27/13 12:10
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Hexachlorobenzene	BRL	ug/L	10	1.4	1	8270D	7/9/13 15:25	KC	P3G0051
Hexachlorobutadiene	BRL	ug/L	10	2.3	1	8270D	7/9/13 15:25	KC	P3G0051
Hexachlorocyclopentadiene	BRL	ug/L	10	1.8	1	8270D	7/9/13 15:25	KC	P3G0051
Hexachloroethane	BRL	ug/L	10	1.9	1	8270D	7/9/13 15:25	KC	P3G0051
Indeno(1,2,3-cd)pyrene	BRL	ug/L	10	1.6	1	8270D	7/9/13 15:25	KC	P3G0051
Isophorone	BRL	ug/L	10	2.4	1	8270D	7/9/13 15:25	KC	P3G0051
Naphthalene	BRL	ug/L	10	2.3	1	8270D	7/9/13 15:25	KC	P3G0051
Nitrobenzene	BRL	ug/L	10	2.0	1	8270D	7/9/13 15:25	KC	P3G0051
N-Nitroso-di-n-propylamine	BRL	ug/L	10	2.3	1	8270D	7/9/13 15:25	KC	P3G0051
N-Nitrosodiphenylamine	BRL	ug/L	10	1.6	1	8270D	7/9/13 15:25	KC	P3G0051
Pentachlorophenol	BRL	ug/L	10	1.6	1	8270D	7/9/13 15:25	KC	P3G0051
Phenanthrene	BRL	ug/L	10	1.2	1	8270D	7/9/13 15:25	KC	P3G0051
Phenol	BRL	ug/L	10	2.2	1	8270D	7/9/13 15:25	KC	P3G0051
Pyrene	BRL	ug/L	10	1.4	1	8270D	7/9/13 15:25	KC	P3G0051

Surrogate	Recovery	Control Limits
2,4,6-Tribromophenol	*78 %*	*49-109*
2-Fluorobiphenyl	*70 %*	*55-96*
2-Fluorophenol	*44 %*	*27-74*
Nitrobenzene-d5	*76 %*	*53-99*
Phenol-d5	*32 %*	*11-52*
Terphenyl-d14	*72 %*	*42-133*

Total Metals

Mercury	BRL	mg/L	0.00020	0.000041	1	*7470A	7/3/13 14:19	MEH	P3G0075
Antimony	BRL	mg/L	0.010	0.00092	1	*6010C	7/1/13 20:53	BGM	P3G0009
Arsenic	BRL	mg/L	0.010	0.0010	1	*6010C	7/1/13 20:53	BGM	P3G0009
Beryllium	BRL	mg/L	0.0020	0.00012	1	*6010C	7/1/13 20:53	BGM	P3G0009
Cadmium	BRL	mg/L	0.0010	0.000044	1	*6010C	7/1/13 20:53	BGM	P3G0009
Chromium	BRL	mg/L	0.0050	0.00039	1	*6010C	7/1/13 20:53	BGM	P3G0009
Copper	BRL	mg/L	0.010	0.00036	1	*6010C	7/1/13 20:53	BGM	P3G0009
Lead	BRL	mg/L	0.0050	0.00061	1	*6010C	7/1/13 20:53	BGM	P3G0009
Nickel	BRL	mg/L	0.010	0.00030	1	*6010C	7/1/13 20:53	BGM	P3G0009
Selenium	BRL	mg/L	0.020	0.0022	1	*6010C	7/1/13 20:53	BGM	P3G0009
Silver	BRL	mg/L	0.0050	0.00026	1	*6010C	7/1/13 20:53	BGM	P3G0009
Thallium	BRL	mg/L	0.010	0.0026	1	*6010C	7/1/13 20:53	BGM	P3G0009
Zinc	BRL	mg/L	0.030	0.00051	1	*6010C	7/1/13 20:53	BGM	P3G0009

Volatile Organic Compounds by GC/MS

1,1,1,2-Tetrachloroethane	BRL	ug/L	0.50	0.15	1	8260B	7/1/13 15:44	VHL	P3G0028
1,1,1-Trichloroethane	BRL	ug/L	0.50	0.063	1	8260B	7/1/13 15:44	VHL	P3G0028
1,1,2,2-Tetrachloroethane	BRL	ug/L	0.50	0.071	1	8260B	7/1/13 15:44	VHL	P3G0028
1,1,2-Trichloroethane	BRL	ug/L	0.50	0.17	1	8260B	7/1/13 15:44	VHL	P3G0028
1,1-Dichloroethane	BRL	ug/L	0.50	0.096	1	8260B	7/1/13 15:44	VHL	P3G0028
1,1-Dichloroethylene	BRL	ug/L	0.50	0.078	1	8260B	7/1/13 15:44	VHL	P3G0028
1,1-Dichloropropylene	BRL	ug/L	0.50	0.061	1	8260B	7/1/13 15:44	VHL	P3G0028

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-8
Prism Sample ID: 3060682-06
Prism Work Order: 3060682
Time Collected: 06/27/13 12:10
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,2,3-Trichlorobenzene	BRL	ug/L	2.0	0.20	1	8260B	7/1/13 15:44	VHL	P3G0028
1,2,3-Trichloropropane	BRL	ug/L	1.0	0.081	1	8260B	7/1/13 15:44	VHL	P3G0028
1,2,4-Trichlorobenzene	BRL	ug/L	1.0	0.10	1	8260B	7/1/13 15:44	VHL	P3G0028
1,2,4-Trimethylbenzene	BRL	ug/L	0.50	0.048	1	8260B	7/1/13 15:44	VHL	P3G0028
1,2-Dibromo-3-chloropropane	BRL	ug/L	2.0	0.59	1	8260B	7/1/13 15:44	VHL	P3G0028
1,2-Dibromoethane	BRL	ug/L	0.50	0.14	1	8260B	7/1/13 15:44	VHL	P3G0028
1,2-Dichlorobenzene	BRL	ug/L	0.50	0.076	1	8260B	7/1/13 15:44	VHL	P3G0028
1,2-Dichloroethane	BRL	ug/L	0.50	0.14	1	8260B	7/1/13 15:44	VHL	P3G0028
1,2-Dichloropropane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 15:44	VHL	P3G0028
1,3,5-Trimethylbenzene	BRL	ug/L	0.50	0.057	1	8260B	7/1/13 15:44	VHL	P3G0028
1,3-Dichlorobenzene	BRL	ug/L	0.50	0.074	1	8260B	7/1/13 15:44	VHL	P3G0028
1,3-Dichloropropane	BRL	ug/L	0.50	0.11	1	8260B	7/1/13 15:44	VHL	P3G0028
1,4-Dichlorobenzene	BRL	ug/L	0.50	0.068	1	8260B	7/1/13 15:44	VHL	P3G0028
2,2-Dichloropropane	BRL	ug/L	2.0	0.11	1	8260B	7/1/13 15:44	VHL	P3G0028
2-Chloroethyl Vinyl Ether	BRL	ug/L	2.0	0.22	1	8260B	7/1/13 15:44	VHL	P3G0028
2-Chlorotoluene	BRL	ug/L	0.50	0.038	1	8260B	7/1/13 15:44	VHL	P3G0028
4-Chlorotoluene	BRL	ug/L	0.50	0.053	1	8260B	7/1/13 15:44	VHL	P3G0028
4-Isopropyltoluene	BRL	ug/L	0.50	0.065	1	8260B	7/1/13 15:44	VHL	P3G0028
Acetone	BRL	ug/L	5.0	0.62	1	8260B	7/1/13 15:44	VHL	P3G0028
Acrolein	BRL	ug/L	20	1.1	1	8260B	7/1/13 15:44	VHL	P3G0028
Acrylonitrile	BRL	ug/L	20	0.86	1	8260B	7/1/13 15:44	VHL	P3G0028
Benzene	BRL	ug/L	0.50	0.072	1	8260B	7/1/13 15:44	VHL	P3G0028
Bromobenzene	BRL	ug/L	0.50	0.064	1	8260B	7/1/13 15:44	VHL	P3G0028
Bromochloromethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 15:44	VHL	P3G0028
Bromodichloromethane	BRL	ug/L	0.50	0.062	1	8260B	7/1/13 15:44	VHL	P3G0028
Bromoform	BRL	ug/L	1.0	0.27	1	8260B	7/1/13 15:44	VHL	P3G0028
Bromomethane	BRL	ug/L	1.0	0.47	1	8260B	7/1/13 15:44	VHL	P3G0028
Carbon disulfide	BRL	ug/L	5.0	1.4	1	8260B	7/1/13 15:44	VHL	P3G0028
Carbon Tetrachloride	BRL	ug/L	0.50	0.12	1	8260B	7/1/13 15:44	VHL	P3G0028
Chlorobenzene	BRL	ug/L	0.50	0.061	1	8260B	7/1/13 15:44	VHL	P3G0028
Chloroethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 15:44	VHL	P3G0028
Chloroform	BRL	ug/L	0.50	0.089	1	8260B	7/1/13 15:44	VHL	P3G0028
Chloromethane	BRL	ug/L	0.50	0.11	1	8260B	7/1/13 15:44	VHL	P3G0028
cis-1,2-Dichloroethylene	BRL	ug/L	0.50	0.076	1	8260B	7/1/13 15:44	VHL	P3G0028
cis-1,3-Dichloropropylene	BRL	ug/L	0.50	0.10	1	8260B	7/1/13 15:44	VHL	P3G0028
Dibromochloromethane	BRL	ug/L	0.50	0.30	1	8260B	7/1/13 15:44	VHL	P3G0028
Dibromomethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 15:44	VHL	P3G0028
Dichlorodifluoromethane	BRL	ug/L	1.0	0.11	1	8260B	7/1/13 15:44	VHL	P3G0028
Ethylbenzene	BRL	ug/L	0.50	0.067	1	8260B	7/1/13 15:44	VHL	P3G0028
Hexachlorobutadiene	BRL	ug/L	2.0	0.36	1	8260B	7/1/13 15:44	VHL	P3G0028
Isopropyl Ether	BRL	ug/L	0.50	0.043	1	8260B	7/1/13 15:44	VHL	P3G0028
Isopropylbenzene (Cumene)	BRL	ug/L	0.50	0.072	1	8260B	7/1/13 15:44	VHL	P3G0028
m,p-Xylenes	BRL	ug/L	1.0	0.081	1	8260B	7/1/13 15:44	VHL	P3G0028

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-8
Prism Sample ID: 3060682-06
Prism Work Order: 3060682
Time Collected: 06/27/13 12:10
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Methyl Butyl Ketone (2-Hexanone)	BRL	ug/L	5.0	0.19	1	8260B	7/1/13 15:44	VHL	P3G0028
Methyl Ethyl Ketone (2-Butanone)	BRL	ug/L	5.0	0.90	1	8260B	7/1/13 15:44	VHL	P3G0028
Methyl Isobutyl Ketone	BRL	ug/L	5.0	0.12	1	8260B	7/1/13 15:44	VHL	P3G0028
Methylene Chloride	BRL	ug/L	1.0	0.44	1	8260B	7/1/13 15:44	VHL	P3G0028
Methyl-tert-Butyl Ether	BRL	ug/L	0.50	0.070	1	8260B	7/1/13 15:44	VHL	P3G0028
Naphthalene	BRL	ug/L	1.0	0.098	1	8260B	7/1/13 15:44	VHL	P3G0028
n-Butylbenzene	BRL	ug/L	1.0	0.11	1	8260B	7/1/13 15:44	VHL	P3G0028
n-Propylbenzene	BRL	ug/L	0.50	0.060	1	8260B	7/1/13 15:44	VHL	P3G0028
o-Xylene	BRL	ug/L	0.50	0.046	1	8260B	7/1/13 15:44	VHL	P3G0028
sec-Butylbenzene	BRL	ug/L	0.50	0.087	1	8260B	7/1/13 15:44	VHL	P3G0028
Styrene	BRL	ug/L	0.50	0.047	1	8260B	7/1/13 15:44	VHL	P3G0028
tert-Butylbenzene	BRL	ug/L	0.50	0.080	1	8260B	7/1/13 15:44	VHL	P3G0028
Tetrachloroethylene	BRL	ug/L	0.50	0.069	1	8260B	7/1/13 15:44	VHL	P3G0028
Toluene	BRL	ug/L	0.50	0.042	1	8260B	7/1/13 15:44	VHL	P3G0028
trans-1,2-Dichloroethylene	BRL	ug/L	0.50	0.12	1	8260B	7/1/13 15:44	VHL	P3G0028
trans-1,3-Dichloropropylene	BRL	ug/L	0.50	0.043	1	8260B	7/1/13 15:44	VHL	P3G0028
Trichloroethylene	BRL	ug/L	0.50	0.054	1	8260B	7/1/13 15:44	VHL	P3G0028
Trichlorofluoromethane	BRL	ug/L	0.50	0.088	1	8260B	7/1/13 15:44	VHL	P3G0028
Vinyl acetate	BRL	ug/L	2.0	0.10	1	8260B	7/1/13 15:44	VHL	P3G0028
Vinyl chloride	BRL	ug/L	0.50	0.16	1	8260B	7/1/13 15:44	VHL	P3G0028

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*108 %*	*80-124*
Dibromofluoromethane	*116 %*	*75-129*
Toluene-d8	*115 %*	*77-123*

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-9
Prism Sample ID: 3060682-07
Prism Work Order: 3060682
Time Collected: 06/27/13 10:35
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Anions by Ion Chromatography									
Nitrate as N	BRL A	mg/L	0.10	0.00090	1	*9056A	6/28/13 21:20	CDE	P3G0015
General Chemistry Parameters									
Phosphorus-Total	BRL	mg/L	0.050	0.0097	1	*SM4500-P F	7/2/13 10:41	CLB	P3G0005
Organochlorine Pesticides by GC/ECD									
4,4'-DDD	BRL	ug/L	0.051	0.0037	1	8081B	7/17/13 3:30	JMV	P3G0080
4,4'-DDE	BRL CCV	ug/L	0.051	0.0039	1	8081B	7/17/13 3:30	JMV	P3G0080
4,4'-DDT	BRL CCV	ug/L	0.051	0.021	1	8081B	7/17/13 3:30	JMV	P3G0080
Aldrin	BRL CCV	ug/L	0.051	0.011	1	8081B	7/17/13 3:30	JMV	P3G0080
alpha-BHC	BRL CCV	ug/L	0.051	0.0045	1	8081B	7/17/13 3:30	JMV	P3G0080
cis-Chlordane	BRL CCV	ug/L	0.051	0.0071	1	8081B	7/17/13 3:30	JMV	P3G0080
beta-BHC	BRL CCV	ug/L	0.051	0.0067	1	8081B	7/17/13 3:30	JMV	P3G0080
Chlordane	BRL	ug/L	0.51	0.13	1	8081B	7/17/13 3:30	JMV	P3G0080
delta-BHC	BRL CCV	ug/L	0.051	0.0034	1	8081B	7/17/13 3:30	JMV	P3G0080
Dieldrin	BRL	ug/L	0.051	0.0047	1	8081B	7/17/13 3:30	JMV	P3G0080
Endosulfan I	BRL CCV	ug/L	0.051	0.0086	1	8081B	7/17/13 3:30	JMV	P3G0080
Endosulfan II	BRL	ug/L	0.051	0.0048	1	8081B	7/17/13 3:30	JMV	P3G0080
Endosulfan Sulfate	BRL CCV	ug/L	0.051	0.0048	1	8081B	7/17/13 3:30	JMV	P3G0080
Endrin	BRL	ug/L	0.051	0.0047	1	8081B	7/17/13 3:30	JMV	P3G0080
Endrin Aldehyde	BRL	ug/L	0.051	0.0054	1	8081B	7/17/13 3:30	JMV	P3G0080
Endrin Ketone	BRL	ug/L	0.051	0.0044	1	8081B	7/17/13 3:30	JMV	P3G0080
gamma-BHC	BRL CCV	ug/L	0.051	0.0050	1	8081B	7/17/13 3:30	JMV	P3G0080
trans-Chlordane	BRL CCV	ug/L	0.051	0.0061	1	8081B	7/17/13 3:30	JMV	P3G0080
Heptachlor	BRL	ug/L	0.051	0.0079	1	8081B	7/17/13 3:30	JMV	P3G0080
Heptachlor Epoxide	BRL CCV	ug/L	0.051	0.0047	1	8081B	7/17/13 3:30	JMV	P3G0080
Methoxychlor	BRL	ug/L	0.051	0.0089	1	8081B	7/17/13 3:30	JMV	P3G0080
Toxaphene	BRL	ug/L	0.51	0.16	1	8081B	7/17/13 3:30	JMV	P3G0080

Surrogate	Recovery	Control Limits
Decachlorobiphenyl	*113 %*	*13-186*
Tetrachloro-m-xylene	*89 %*	*40-134*

Semivolatile Organic Compounds by GC/MS									
1,2,4-Trichlorobenzene	BRL	ug/L	10	2.3	1	8270D	7/9/13 15:55	KC	P3G0051
1,2-Dichlorobenzene	BRL	ug/L	10	1.8	1	8270D	7/9/13 15:55	KC	P3G0051
1,3-Dichlorobenzene	BRL	ug/L	10	1.8	1	8270D	7/9/13 15:55	KC	P3G0051
1,4-Dichlorobenzene	BRL	ug/L	10	2.1	1	8270D	7/9/13 15:55	KC	P3G0051
1-Methylnaphthalene	BRL	ug/L	10	2.6	1	8270D	7/9/13 15:55	KC	P3G0051
2,4,5-Trichlorophenol	BRL	ug/L	10	2.5	1	8270D	7/9/13 15:55	KC	P3G0051
2,4,6-Trichlorophenol	BRL	ug/L	10	2.4	1	8270D	7/9/13 15:55	KC	P3G0051
2,4-Dichlorophenol	BRL	ug/L	10	2.5	1	8270D	7/9/13 15:55	KC	P3G0051
2,4-Dimethylphenol	BRL	ug/L	10	2.5	1	8270D	7/9/13 15:55	KC	P3G0051
2,4-Dinitrophenol	BRL CCV, IC\	ug/L	10	2.4	1	8270D	7/9/13 15:55	KC	P3G0051
2,4-Dinitrotoluene	BRL	ug/L	10	0.97	1	8270D	7/9/13 15:55	KC	P3G0051

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-9
Prism Sample ID: 3060682-07
Prism Work Order: 3060682
Time Collected: 06/27/13 10:35
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
2,6-Dinitrotoluene	BRL	ug/L	10	1.7	1	8270D	7/9/13 15:55	KC	P3G0051
2-Chloronaphthalene	BRL	ug/L	10	2.3	1	8270D	7/9/13 15:55	KC	P3G0051
2-Chlorophenol	BRL	ug/L	10	2.2	1	8270D	7/9/13 15:55	KC	P3G0051
2-Methylnaphthalene	BRL	ug/L	10	2.7	1	8270D	7/9/13 15:55	KC	P3G0051
2-Methylphenol	BRL	ug/L	10	2.4	1	8270D	7/9/13 15:55	KC	P3G0051
2-Nitroaniline	BRL	ug/L	10	2.0	1	8270D	7/9/13 15:55	KC	P3G0051
2-Nitrophenol	BRL	ug/L	10	2.5	1	8270D	7/9/13 15:55	KC	P3G0051
3,3'-Dichlorobenzidine	BRL	ug/L	10	0.98	1	8270D	7/9/13 15:55	KC	P3G0051
3/4-Methylphenol	BRL	ug/L	10	2.4	1	8270D	7/9/13 15:55	KC	P3G0051
3-Nitroaniline	BRL	ug/L	10	1.4	1	8270D	7/9/13 15:55	KC	P3G0051
4,6-Dinitro-2-methylphenol	BRL	ug/L	10	2.7	1	8270D	7/9/13 15:55	KC	P3G0051
4-Bromophenyl phenyl ether	BRL	ug/L	10	1.8	1	8270D	7/9/13 15:55	KC	P3G0051
4-Chloro-3-methylphenol	BRL	ug/L	10	2.3	1	8270D	7/9/13 15:55	KC	P3G0051
4-Chloroaniline	BRL	ug/L	10	2.6	1	8270D	7/9/13 15:55	KC	P3G0051
4-Chlorophenyl phenyl ether	BRL	ug/L	10	1.9	1	8270D	7/9/13 15:55	KC	P3G0051
4-Nitroaniline	BRL	ug/L	10	0.93	1	8270D	7/9/13 15:55	KC	P3G0051
4-Nitrophenol	BRL	ug/L	10	2.6	1	8270D	7/9/13 15:55	KC	P3G0051
Acenaphthene	BRL	ug/L	10	2.2	1	8270D	7/9/13 15:55	KC	P3G0051
Acenaphthylene	BRL	ug/L	10	2.3	1	8270D	7/9/13 15:55	KC	P3G0051
Aniline	BRL	ug/L	10	2.3	1	8270D	7/9/13 15:55	KC	P3G0051
Anthracene	BRL	ug/L	10	1.3	1	8270D	7/9/13 15:55	KC	P3G0051
Azobenzene	BRL	ug/L	10	1.8	1	8270D	7/9/13 15:55	KC	P3G0051
Benzo(a)anthracene	BRL	ug/L	10	0.97	1	8270D	7/9/13 15:55	KC	P3G0051
Benzo(a)pyrene	BRL	ug/L	10	1.1	1	8270D	7/9/13 15:55	KC	P3G0051
Benzo(b)fluoranthene	BRL	ug/L	10	1.4	1	8270D	7/9/13 15:55	KC	P3G0051
Benzo(g,h,i)perylene	BRL	ug/L	10	2.2	1	8270D	7/9/13 15:55	KC	P3G0051
Benzo(k)fluoranthene	BRL	ug/L	10	1.1	1	8270D	7/9/13 15:55	KC	P3G0051
Benzoic Acid	BRL	ug/L	100	51	1	8270D	7/9/13 15:55	KC	P3G0051
Benzyl alcohol	BRL	ug/L	10	2.1	1	8270D	7/9/13 15:55	KC	P3G0051
bis(2-Chloroethoxy)methane	BRL	ug/L	10	2.2	1	8270D	7/9/13 15:55	KC	P3G0051
Bis(2-Chloroethyl)ether	BRL CCV	ug/L	10	1.9	1	8270D	7/9/13 15:55	KC	P3G0051
Bis(2-chloroisopropyl)ether	BRL CCV	ug/L	10	2.4	1	8270D	7/9/13 15:55	KC	P3G0051
Bis(2-Ethylhexyl)phthalate	BRL	ug/L	10	1.8	1	8270D	7/9/13 15:55	KC	P3G0051
Butyl benzyl phthalate	BRL	ug/L	10	1.6	1	8270D	7/9/13 15:55	KC	P3G0051
Chrysene	BRL	ug/L	10	1.2	1	8270D	7/9/13 15:55	KC	P3G0051
Dibenzo(a,h)anthracene	BRL	ug/L	10	1.8	1	8270D	7/9/13 15:55	KC	P3G0051
Dibenzofuran	BRL	ug/L	10	2.2	1	8270D	7/9/13 15:55	KC	P3G0051
Diethyl phthalate	BRL	ug/L	10	1.4	1	8270D	7/9/13 15:55	KC	P3G0051
Dimethyl phthalate	BRL	ug/L	10	1.7	1	8270D	7/9/13 15:55	KC	P3G0051
Di-n-butyl phthalate	BRL	ug/L	10	1.9	1	8270D	7/9/13 15:55	KC	P3G0051
Di-n-octyl phthalate	BRL	ug/L	10	1.9	1	8270D	7/9/13 15:55	KC	P3G0051
Fluoranthene	BRL	ug/L	10	0.96	1	8270D	7/9/13 15:55	KC	P3G0051
Fluorene	BRL	ug/L	10	1.9	1	8270D	7/9/13 15:55	KC	P3G0051

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-9
Prism Sample ID: 3060682-07
Prism Work Order: 3060682
Time Collected: 06/27/13 10:35
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Hexachlorobenzene	BRL	ug/L	10	1.4	1	8270D	7/9/13 15:55	KC	P3G0051
Hexachlorobutadiene	BRL	ug/L	10	2.3	1	8270D	7/9/13 15:55	KC	P3G0051
Hexachlorocyclopentadiene	BRL	ug/L	10	1.8	1	8270D	7/9/13 15:55	KC	P3G0051
Hexachloroethane	BRL	ug/L	10	2.0	1	8270D	7/9/13 15:55	KC	P3G0051
Indeno(1,2,3-cd)pyrene	BRL	ug/L	10	1.6	1	8270D	7/9/13 15:55	KC	P3G0051
Isophorone	BRL	ug/L	10	2.5	1	8270D	7/9/13 15:55	KC	P3G0051
Naphthalene	BRL	ug/L	10	2.3	1	8270D	7/9/13 15:55	KC	P3G0051
Nitrobenzene	BRL	ug/L	10	2.0	1	8270D	7/9/13 15:55	KC	P3G0051
N-Nitroso-di-n-propylamine	BRL	ug/L	10	2.4	1	8270D	7/9/13 15:55	KC	P3G0051
N-Nitrosodiphenylamine	BRL	ug/L	10	1.6	1	8270D	7/9/13 15:55	KC	P3G0051
Pentachlorophenol	BRL	ug/L	10	1.7	1	8270D	7/9/13 15:55	KC	P3G0051
Phenanthrene	BRL	ug/L	10	1.2	1	8270D	7/9/13 15:55	KC	P3G0051
Phenol	BRL	ug/L	10	2.2	1	8270D	7/9/13 15:55	KC	P3G0051
Pyrene	BRL	ug/L	10	1.4	1	8270D	7/9/13 15:55	KC	P3G0051

Surrogate	Recovery	Control Limits
2,4,6-Tribromophenol	*84 %*	*49-109*
2-Fluorobiphenyl	*62 %*	*55-96*
2-Fluorophenol	*39 %*	*27-74*
Nitrobenzene-d5	*69 %*	*53-99*
Phenol-d5	*38 %*	*11-52*
Terphenyl-d14	*72 %*	*42-133*

Total Metals

Mercury	BRL	mg/L	0.00020	0.000041	1	*7470A	7/3/13 14:23	MEH	P3G0075
Antimony	BRL	mg/L	0.010	0.00092	1	*6010C	7/1/13 21:01	BGM	P3G0009
Arsenic	BRL	mg/L	0.010	0.0010	1	*6010C	7/1/13 21:01	BGM	P3G0009
Beryllium	BRL	mg/L	0.0020	0.00012	1	*6010C	7/1/13 21:01	BGM	P3G0009
Cadmium	BRL	mg/L	0.0010	0.000044	1	*6010C	7/1/13 21:01	BGM	P3G0009
Chromium	BRL	mg/L	0.0050	0.00039	1	*6010C	7/1/13 21:01	BGM	P3G0009
Copper	BRL	mg/L	0.010	0.00036	1	*6010C	7/1/13 21:01	BGM	P3G0009
Lead	BRL	mg/L	0.0050	0.00061	1	*6010C	7/1/13 21:01	BGM	P3G0009
Nickel	BRL	mg/L	0.010	0.00030	1	*6010C	7/1/13 21:01	BGM	P3G0009
Selenium	BRL	mg/L	0.020	0.0022	1	*6010C	7/1/13 21:01	BGM	P3G0009
Silver	BRL	mg/L	0.0050	0.00026	1	*6010C	7/1/13 21:01	BGM	P3G0009
Thallium	BRL	mg/L	0.010	0.0026	1	*6010C	7/1/13 21:01	BGM	P3G0009
Zinc	BRL	mg/L	0.030	0.00051	1	*6010C	7/1/13 21:01	BGM	P3G0009

Volatile Organic Compounds by GC/MS

1,1,1,2-Tetrachloroethane	BRL	ug/L	0.50	0.15	1	8260B	7/1/13 16:10	VHL	P3G0028
1,1,1-Trichloroethane	BRL	ug/L	0.50	0.063	1	8260B	7/1/13 16:10	VHL	P3G0028
1,1,2,2-Tetrachloroethane	BRL	ug/L	0.50	0.071	1	8260B	7/1/13 16:10	VHL	P3G0028
1,1,2-Trichloroethane	BRL	ug/L	0.50	0.17	1	8260B	7/1/13 16:10	VHL	P3G0028
1,1-Dichloroethane	BRL	ug/L	0.50	0.096	1	8260B	7/1/13 16:10	VHL	P3G0028
1,1-Dichloroethylene	BRL	ug/L	0.50	0.078	1	8260B	7/1/13 16:10	VHL	P3G0028
1,1-Dichloropropylene	BRL	ug/L	0.50	0.061	1	8260B	7/1/13 16:10	VHL	P3G0028

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-9
Prism Sample ID: 3060682-07
Prism Work Order: 3060682
Time Collected: 06/27/13 10:35
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,2,3-Trichlorobenzene	BRL	ug/L	2.0	0.20	1	8260B	7/1/13 16:10	VHL	P3G0028
1,2,3-Trichloropropane	BRL	ug/L	1.0	0.081	1	8260B	7/1/13 16:10	VHL	P3G0028
1,2,4-Trichlorobenzene	BRL	ug/L	1.0	0.10	1	8260B	7/1/13 16:10	VHL	P3G0028
1,2,4-Trimethylbenzene	BRL	ug/L	0.50	0.048	1	8260B	7/1/13 16:10	VHL	P3G0028
1,2-Dibromo-3-chloropropane	BRL	ug/L	2.0	0.59	1	8260B	7/1/13 16:10	VHL	P3G0028
1,2-Dibromoethane	BRL	ug/L	0.50	0.14	1	8260B	7/1/13 16:10	VHL	P3G0028
1,2-Dichlorobenzene	BRL	ug/L	0.50	0.076	1	8260B	7/1/13 16:10	VHL	P3G0028
1,2-Dichloroethane	BRL	ug/L	0.50	0.14	1	8260B	7/1/13 16:10	VHL	P3G0028
1,2-Dichloropropane	**1.6**	**ug/L**	**0.50**	**0.13**	**1**	**8260B**	**7/1/13 16:10**	**VHL**	**P3G0028**
1,3,5-Trimethylbenzene	BRL	ug/L	0.50	0.057	1	8260B	7/1/13 16:10	VHL	P3G0028
1,3-Dichlorobenzene	BRL	ug/L	0.50	0.074	1	8260B	7/1/13 16:10	VHL	P3G0028
1,3-Dichloropropane	BRL	ug/L	0.50	0.11	1	8260B	7/1/13 16:10	VHL	P3G0028
1,4-Dichlorobenzene	BRL	ug/L	0.50	0.068	1	8260B	7/1/13 16:10	VHL	P3G0028
2,2-Dichloropropane	BRL	ug/L	2.0	0.11	1	8260B	7/1/13 16:10	VHL	P3G0028
2-Chloroethyl Vinyl Ether	BRL	ug/L	2.0	0.22	1	8260B	7/1/13 16:10	VHL	P3G0028
2-Chlorotoluene	BRL	ug/L	0.50	0.038	1	8260B	7/1/13 16:10	VHL	P3G0028
4-Chlorotoluene	BRL	ug/L	0.50	0.053	1	8260B	7/1/13 16:10	VHL	P3G0028
4-Isopropyltoluene	BRL	ug/L	0.50	0.065	1	8260B	7/1/13 16:10	VHL	P3G0028
Acetone	BRL	ug/L	5.0	0.62	1	8260B	7/1/13 16:10	VHL	P3G0028
Acrolein	BRL	ug/L	20	1.1	1	8260B	7/1/13 16:10	VHL	P3G0028
Acrylonitrile	BRL	ug/L	20	0.86	1	8260B	7/1/13 16:10	VHL	P3G0028
Benzene	BRL	ug/L	0.50	0.072	1	8260B	7/1/13 16:10	VHL	P3G0028
Bromobenzene	BRL	ug/L	0.50	0.064	1	8260B	7/1/13 16:10	VHL	P3G0028
Bromochloromethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 16:10	VHL	P3G0028
Bromodichloromethane	BRL	ug/L	0.50	0.062	1	8260B	7/1/13 16:10	VHL	P3G0028
Bromoform	BRL	ug/L	1.0	0.27	1	8260B	7/1/13 16:10	VHL	P3G0028
Bromomethane	BRL	ug/L	1.0	0.47	1	8260B	7/1/13 16:10	VHL	P3G0028
Carbon disulfide	BRL	ug/L	5.0	1.4	1	8260B	7/1/13 16:10	VHL	P3G0028
Carbon Tetrachloride	BRL	ug/L	0.50	0.12	1	8260B	7/1/13 16:10	VHL	P3G0028
Chlorobenzene	BRL	ug/L	0.50	0.061	1	8260B	7/1/13 16:10	VHL	P3G0028
Chloroethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 16:10	VHL	P3G0028
Chloroform	BRL	ug/L	0.50	0.089	1	8260B	7/1/13 16:10	VHL	P3G0028
Chloromethane	BRL	ug/L	0.50	0.11	1	8260B	7/1/13 16:10	VHL	P3G0028
cis-1,2-Dichloroethylene	BRL	ug/L	0.50	0.076	1	8260B	7/1/13 16:10	VHL	P3G0028
cis-1,3-Dichloropropylene	BRL	ug/L	0.50	0.10	1	8260B	7/1/13 16:10	VHL	P3G0028
Dibromochloromethane	BRL	ug/L	0.50	0.30	1	8260B	7/1/13 16:10	VHL	P3G0028
Dibromomethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 16:10	VHL	P3G0028
Dichlorodifluoromethane	BRL	ug/L	1.0	0.11	1	8260B	7/1/13 16:10	VHL	P3G0028
Ethylbenzene	BRL	ug/L	0.50	0.067	1	8260B	7/1/13 16:10	VHL	P3G0028
Hexachlorobutadiene	BRL	ug/L	2.0	0.36	1	8260B	7/1/13 16:10	VHL	P3G0028
Isopropyl Ether	BRL	ug/L	0.50	0.043	1	8260B	7/1/13 16:10	VHL	P3G0028
Isopropylbenzene (Cumene)	BRL	ug/L	0.50	0.072	1	8260B	7/1/13 16:10	VHL	P3G0028
m,p-Xylenes	BRL	ug/L	1.0	0.081	1	8260B	7/1/13 16:10	VHL	P3G0028

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-9
Prism Sample ID: 3060682-07
Prism Work Order: 3060682
Time Collected: 06/27/13 10:35
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Methyl Butyl Ketone (2-Hexanone)	BRL	ug/L	5.0	0.19	1	8260B	7/1/13 16:10	VHL	P3G0028
Methyl Ethyl Ketone (2-Butanone)	BRL	ug/L	5.0	0.90	1	8260B	7/1/13 16:10	VHL	P3G0028
Methyl Isobutyl Ketone	BRL	ug/L	5.0	0.12	1	8260B	7/1/13 16:10	VHL	P3G0028
Methylene Chloride	BRL	ug/L	1.0	0.44	1	8260B	7/1/13 16:10	VHL	P3G0028
Methyl-tert-Butyl Ether	BRL	ug/L	0.50	0.070	1	8260B	7/1/13 16:10	VHL	P3G0028
Naphthalene	BRL	ug/L	1.0	0.098	1	8260B	7/1/13 16:10	VHL	P3G0028
n-Butylbenzene	BRL	ug/L	1.0	0.11	1	8260B	7/1/13 16:10	VHL	P3G0028
n-Propylbenzene	BRL	ug/L	0.50	0.060	1	8260B	7/1/13 16:10	VHL	P3G0028
o-Xylene	BRL	ug/L	0.50	0.046	1	8260B	7/1/13 16:10	VHL	P3G0028
sec-Butylbenzene	BRL	ug/L	0.50	0.087	1	8260B	7/1/13 16:10	VHL	P3G0028
Styrene	BRL	ug/L	0.50	0.047	1	8260B	7/1/13 16:10	VHL	P3G0028
tert-Butylbenzene	BRL	ug/L	0.50	0.080	1	8260B	7/1/13 16:10	VHL	P3G0028
Tetrachloroethylene	BRL	ug/L	0.50	0.069	1	8260B	7/1/13 16:10	VHL	P3G0028
Toluene	BRL	ug/L	0.50	0.042	1	8260B	7/1/13 16:10	VHL	P3G0028
trans-1,2-Dichloroethylene	BRL	ug/L	0.50	0.12	1	8260B	7/1/13 16:10	VHL	P3G0028
trans-1,3-Dichloropropylene	BRL	ug/L	0.50	0.043	1	8260B	7/1/13 16:10	VHL	P3G0028
Trichloroethylene	BRL	ug/L	0.50	0.054	1	8260B	7/1/13 16:10	VHL	P3G0028
Trichlorofluoromethane	BRL	ug/L	0.50	0.088	1	8260B	7/1/13 16:10	VHL	P3G0028
Vinyl acetate	BRL	ug/L	2.0	0.10	1	8260B	7/1/13 16:10	VHL	P3G0028
Vinyl chloride	BRL	ug/L	0.50	0.16	1	8260B	7/1/13 16:10	VHL	P3G0028

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*108 %*	*80-124*
Dibromofluoromethane	*114 %*	*75-129*
Toluene-d8	*113 %*	*77-123*

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-10
Prism Sample ID: 3060682-08
Prism Work Order: 3060682
Time Collected: 06/27/13 09:10
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Anions by Ion Chromatography									
Nitrite as N	BRL A	mg/L	0.10	0.00070	1	*9056A	6/28/13 21:34	CDE	P3G0015
General Chemistry Parameters									
Phosphorus-Total	**0.11**	**mg/L**	**0.050**	**0.0097**	**1**	***SM4500-P F**	**7/2/13 10:41**	**CLB**	**P3G0005**
Organochlorine Pesticides by GC/ECD									
4,4'-DDD	BRL	ug/L	0.051	0.0037	1	8081B	7/17/13 4:13	JMV	P3G0080
4,4'-DDE	BRL CCV	ug/L	0.051	0.0039	1	8081B	7/17/13 4:13	JMV	P3G0080
4,4'-DDT	BRL CCV	ug/L	0.051	0.021	1	8081B	7/17/13 4:13	JMV	P3G0080
Aldrin	BRL CCV	ug/L	0.051	0.011	1	8081B	7/17/13 4:13	JMV	P3G0080
alpha-BHC	BRL CCV	ug/L	0.051	0.0045	1	8081B	7/17/13 4:13	JMV	P3G0080
cis-Chlordane	BRL CCV	ug/L	0.051	0.0071	1	8081B	7/17/13 4:13	JMV	P3G0080
beta-BHC	BRL CCV	ug/L	0.051	0.0067	1	8081B	7/17/13 4:13	JMV	P3G0080
Chlordane	BRL	ug/L	0.51	0.13	1	8081B	7/17/13 4:13	JMV	P3G0080
delta-BHC	BRL CCV	ug/L	0.051	0.0034	1	8081B	7/17/13 4:13	JMV	P3G0080
Dieldrin	BRL	ug/L	0.051	0.0047	1	8081B	7/17/13 4:13	JMV	P3G0080
Endosulfan I	BRL CCV	ug/L	0.051	0.0086	1	8081B	7/17/13 4:13	JMV	P3G0080
Endosulfan II	BRL	ug/L	0.051	0.0048	1	8081B	7/17/13 4:13	JMV	P3G0080
Endosulfan Sulfate	BRL CCV	ug/L	0.051	0.0048	1	8081B	7/17/13 4:13	JMV	P3G0080
Endrin	BRL	ug/L	0.051	0.0047	1	8081B	7/17/13 4:13	JMV	P3G0080
Endrin Aldehyde	BRL	ug/L	0.051	0.0054	1	8081B	7/17/13 4:13	JMV	P3G0080
Endrin Ketone	BRL	ug/L	0.051	0.0044	1	8081B	7/17/13 4:13	JMV	P3G0080
gamma-BHC	BRL CCV	ug/L	0.051	0.0050	1	8081B	7/17/13 4:13	JMV	P3G0080
trans-Chlordane	BRL CCV	ug/L	0.051	0.0061	1	8081B	7/17/13 4:13	JMV	P3G0080
Heptachlor	BRL	ug/L	0.051	0.0079	1	8081B	7/17/13 4:13	JMV	P3G0080
Heptachlor Epoxide	BRL CCV	ug/L	0.051	0.0047	1	8081B	7/17/13 4:13	JMV	P3G0080
Methoxychlor	BRL	ug/L	0.051	0.0089	1	8081B	7/17/13 4:13	JMV	P3G0080
Toxaphene	BRL	ug/L	0.51	0.16	1	8081B	7/17/13 4:13	JMV	P3G0080

Surrogate	Recovery	Control Limits
Decachlorobiphenyl	*100 %*	*13-186*
Tetrachloro-m-xylene	*86 %*	*40-134*

Semivolatile Organic Compounds by GC/MS									
1,2,4-Trichlorobenzene	BRL	ug/L	10	2.3	1	8270D	7/9/13 16:24	KC	P3G0051
1,2-Dichlorobenzene	BRL	ug/L	10	1.8	1	8270D	7/9/13 16:24	KC	P3G0051
1,3-Dichlorobenzene	BRL	ug/L	10	1.8	1	8270D	7/9/13 16:24	KC	P3G0051
1,4-Dichlorobenzene	BRL	ug/L	10	2.1	1	8270D	7/9/13 16:24	KC	P3G0051
1-Methylnaphthalene	BRL	ug/L	10	2.6	1	8270D	7/9/13 16:24	KC	P3G0051
2,4,5-Trichlorophenol	BRL	ug/L	10	2.5	1	8270D	7/9/13 16:24	KC	P3G0051
2,4,6-Trichlorophenol	BRL	ug/L	10	2.4	1	8270D	7/9/13 16:24	KC	P3G0051
2,4-Dichlorophenol	BRL	ug/L	10	2.5	1	8270D	7/9/13 16:24	KC	P3G0051
2,4-Dimethylphenol	BRL	ug/L	10	2.5	1	8270D	7/9/13 16:24	KC	P3G0051
2,4-Dinitrophenol	BRL CCV, IC\	ug/L	10	2.4	1	8270D	7/9/13 16:24	KC	P3G0051
2,4-Dinitrotoluene	BRL	ug/L	10	0.97	1	8270D	7/9/13 16:24	KC	P3G0051

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-10
Prism Sample ID: 3060682-08
Prism Work Order: 3060682
Time Collected: 06/27/13 09:10
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
2,6-Dinitrotoluene	BRL	ug/L	10	1.7	1	8270D	7/9/13 16:24	KC	P3G0051
2-Chloronaphthalene	BRL	ug/L	10	2.3	1	8270D	7/9/13 16:24	KC	P3G0051
2-Chlorophenol	BRL	ug/L	10	2.2	1	8270D	7/9/13 16:24	KC	P3G0051
2-Methylnaphthalene	BRL	ug/L	10	2.7	1	8270D	7/9/13 16:24	KC	P3G0051
2-Methylphenol	BRL	ug/L	10	2.4	1	8270D	7/9/13 16:24	KC	P3G0051
2-Nitroaniline	BRL	ug/L	10	2.0	1	8270D	7/9/13 16:24	KC	P3G0051
2-Nitrophenol	BRL	ug/L	10	2.5	1	8270D	7/9/13 16:24	KC	P3G0051
3,3'-Dichlorobenzidine	BRL	ug/L	10	0.98	1	8270D	7/9/13 16:24	KC	P3G0051
3/4-Methylphenol	BRL	ug/L	10	2.4	1	8270D	7/9/13 16:24	KC	P3G0051
3-Nitroaniline	BRL	ug/L	10	1.4	1	8270D	7/9/13 16:24	KC	P3G0051
4,6-Dinitro-2-methylphenol	BRL	ug/L	10	2.7	1	8270D	7/9/13 16:24	KC	P3G0051
4-Bromophenyl phenyl ether	BRL	ug/L	10	1.8	1	8270D	7/9/13 16:24	KC	P3G0051
4-Chloro-3-methylphenol	BRL	ug/L	10	2.3	1	8270D	7/9/13 16:24	KC	P3G0051
4-Chloroaniline	BRL	ug/L	10	2.6	1	8270D	7/9/13 16:24	KC	P3G0051
4-Chlorophenyl phenyl ether	BRL	ug/L	10	1.9	1	8270D	7/9/13 16:24	KC	P3G0051
4-Nitroaniline	BRL	ug/L	10	0.93	1	8270D	7/9/13 16:24	KC	P3G0051
4-Nitrophenol	BRL	ug/L	10	2.6	1	8270D	7/9/13 16:24	KC	P3G0051
Acenaphthene	BRL	ug/L	10	2.2	1	8270D	7/9/13 16:24	KC	P3G0051
Acenaphthylene	BRL	ug/L	10	2.3	1	8270D	7/9/13 16:24	KC	P3G0051
Aniline	BRL	ug/L	10	2.3	1	8270D	7/9/13 16:24	KC	P3G0051
Anthracene	BRL	ug/L	10	1.3	1	8270D	7/9/13 16:24	KC	P3G0051
Azobenzene	BRL	ug/L	10	1.8	1	8270D	7/9/13 16:24	KC	P3G0051
Benzo(a)anthracene	BRL	ug/L	10	0.97	1	8270D	7/9/13 16:24	KC	P3G0051
Benzo(a)pyrene	BRL	ug/L	10	1.1	1	8270D	7/9/13 16:24	KC	P3G0051
Benzo(b)fluoranthene	BRL	ug/L	10	1.4	1	8270D	7/9/13 16:24	KC	P3G0051
Benzo(g,h,i)perylene	BRL	ug/L	10	2.2	1	8270D	7/9/13 16:24	KC	P3G0051
Benzo(k)fluoranthene	BRL	ug/L	10	1.1	1	8270D	7/9/13 16:24	KC	P3G0051
Benzoic Acid	BRL	ug/L	100	51	1	8270D	7/9/13 16:24	KC	P3G0051
Benzyl alcohol	BRL	ug/L	10	2.1	1	8270D	7/9/13 16:24	KC	P3G0051
bis(2-Chloroethoxy)methane	BRL	ug/L	10	2.2	1	8270D	7/9/13 16:24	KC	P3G0051
Bis(2-Chloroethyl)ether	BRL CCV	ug/L	10	1.9	1	8270D	7/9/13 16:24	KC	P3G0051
Bis(2-chloroisopropyl)ether	BRL CCV	ug/L	10	2.4	1	8270D	7/9/13 16:24	KC	P3G0051
Bis(2-Ethylhexyl)phthalate	BRL	ug/L	10	1.8	1	8270D	7/9/13 16:24	KC	P3G0051
Butyl benzyl phthalate	BRL	ug/L	10	1.6	1	8270D	7/9/13 16:24	KC	P3G0051
Chrysene	BRL	ug/L	10	1.2	1	8270D	7/9/13 16:24	KC	P3G0051
Dibenzo(a,h)anthracene	BRL	ug/L	10	1.8	1	8270D	7/9/13 16:24	KC	P3G0051
Dibenzofuran	BRL	ug/L	10	2.2	1	8270D	7/9/13 16:24	KC	P3G0051
Diethyl phthalate	BRL	ug/L	10	1.4	1	8270D	7/9/13 16:24	KC	P3G0051
Dimethyl phthalate	BRL	ug/L	10	1.7	1	8270D	7/9/13 16:24	KC	P3G0051
Di-n-butyl phthalate	BRL	ug/L	10	1.9	1	8270D	7/9/13 16:24	KC	P3G0051
Di-n-octyl phthalate	BRL	ug/L	10	1.9	1	8270D	7/9/13 16:24	KC	P3G0051
Fluoranthene	BRL	ug/L	10	0.96	1	8270D	7/9/13 16:24	KC	P3G0051
Fluorene	BRL	ug/L	10	1.9	1	8270D	7/9/13 16:24	KC	P3G0051

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-10
Prism Sample ID: 3060682-08
Prism Work Order: 3060682
Time Collected: 06/27/13 09:10
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Hexachlorobenzene	BRL	ug/L	10	1.4	1	8270D	7/9/13 16:24	KC	P3G0051
Hexachlorobutadiene	BRL	ug/L	10	2.3	1	8270D	7/9/13 16:24	KC	P3G0051
Hexachlorocyclopentadiene	BRL	ug/L	10	1.8	1	8270D	7/9/13 16:24	KC	P3G0051
Hexachloroethane	BRL	ug/L	10	2.0	1	8270D	7/9/13 16:24	KC	P3G0051
Indeno(1,2,3-cd)pyrene	BRL	ug/L	10	1.6	1	8270D	7/9/13 16:24	KC	P3G0051
Isophorone	BRL	ug/L	10	2.5	1	8270D	7/9/13 16:24	KC	P3G0051
Naphthalene	BRL	ug/L	10	2.3	1	8270D	7/9/13 16:24	KC	P3G0051
Nitrobenzene	BRL	ug/L	10	2.0	1	8270D	7/9/13 16:24	KC	P3G0051
N-Nitroso-di-n-propylamine	BRL	ug/L	10	2.4	1	8270D	7/9/13 16:24	KC	P3G0051
N-Nitrosodiphenylamine	BRL	ug/L	10	1.6	1	8270D	7/9/13 16:24	KC	P3G0051
Pentachlorophenol	BRL	ug/L	10	1.7	1	8270D	7/9/13 16:24	KC	P3G0051
Phenanthrene	BRL	ug/L	10	1.2	1	8270D	7/9/13 16:24	KC	P3G0051
Phenol	BRL	ug/L	10	2.2	1	8270D	7/9/13 16:24	KC	P3G0051
Pyrene	BRL	ug/L	10	1.4	1	8270D	7/9/13 16:24	KC	P3G0051

Surrogate	Recovery	Control Limits
2,4,6-Tribromophenol	*85 %*	*49-109*
2-Fluorobiphenyl	*71 %*	*55-96*
2-Fluorophenol	*48 %*	*27-74*
Nitrobenzene-d5	*72 %*	*53-99*
Phenol-d5	*32 %*	*11-52*
Terphenyl-d14	*69 %*	*42-133*

Total Metals

Mercury	BRL	mg/L	0.00020	0.000041	1	*7470A	7/3/13 14:26	MEH	P3G0075
Antimony	BRL	mg/L	0.010	0.00092	1	*6010C	7/1/13 21:07	BGM	P3G0009
Arsenic	BRL	mg/L	0.010	0.0010	1	*6010C	7/1/13 21:07	BGM	P3G0009
Beryllium	BRL	mg/L	0.0020	0.00012	1	*6010C	7/1/13 21:07	BGM	P3G0009
Cadmium	BRL	mg/L	0.0010	0.000044	1	*6010C	7/1/13 21:07	BGM	P3G0009
Chromium	BRL	mg/L	0.0050	0.00039	1	*6010C	7/1/13 21:07	BGM	P3G0009
Copper	BRL	mg/L	0.010	0.00036	1	*6010C	7/1/13 21:07	BGM	P3G0009
Lead	BRL	mg/L	0.0050	0.00061	1	*6010C	7/1/13 21:07	BGM	P3G0009
Nickel	BRL	mg/L	0.010	0.00030	1	*6010C	7/1/13 21:07	BGM	P3G0009
Selenium	BRL	mg/L	0.020	0.0022	1	*6010C	7/1/13 21:07	BGM	P3G0009
Silver	BRL	mg/L	0.0050	0.00026	1	*6010C	7/1/13 21:07	BGM	P3G0009
Thallium	BRL	mg/L	0.010	0.0026	1	*6010C	7/1/13 21:07	BGM	P3G0009
Zinc	BRL	mg/L	0.030	0.00051	1	*6010C	7/1/13 21:07	BGM	P3G0009

Volatile Organic Compounds by GC/MS

1,1,1,2-Tetrachloroethane	BRL	ug/L	0.50	0.15	1	8260B	7/1/13 16:36	VHL	P3G0028
1,1,1-Trichloroethane	BRL	ug/L	0.50	0.063	1	8260B	7/1/13 16:36	VHL	P3G0028
1,1,2,2-Tetrachloroethane	BRL	ug/L	0.50	0.071	1	8260B	7/1/13 16:36	VHL	P3G0028
1,1,2-Trichloroethane	BRL	ug/L	0.50	0.17	1	8260B	7/1/13 16:36	VHL	P3G0028
1,1-Dichloroethane	BRL	ug/L	0.50	0.096	1	8260B	7/1/13 16:36	VHL	P3G0028
1,1-Dichloroethylene	BRL	ug/L	0.50	0.078	1	8260B	7/1/13 16:36	VHL	P3G0028
1,1-Dichloropropylene	BRL	ug/L	0.50	0.061	1	8260B	7/1/13 16:36	VHL	P3G0028

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-10
Prism Sample ID: 3060682-08
Prism Work Order: 3060682
Time Collected: 06/27/13 09:10
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
1,2,3-Trichlorobenzene	BRL	ug/L	2.0	0.20	1	8260B	7/1/13 16:36	VHL	P3G0028
1,2,3-Trichloropropane	BRL	ug/L	1.0	0.081	1	8260B	7/1/13 16:36	VHL	P3G0028
1,2,4-Trichlorobenzene	BRL	ug/L	1.0	0.10	1	8260B	7/1/13 16:36	VHL	P3G0028
1,2,4-Trimethylbenzene	BRL	ug/L	0.50	0.048	1	8260B	7/1/13 16:36	VHL	P3G0028
1,2-Dibromo-3-chloropropane	BRL	ug/L	2.0	0.59	1	8260B	7/1/13 16:36	VHL	P3G0028
1,2-Dibromoethane	BRL	ug/L	0.50	0.14	1	8260B	7/1/13 16:36	VHL	P3G0028
1,2-Dichlorobenzene	BRL	ug/L	0.50	0.076	1	8260B	7/1/13 16:36	VHL	P3G0028
1,2-Dichloroethane	BRL	ug/L	0.50	0.14	1	8260B	7/1/13 16:36	VHL	P3G0028
1,2-Dichloropropane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 16:36	VHL	P3G0028
1,3,5-Trimethylbenzene	BRL	ug/L	0.50	0.057	1	8260B	7/1/13 16:36	VHL	P3G0028
1,3-Dichlorobenzene	BRL	ug/L	0.50	0.074	1	8260B	7/1/13 16:36	VHL	P3G0028
1,3-Dichloropropane	BRL	ug/L	0.50	0.11	1	8260B	7/1/13 16:36	VHL	P3G0028
1,4-Dichlorobenzene	BRL	ug/L	0.50	0.068	1	8260B	7/1/13 16:36	VHL	P3G0028
2,2-Dichloropropane	BRL	ug/L	2.0	0.11	1	8260B	7/1/13 16:36	VHL	P3G0028
2-Chloroethyl Vinyl Ether	BRL	ug/L	2.0	0.22	1	8260B	7/1/13 16:36	VHL	P3G0028
2-Chlorotoluene	BRL	ug/L	0.50	0.038	1	8260B	7/1/13 16:36	VHL	P3G0028
4-Chlorotoluene	BRL	ug/L	0.50	0.053	1	8260B	7/1/13 16:36	VHL	P3G0028
4-Isopropyltoluene	BRL	ug/L	0.50	0.065	1	8260B	7/1/13 16:36	VHL	P3G0028
Acetone	BRL	ug/L	5.0	0.62	1	8260B	7/1/13 16:36	VHL	P3G0028
Acrolein	BRL	ug/L	20	1.1	1	8260B	7/1/13 16:36	VHL	P3G0028
Acrylonitrile	BRL	ug/L	20	0.86	1	8260B	7/1/13 16:36	VHL	P3G0028
Benzene	BRL	ug/L	0.50	0.072	1	8260B	7/1/13 16:36	VHL	P3G0028
Bromobenzene	BRL	ug/L	0.50	0.064	1	8260B	7/1/13 16:36	VHL	P3G0028
Bromochloromethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 16:36	VHL	P3G0028
Bromodichloromethane	BRL	ug/L	0.50	0.062	1	8260B	7/1/13 16:36	VHL	P3G0028
Bromoform	BRL	ug/L	1.0	0.27	1	8260B	7/1/13 16:36	VHL	P3G0028
Bromomethane	BRL	ug/L	1.0	0.47	1	8260B	7/1/13 16:36	VHL	P3G0028
Carbon disulfide	BRL	ug/L	5.0	1.4	1	8260B	7/1/13 16:36	VHL	P3G0028
Carbon Tetrachloride	BRL	ug/L	0.50	0.12	1	8260B	7/1/13 16:36	VHL	P3G0028
Chlorobenzene	BRL	ug/L	0.50	0.061	1	8260B	7/1/13 16:36	VHL	P3G0028
Chloroethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 16:36	VHL	P3G0028
Chloroform	BRL	ug/L	0.50	0.089	1	8260B	7/1/13 16:36	VHL	P3G0028
Chloromethane	BRL	ug/L	0.50	0.11	1	8260B	7/1/13 16:36	VHL	P3G0028
cis-1,2-Dichloroethylene	BRL	ug/L	0.50	0.076	1	8260B	7/1/13 16:36	VHL	P3G0028
cis-1,3-Dichloropropylene	BRL	ug/L	0.50	0.10	1	8260B	7/1/13 16:36	VHL	P3G0028
Dibromochloromethane	BRL	ug/L	0.50	0.30	1	8260B	7/1/13 16:36	VHL	P3G0028
Dibromomethane	BRL	ug/L	0.50	0.13	1	8260B	7/1/13 16:36	VHL	P3G0028
Dichlorodifluoromethane	BRL	ug/L	1.0	0.11	1	8260B	7/1/13 16:36	VHL	P3G0028
Ethylbenzene	BRL	ug/L	0.50	0.067	1	8260B	7/1/13 16:36	VHL	P3G0028
Hexachlorobutadiene	BRL	ug/L	2.0	0.36	1	8260B	7/1/13 16:36	VHL	P3G0028
Isopropyl Ether	BRL	ug/L	0.50	0.043	1	8260B	7/1/13 16:36	VHL	P3G0028
Isopropylbenzene (Cumene)	BRL	ug/L	0.50	0.072	1	8260B	7/1/13 16:36	VHL	P3G0028
m,p-Xylenes	BRL	ug/L	1.0	0.081	1	8260B	7/1/13 16:36	VHL	P3G0028

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No.: R2377.01
Sample Matrix: Water

Client Sample ID: MW-10
Prism Sample ID: 3060682-08
Prism Work Order: 3060682
Time Collected: 06/27/13 09:10
Time Submitted: 06/28/13 19:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Methyl Butyl Ketone (2-Hexanone)	BRL	ug/L	5.0	0.19	1	8260B	7/1/13 16:36	VHL	P3G0028
Methyl Ethyl Ketone (2-Butanone)	BRL	ug/L	5.0	0.90	1	8260B	7/1/13 16:36	VHL	P3G0028
Methyl Isobutyl Ketone	BRL	ug/L	5.0	0.12	1	8260B	7/1/13 16:36	VHL	P3G0028
Methylene Chloride	BRL	ug/L	1.0	0.44	1	8260B	7/1/13 16:36	VHL	P3G0028
Methyl-tert-Butyl Ether	BRL	ug/L	0.50	0.070	1	8260B	7/1/13 16:36	VHL	P3G0028
Naphthalene	BRL	ug/L	1.0	0.098	1	8260B	7/1/13 16:36	VHL	P3G0028
n-Butylbenzene	BRL	ug/L	1.0	0.11	1	8260B	7/1/13 16:36	VHL	P3G0028
n-Propylbenzene	BRL	ug/L	0.50	0.060	1	8260B	7/1/13 16:36	VHL	P3G0028
o-Xylene	BRL	ug/L	0.50	0.046	1	8260B	7/1/13 16:36	VHL	P3G0028
sec-Butylbenzene	BRL	ug/L	0.50	0.087	1	8260B	7/1/13 16:36	VHL	P3G0028
Styrene	BRL	ug/L	0.50	0.047	1	8260B	7/1/13 16:36	VHL	P3G0028
tert-Butylbenzene	BRL	ug/L	0.50	0.080	1	8260B	7/1/13 16:36	VHL	P3G0028
Tetrachloroethylene	BRL	ug/L	0.50	0.069	1	8260B	7/1/13 16:36	VHL	P3G0028
Toluene	BRL	ug/L	0.50	0.042	1	8260B	7/1/13 16:36	VHL	P3G0028
trans-1,2-Dichloroethylene	BRL	ug/L	0.50	0.12	1	8260B	7/1/13 16:36	VHL	P3G0028
trans-1,3-Dichloropropylene	BRL	ug/L	0.50	0.043	1	8260B	7/1/13 16:36	VHL	P3G0028
Trichloroethylene	BRL	ug/L	0.50	0.054	1	8260B	7/1/13 16:36	VHL	P3G0028
Trichlorofluoromethane	BRL	ug/L	0.50	0.088	1	8260B	7/1/13 16:36	VHL	P3G0028
Vinyl acetate	BRL	ug/L	2.0	0.10	1	8260B	7/1/13 16:36	VHL	P3G0028
Vinyl chloride	BRL	ug/L	0.50	0.16	1	8260B	7/1/13 16:36	VHL	P3G0028

Surrogate	Recovery	Control Limits
4-Bromofluorobenzene	*109 %*	*80-124*
Dibromofluoromethane	*116 %*	*75-129*
Toluene-d8	*114 %*	*77-123*

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060682
Time Submitted: 6/28/2013 7:00:00PM

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0028 - 5030B										
Blank (P3G0028-BLK1)				Prepared & Analyzed: 07/01/13						
1,1,1,2-Tetrachloroethane	BRL	0.50	ug/L							
1,1,1-Trichloroethane	BRL	0.50	ug/L							
1,1,2,2-Tetrachloroethane	BRL	0.50	ug/L							
1,1,2-Trichloroethane	BRL	0.50	ug/L							
1,1-Dichloroethane	BRL	0.50	ug/L							
1,1-Dichloroethylene	BRL	0.50	ug/L							
1,1-Dichloropropylene	BRL	0.50	ug/L							
1,2,3-Trichlorobenzene	BRL	2.0	ug/L							
1,2,3-Trichloropropane	BRL	1.0	ug/L							
1,2,4-Trichlorobenzene	BRL	1.0	ug/L							
1,2,4-Trimethylbenzene	BRL	0.50	ug/L							
1,2-Dibromo-3-chloropropane	BRL	2.0	ug/L							
1,2-Dibromoethane	BRL	0.50	ug/L							
1,2-Dichlorobenzene	BRL	0.50	ug/L							
1,2-Dichloroethane	BRL	0.50	ug/L							
1,2-Dichloropropane	BRL	0.50	ug/L							
1,3,5-Trimethylbenzene	BRL	0.50	ug/L							
1,3-Dichlorobenzene	BRL	0.50	ug/L							
1,3-Dichloropropane	BRL	0.50	ug/L							
1,4-Dichlorobenzene	BRL	0.50	ug/L							
2,2-Dichloropropane	BRL	2.0	ug/L							
2-Chloroethyl Vinyl Ether	BRL	2.0	ug/L							
2-Chlorotoluene	BRL	0.50	ug/L							
4-Chlorotoluene	BRL	0.50	ug/L							
4-Isopropyltoluene	BRL	0.50	ug/L							
Acetone	BRL	5.0	ug/L							
Acrolein	BRL	20	ug/L							
Acrylonitrile	BRL	20	ug/L							
Benzene	BRL	0.50	ug/L							
Bromobenzene	BRL	0.50	ug/L							
Bromochloromethane	BRL	0.50	ug/L							
Bromodichloromethane	BRL	0.50	ug/L							
Bromoform	BRL	1.0	ug/L							
Bromomethane	BRL	1.0	ug/L							
Carbon disulfide	BRL	5.0	ug/L							
Carbon Tetrachloride	BRL	0.50	ug/L							
Chlorobenzene	BRL	0.50	ug/L							
Chloroethane	BRL	0.50	ug/L							
Chloroform	BRL	0.50	ug/L							
Chloromethane	BRL	0.50	ug/L							
cis-1,2-Dichloroethylene	BRL	0.50	ug/L							
cis-1,3-Dichloropropylene	BRL	0.50	ug/L							
Dibromochloromethane	BRL	0.50	ug/L							
Dibromomethane	BRL	0.50	ug/L							
Dichlorodifluoromethane	BRL	1.0	ug/L							
Ethylbenzene	BRL	0.50	ug/L							

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060682
Time Submitted: 6/28/2013 7:00:00PM

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0028 - 5030B										
Blank (P3G0028-BLK1)				Prepared & Analyzed: 07/01/13						
Hexachlorobutadiene	BRL	2.0	ug/L							
Isopropyl Ether	BRL	0.50	ug/L							
Isopropylbenzene (Cumene)	BRL	0.50	ug/L							
m,p-Xylenes	BRL	1.0	ug/L							
Methyl Butyl Ketone (2-Hexanone)	BRL	5.0	ug/L							
Methyl Ethyl Ketone (2-Butanone)	BRL	5.0	ug/L							
Methyl Isobutyl Ketone	BRL	5.0	ug/L							
Methylene Chloride	BRL	1.0	ug/L							
Methyl-tert-Butyl Ether	BRL	0.50	ug/L							
Naphthalene	BRL	1.0	ug/L							
n-Butylbenzene	BRL	1.0	ug/L							
n-Propylbenzene	BRL	0.50	ug/L							
o-Xylene	BRL	0.50	ug/L							
sec-Butylbenzene	BRL	0.50	ug/L							
Styrene	BRL	0.50	ug/L							
tert-Butylbenzene	BRL	0.50	ug/L							
Tetrachloroethylene	BRL	0.50	ug/L							
Toluene	BRL	0.50	ug/L							
trans-1,2-Dichloroethylene	BRL	0.50	ug/L							
trans-1,3-Dichloropropylene	BRL	0.50	ug/L							
Trichloroethylene	BRL	0.50	ug/L							
Trichlorofluoromethane	BRL	0.50	ug/L							
Vinyl acetate	BRL	2.0	ug/L							
Vinyl chloride	BRL	0.50	ug/L							
Surrogate: 4-Bromofluorobenzene	*54.0*		*ug/L*	*50.00*		*108*	*80-124*			
Surrogate: Dibromofluoromethane	*57.8*		*ug/L*	*50.00*		*116*	*75-129*			
Surrogate: Toluene-d8	*57.0*		*ug/L*	*50.00*		*114*	*77-123*			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060682
Time Submitted: 6/28/2013 7:00:00PM

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0028 - 5030B										
LCS (P3G0028-BS1)				Prepared & Analyzed: 07/01/13						
1,1-Dichloroethylene	22.8	0.50	ug/L	20.00		114	70-154			
Benzene	20.7	0.50	ug/L	20.00		103	77-128			
Chlorobenzene	21.3	0.50	ug/L	20.00		106	78-119			
Toluene	20.2	0.50	ug/L	20.00		101	76-131			
Trichloroethylene	21.5	0.50	ug/L	20.00		108	77-133			
Surrogate: 4-Bromofluorobenzene	*53.8*		*ug/L*	*50.00*		*108*	*80-124*			
Surrogate: Dibromofluoromethane	*56.9*		*ug/L*	*50.00*		*114*	*75-129*			
Surrogate: Toluene-d8	*58.1*		*ug/L*	*50.00*		*116*	*77-123*			
LCS Dup (P3G0028-BSD1)				Prepared & Analyzed: 07/01/13						
1,1-Dichloroethylene	20.8	0.50	ug/L	20.00		104	70-154	9	20	
Benzene	19.0	0.50	ug/L	20.00		95	77-128	8	20	
Chlorobenzene	19.9	0.50	ug/L	20.00		100	78-119	7	20	
Toluene	18.8	0.50	ug/L	20.00		94	76-131	7	20	
Trichloroethylene	20.0	0.50	ug/L	20.00		100	77-133	7	20	
Surrogate: 4-Bromofluorobenzene	*52.6*		*ug/L*	*50.00*		*105*	*80-124*			
Surrogate: Dibromofluoromethane	*55.6*		*ug/L*	*50.00*		*111*	*75-129*			
Surrogate: Toluene-d8	*57.0*		*ug/L*	*50.00*		*114*	*77-123*			
Matrix Spike (P3G0028-MS1)	**Source: 3060682-03**			Prepared & Analyzed: 07/01/13						
1,1-Dichloroethylene	221	5.0	ug/L	200.0	BRL	110	65-162			
Benzene	198	5.0	ug/L	200.0	BRL	99	73-131			
Chlorobenzene	206	5.0	ug/L	200.0	BRL	103	76-119			
Toluene	194	5.0	ug/L	200.0	BRL	97	72-135			
Trichloroethylene	206	5.0	ug/L	200.0	BRL	103	72-133			
Surrogate: 4-Bromofluorobenzene	*534*		*ug/L*	*500.0*		*107*	*80-124*			
Surrogate: Dibromofluoromethane	*560*		*ug/L*	*500.0*		*112*	*75-129*			
Surrogate: Toluene-d8	*570*		*ug/L*	*500.0*		*114*	*77-123*			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060682
Time Submitted: 6/28/2013 7:00:00PM

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0028 - 5030B										
Matrix Spike Dup (P3G0028-MSD1)	**Source: 3060682-03**			Prepared & Analyzed: 07/01/13						
1,1-Dichloroethylene	230	5.0	ug/L	200.0	BRL	115	65-162	4	20	
Benzene	202	5.0	ug/L	200.0	BRL	101	73-131	2	17	
Chlorobenzene	211	5.0	ug/L	200.0	BRL	105	76-119	2	20	
Toluene	199	5.0	ug/L	200.0	BRL	100	72-135	3	18	
Trichloroethylene	213	5.0	ug/L	200.0	BRL	107	72-133	4	17	
Surrogate: 4-Bromofluorobenzene	*537*		*ug/L*	*500.0*		*107*	*80-124*			
Surrogate: Dibromofluoromethane	*559*		*ug/L*	*500.0*		*112*	*75-129*			
Surrogate: Toluene-d8	*565*		*ug/L*	*500.0*		*113*	*77-123*			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060682
Time Submitted: 6/28/2013 7:00:00PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0051 - 3510C MS										
Blank (P3G0051-BLK1)				Prepared: 07/02/13 Analyzed: 07/09/13						
1,2,4-Trichlorobenzene	BRL	10	ug/L							
1,2-Dichlorobenzene	BRL	10	ug/L							
1,3-Dichlorobenzene	BRL	10	ug/L							
1,4-Dichlorobenzene	BRL	10	ug/L							
1-Methylnaphthalene	BRL	10	ug/L							
2,4,5-Trichlorophenol	BRL	10	ug/L							
2,4,6-Trichlorophenol	BRL	10	ug/L							
2,4-Dichlorophenol	BRL	10	ug/L							
2,4-Dimethylphenol	BRL	10	ug/L							
2,4-Dinitrophenol	BRL	10	ug/L							
2,4-Dinitrotoluene	BRL	10	ug/L							
2,6-Dinitrotoluene	BRL	10	ug/L							
2-Chloronaphthalene	BRL	10	ug/L							
2-Chlorophenol	BRL	10	ug/L							
2-Methylnaphthalene	BRL	10	ug/L							
2-Methylphenol	BRL	10	ug/L							
2-Nitroaniline	BRL	10	ug/L							
2-Nitrophenol	BRL	10	ug/L							
3,3'-Dichlorobenzidine	BRL	10	ug/L							
3/4-Methylphenol	BRL	10	ug/L							
3-Nitroaniline	BRL	10	ug/L							
4,6-Dinitro-2-methylphenol	BRL	10	ug/L							
4-Bromophenyl phenyl ether	BRL	10	ug/L							
4-Chloro-3-methylphenol	BRL	10	ug/L							
4-Chloroaniline	BRL	10	ug/L							
4-Chlorophenyl phenyl ether	BRL	10	ug/L							
4-Nitroaniline	BRL	10	ug/L							
4-Nitrophenol	BRL	10	ug/L							
Acenaphthene	BRL	10	ug/L							
Acenaphthylene	BRL	10	ug/L							
Aniline	BRL	10	ug/L							
Anthracene	BRL	10	ug/L							
Azobenzene	BRL	10	ug/L							
Benzo(a)anthracene	BRL	10	ug/L							
Benzo(a)pyrene	BRL	10	ug/L							
Benzo(b)fluoranthene	BRL	10	ug/L							
Benzo(g,h,i)perylene	BRL	10	ug/L							
Benzo(k)fluoranthene	BRL	10	ug/L							
Benzoic Acid	BRL	100	ug/L							
Benzyl alcohol	BRL	10	ug/L							
bis(2-Chloroethoxy)methane	BRL	10	ug/L							
Bis(2-Chloroethyl)ether	BRL	10	ug/L							
Bis(2-chloroisopropyl)ether	BRL	10	ug/L							
Bis(2-Ethylhexyl)phthalate	BRL	10	ug/L							
Butyl benzyl phthalate	BRL	10	ug/L							
Chrysene	BRL	10	ug/L							

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060682
Time Submitted: 6/28/2013 7:00:00PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0051 - 3510C MS										
Blank (P3G0051-BLK1)				Prepared: 07/02/13 Analyzed: 07/09/13						
Dibenzo(a,h)anthracene	BRL	10	ug/L							
Dibenzofuran	BRL	10	ug/L							
Diethyl phthalate	BRL	10	ug/L							
Dimethyl phthalate	BRL	10	ug/L							
Di-n-butyl phthalate	BRL	10	ug/L							
Di-n-octyl phthalate	BRL	10	ug/L							
Fluoranthene	BRL	10	ug/L							
Fluorene	BRL	10	ug/L							
Hexachlorobenzene	BRL	10	ug/L							
Hexachlorobutadiene	BRL	10	ug/L							
Hexachlorocyclopentadiene	BRL	10	ug/L							
Hexachloroethane	BRL	10	ug/L							
Indeno(1,2,3-cd)pyrene	BRL	10	ug/L							
Isophorone	BRL	10	ug/L							
Naphthalene	BRL	10	ug/L							
Nitrobenzene	BRL	10	ug/L							
N-Nitroso-di-n-propylamine	BRL	10	ug/L							
N-Nitrosodiphenylamine	BRL	10	ug/L							
Pentachlorophenol	BRL	10	ug/L							
Phenanthrene	BRL	10	ug/L							
Phenol	BRL	10	ug/L							
Pyrene	BRL	10	ug/L							
Surrogate: 2,4,6-Tribromophenol	*85.9*		*ug/L*	*100.0*		*86*	*49-109*			
Surrogate: 2-Fluorobiphenyl	*41.0*		*ug/L*	*50.00*		*82*	*55-96*			
Surrogate: 2-Fluorophenol	*53.0*		*ug/L*	*100.0*		*53*	*27-74*			
Surrogate: Nitrobenzene-d5	*46.0*		*ug/L*	*50.00*		*92*	*53-99*			
Surrogate: Phenol-d5	*33.2*		*ug/L*	*100.0*		*33*	*11-52*			
Surrogate: Terphenyl-d14	*42.0*		*ug/L*	*50.00*		*84*	*42-133*			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060682
Time Submitted: 6/28/2013 7:00:00PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0051 - 3510C MS										
LCS (P3G0051-BS1)				Prepared: 07/02/13 Analyzed: 07/09/13						
1,2,4-Trichlorobenzene	38.4	10	ug/L	50.00		77	45-103			
1,2-Dichlorobenzene	40.6	10	ug/L	50.00		81	43-100			
1,3-Dichlorobenzene	38.1	10	ug/L	50.00		76	42-98			
1,4-Dichlorobenzene	41.3	10	ug/L	50.00		83	42-100			
1-Methylnaphthalene	41.7	10	ug/L	50.00		83	45-135			
2,4,5-Trichlorophenol	45.1	10	ug/L	50.00		90	66-120			
2,4,6-Trichlorophenol	45.2	10	ug/L	50.00		90	62-121			
2,4-Dichlorophenol	41.7	10	ug/L	50.00		83	58-113			
2,4-Dimethylphenol	42.8	10	ug/L	50.00		86	42-120			
2,4-Dinitrophenol	86.6	10	ug/L	50.00		173	27-129			LH
2,4-Dinitrotoluene	58.0	10	ug/L	50.00		116	62-136			
2,6-Dinitrotoluene	53.9	10	ug/L	50.00		108	64-129			
2-Chloronaphthalene	57.1	10	ug/L	50.00		114	38-141			
2-Chlorophenol	40.1	10	ug/L	50.00		80	49-107			
2-Methylnaphthalene	42.0	10	ug/L	50.00		84	55-112			
2-Methylphenol	41.6	10	ug/L	50.00		83	40-106			
2-Nitroaniline	50.3	10	ug/L	50.00		101	65-122			
2-Nitrophenol	43.6	10	ug/L	50.00		87	57-115			
3,3'-Dichlorobenzidine	52.3	10	ug/L	50.00		105	58-139			
3/4-Methylphenol	32.7	10	ug/L	50.00		65	34-101			
3-Nitroaniline	49.5	10	ug/L	50.00		99	52-155			
4,6-Dinitro-2-methylphenol	54.7	10	ug/L	50.00		109	49-138			
4-Bromophenyl phenyl ether	51.0	10	ug/L	50.00		102	63-135			
4-Chloro-3-methylphenol	44.4	10	ug/L	50.00		89	33-149			
4-Chloroaniline	42.7	10	ug/L	50.00		85	44-163			
4-Chlorophenyl phenyl ether	49.0	10	ug/L	50.00		98	63-129			
4-Nitroaniline	50.3	10	ug/L	50.00		101	63-147			
4-Nitrophenol	27.8	10	ug/L	50.00		56	10-77			
Acenaphthene	47.5	10	ug/L	50.00		95	64-118			
Acenaphthylene	48.3	10	ug/L	50.00		97	65-119			
Aniline	52.8	10	ug/L	50.00		106	12-197			
Anthracene	51.1	10	ug/L	50.00		102	69-134			
Azobenzene	59.4	10	ug/L	50.00		119	56-129			
Benzo(a)anthracene	51.6	10	ug/L	50.00		103	71-125			
Benzo(a)pyrene	55.1	10	ug/L	50.00		110	67-135			
Benzo(b)fluoranthene	56.4	10	ug/L	50.00		113	56-145			
Benzo(g,h,i)perylene	50.0	10	ug/L	50.00		100	44-149			
Benzo(k)fluoranthene	47.6	10	ug/L	50.00		95	65-138			
Benzoic Acid	BRL	100	ug/L	50.00			10-125			P
Benzyl alcohol	39.2	10	ug/L	50.00		78	35-111			
bis(2-Chloroethoxy)methane	49.8	10	ug/L	50.00		100	49-126			
Bis(2-Chloroethyl)ether	45.2	10	ug/L	50.00		90	47-124			
Bis(2-chloroisopropyl)ether	58.3	10	ug/L	50.00		117	42-126			
Bis(2-Ethylhexyl)phthalate	55.5	10	ug/L	50.00		111	59-139			
Butyl benzyl phthalate	58.3	10	ug/L	50.00		117	67-133			
Chrysene	49.5	10	ug/L	50.00		99	64-124			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060682
Time Submitted: 6/28/2013 7:00:00PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0051 - 3510C MS										
LCS (P3G0051-BS1)				Prepared: 07/02/13 Analyzed: 07/09/13						
Dibenzo(a,h)anthracene	54.6	10	ug/L	50.00		109	49-144			
Dibenzofuran	48.0	10	ug/L	50.00		96	68-113			
Diethyl phthalate	48.1	10	ug/L	50.00		96	70-124			
Dimethyl phthalate	50.8	10	ug/L	50.00		102	71-117			
Di-n-butyl phthalate	52.4	10	ug/L	50.00		105	69-128			
Di-n-octyl phthalate	58.2	10	ug/L	50.00		116	52-150			
Fluoranthene	50.4	10	ug/L	50.00		101	66-135			
Fluorene	49.8	10	ug/L	50.00		100	67-124			
Hexachlorobenzene	49.6	10	ug/L	50.00		99	62-124			
Hexachlorobutadiene	37.3	10	ug/L	50.00		75	42-105			
Hexachlorocyclopentadiene	38.6	10	ug/L	50.00		77	32-117			
Hexachloroethane	43.6	10	ug/L	50.00		87	40-99			
Indeno(1,2,3-cd)pyrene	54.8	10	ug/L	50.00		110	40-150			
Isophorone	49.4	10	ug/L	50.00		99	54-125			
Naphthalene	44.0	10	ug/L	50.00		88	54-111			
Nitrobenzene	48.3	10	ug/L	50.00		97	51-117			
N-Nitroso-di-n-propylamine	47.9	10	ug/L	50.00		96	55-115			
N-Nitrosodiphenylamine	48.6	10	ug/L	50.00		97	70-152			
Pentachlorophenol	51.9	10	ug/L	50.00		104	23-139			
Phenanthrene	50.3	10	ug/L	50.00		101	68-128			
Phenol	20.2	10	ug/L	50.00		40	12-58			
Pyrene	50.3	10	ug/L	50.00		101	62-139			
Surrogate: 2,4,6-Tribromophenol	*95.1*		*ug/L*	*100.0*		*95*	*49-109*			
Surrogate: 2-Fluorobiphenyl	*46.4*		*ug/L*	*50.00*		*93*	*55-96*			
Surrogate: 2-Fluorophenol	*56.2*		*ug/L*	*100.0*		*56*	*27-74*			
Surrogate: Nitrobenzene-d5	*47.6*		*ug/L*	*50.00*		*95*	*53-99*			
Surrogate: Phenol-d5	*36.4*		*ug/L*	*100.0*		*36*	*11-52*			
Surrogate: Terphenyl-d14	*48.6*		*ug/L*	*50.00*		*97*	*42-133*			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060682
Time Submitted: 6/28/2013 7:00:00PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0051 - 3510C MS										
LCS Dup (P3G0051-BSD1)				Prepared: 07/02/13 Analyzed: 07/09/13						
1,2,4-Trichlorobenzene	32.3	10	ug/L	50.00		65	45-103	17	20	
1,2-Dichlorobenzene	35.3	10	ug/L	50.00		71	43-100	14	20	
1,3-Dichlorobenzene	32.8	10	ug/L	50.00		66	42-98	15	20	
1,4-Dichlorobenzene	36.0	10	ug/L	50.00		72	42-100	14	20	
1-Methylnaphthalene	38.1	10	ug/L	50.00		76	45-135	9	20	
2,4,5-Trichlorophenol	39.1	10	ug/L	50.00		78	66-120	14	20	
2,4,6-Trichlorophenol	39.3	10	ug/L	50.00		79	62-121	14	20	
2,4-Dichlorophenol	36.4	10	ug/L	50.00		73	58-113	14	20	
2,4-Dimethylphenol	37.3	10	ug/L	50.00		75	42-120	14	20	
2,4-Dinitrophenol	70.7	10	ug/L	50.00		141	27-129	20	20	LH
2,4-Dinitrotoluene	52.8	10	ug/L	50.00		106	62-136	9	20	
2,6-Dinitrotoluene	51.1	10	ug/L	50.00		102	64-129	5	20	
2-Chloronaphthalene	51.6	10	ug/L	50.00		103	38-141	10	20	
2-Chlorophenol	35.0	10	ug/L	50.00		70	49-107	14	20	
2-Methylnaphthalene	37.7	10	ug/L	50.00		75	55-112	11	20	
2-Methylphenol	38.6	10	ug/L	50.00		77	40-106	7	20	
2-Nitroaniline	45.8	10	ug/L	50.00		92	65-122	9	20	
2-Nitrophenol	37.5	10	ug/L	50.00		75	57-115	15	20	
3,3'-Dichlorobenzidine	45.9	10	ug/L	50.00		92	58-139	13	20	
3/4-Methylphenol	34.5	10	ug/L	50.00		69	34-101	6	20	
3-Nitroaniline	43.6	10	ug/L	50.00		87	52-155	12	20	
4,6-Dinitro-2-methylphenol	47.1	10	ug/L	50.00		94	49-138	15	20	
4-Bromophenyl phenyl ether	45.9	10	ug/L	50.00		92	63-135	11	20	
4-Chloro-3-methylphenol	42.6	10	ug/L	50.00		85	33-149	4	20	
4-Chloroaniline	38.2	10	ug/L	50.00		76	44-163	11	20	
4-Chlorophenyl phenyl ether	46.1	10	ug/L	50.00		92	63-129	6	20	
4-Nitroaniline	47.0	10	ug/L	50.00		94	63-147	7	20	
4-Nitrophenol	24.3	10	ug/L	50.00		49	10-77	13	20	
Acenaphthene	43.2	10	ug/L	50.00		86	64-118	10	20	
Acenaphthylene	44.3	10	ug/L	50.00		89	65-119	9	20	
Aniline	42.3	10	ug/L	50.00		85	12-197	22	20	D
Anthracene	46.2	10	ug/L	50.00		92	69-134	10	20	
Azobenzene	54.4	10	ug/L	50.00		109	56-129	9	20	
Benzo(a)anthracene	45.6	10	ug/L	50.00		91	71-125	12	20	
Benzo(a)pyrene	48.5	10	ug/L	50.00		97	67-135	13	20	
Benzo(b)fluoranthene	48.1	10	ug/L	50.00		96	56-145	16	20	
Benzo(g,h,i)perylene	41.3	10	ug/L	50.00		83	44-149	19	20	
Benzo(k)fluoranthene	49.0	10	ug/L	50.00		98	65-138	3	20	
Benzoic Acid	BRL	100	ug/L	50.00			10-125		20	P
Benzyl alcohol	36.2	10	ug/L	50.00		72	35-111	8	20	
bis(2-Chloroethoxy)methane	43.8	10	ug/L	50.00		88	49-126	13	20	
Bis(2-Chloroethyl)ether	40.0	10	ug/L	50.00		80	47-124	12	20	
Bis(2-chloroisopropyl)ether	51.1	10	ug/L	50.00		102	42-126	13	20	
Bis(2-Ethylhexyl)phthalate	48.9	10	ug/L	50.00		98	59-139	13	20	
Butyl benzyl phthalate	51.4	10	ug/L	50.00		103	67-133	13	20	
Chrysene	43.8	10	ug/L	50.00		88	64-124	12	20	

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060682
Time Submitted: 6/28/2013 7:00:00PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0051 - 3510C MS										
LCS Dup (P3G0051-BSD1)				Prepared: 07/02/13 Analyzed: 07/09/13						
Dibenzo(a,h)anthracene	44.9	10	ug/L	50.00		90	49-144	20	20	
Dibenzofuran	44.4	10	ug/L	50.00		89	68-113	8	20	
Diethyl phthalate	46.0	10	ug/L	50.00		92	70-124	4	20	
Dimethyl phthalate	46.6	10	ug/L	50.00		93	71-117	9	20	
Di-n-butyl phthalate	47.6	10	ug/L	50.00		95	69-128	9	20	
Di-n-octyl phthalate	55.9	10	ug/L	50.00		112	52-150	4	20	
Fluoranthene	45.6	10	ug/L	50.00		91	66-135	10	20	
Fluorene	45.7	10	ug/L	50.00		91	67-124	8	20	
Hexachlorobenzene	44.4	10	ug/L	50.00		89	62-124	11	20	
Hexachlorobutadiene	30.7	10	ug/L	50.00		61	42-105	19	20	
Hexachlorocyclopentadiene	31.1	10	ug/L	50.00		62	32-117	22	20	D
Hexachloroethane	36.9	10	ug/L	50.00		74	40-99	17	20	
Indeno(1,2,3-cd)pyrene	43.1	10	ug/L	50.00		86	40-150	24	20	D
Isophorone	54.7	10	ug/L	50.00		109	54-125	10	20	
Naphthalene	38.1	10	ug/L	50.00		76	54-111	14	20	
Nitrobenzene	42.2	10	ug/L	50.00		84	51-117	13	20	
N-Nitroso-di-n-propylamine	42.1	10	ug/L	50.00		84	55-115	13	20	
N-Nitrosodiphenylamine	45.1	10	ug/L	50.00		90	70-152	7	20	
Pentachlorophenol	46.0	10	ug/L	50.00		92	23-139	12	20	
Phenanthrene	45.8	10	ug/L	50.00		92	68-128	9	20	
Phenol	18.0	10	ug/L	50.00		36	12-58	11	20	
Pyrene	44.6	10	ug/L	50.00		89	62-139	12	20	
Surrogate: 2,4,6-Tribromophenol	*86.7*		*ug/L*	*100.0*		*87*	*49-109*			
Surrogate: 2-Fluorobiphenyl	*40.1*		*ug/L*	*50.00*		*80*	*55-96*			
Surrogate: 2-Fluorophenol	*47.5*		*ug/L*	*100.0*		*47*	*27-74*			
Surrogate: Nitrobenzene-d5	*40.7*		*ug/L*	*50.00*		*81*	*53-99*			
Surrogate: Phenol-d5	*32.8*		*ug/L*	*100.0*		*33*	*11-52*			
Surrogate: Terphenyl-d14	*42.3*		*ug/L*	*50.00*		*85*	*42-133*			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060682
Time Submitted: 6/28/2013 7:00:00PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0051 - 3510C MS										
Matrix Spike (P3G0051-MS1)	**Source: 3060682-03**			Prepared: 07/02/13 Analyzed: 07/09/13						
1,2,4-Trichlorobenzene	61.6	20	ug/L	100.0	BRL	62	44-100			
1,2-Dichlorobenzene	69.1	20	ug/L	100.0	BRL	69	42-99			
1,3-Dichlorobenzene	63.2	20	ug/L	100.0	BRL	63	35-101			
1,4-Dichlorobenzene	70.2	20	ug/L	100.0	BRL	70	43-97			
1-Methylnaphthalene	73.1	20	ug/L	100.0	BRL	73	45-135			
2,4,5-Trichlorophenol	84.2	20	ug/L	100.0	BRL	84	51-122			
2,4,6-Trichlorophenol	76.8	20	ug/L	100.0	BRL	77	46-117			
2,4-Dichlorophenol	70.8	20	ug/L	100.0	BRL	71	42-108			
2,4-Dimethylphenol	73.5	20	ug/L	100.0	BRL	74	13-122			
2,4-Dinitrophenol	143	20	ug/L	100.0	BRL	143	10-166			
2,4-Dinitrotoluene	99.9	20	ug/L	100.0	BRL	100	64-135			
2,6-Dinitrotoluene	105	20	ug/L	100.0	BRL	105	50-146			
2-Chloronaphthalene	97.6	20	ug/L	100.0	BRL	98	46-114			
2-Chlorophenol	67.7	20	ug/L	100.0	BRL	68	36-94			
2-Methylnaphthalene	72.6	20	ug/L	100.0	BRL	73	36-115			
2-Methylphenol	77.4	20	ug/L	100.0	BRL	77	27-92			
2-Nitroaniline	86.4	20	ug/L	100.0	BRL	86	51-139			
2-Nitrophenol	69.3	20	ug/L	100.0	BRL	69	43-108			
3,3'-Dichlorobenzidine	41.8	20	ug/L	100.0	BRL	42	10-214			
3/4-Methylphenol	79.0	20	ug/L	100.0	BRL	79	22-84			
3-Nitroaniline	83.7	20	ug/L	100.0	BRL	84	50-145			
4,6-Dinitro-2-methylphenol	86.1	20	ug/L	100.0	BRL	86	25-152			
4-Bromophenyl phenyl ether	87.5	20	ug/L	100.0	BRL	88	52-128			
4-Chloro-3-methylphenol	86.7	20	ug/L	100.0	BRL	87	44-110			
4-Chloroaniline	75.2	20	ug/L	100.0	BRL	75	10-156			
4-Chlorophenyl phenyl ether	89.1	20	ug/L	100.0	BRL	89	55-125			
4-Nitroaniline	86.5	20	ug/L	100.0	BRL	87	39-159			
4-Nitrophenol	71.7	20	ug/L	100.0	BRL	72	10-105			
Acenaphthene	82.5	20	ug/L	100.0	BRL	82	55-117			
Acenaphthylene	86.4	20	ug/L	100.0	BRL	86	52-121			
Aniline	87.1	20	ug/L	100.0	BRL	87	11-124			
Anthracene	91.6	20	ug/L	100.0	BRL	92	60-136			
Azobenzene	110	20	ug/L	100.0	BRL	110	50-135			
Benzo(a)anthracene	82.3	20	ug/L	100.0	BRL	82	64-135			
Benzo(a)pyrene	94.4	20	ug/L	100.0	BRL	94	68-136			
Benzo(b)fluoranthene	96.9	20	ug/L	100.0	BRL	97	61-149			
Benzo(g,h,i)perylene	90.1	20	ug/L	100.0	BRL	90	47-151			
Benzo(k)fluoranthene	89.6	20	ug/L	100.0	BRL	90	45-148			
Benzoic Acid	BRL	200	ug/L	100.0	BRL		10-125			P
Benzyl alcohol	77.5	20	ug/L	100.0	BRL	77	30-97			
bis(2-Chloroethoxy)methane	84.2	20	ug/L	100.0	BRL	84	43-119			
Bis(2-Chloroethyl)ether	79.1	20	ug/L	100.0	BRL	79	36-115			
Bis(2-chloroisopropyl)ether	96.5	20	ug/L	100.0	BRL	97	36-113			
Bis(2-Ethylhexyl)phthalate	93.3	20	ug/L	100.0	BRL	93	50-168			
Butyl benzyl phthalate	95.7	20	ug/L	100.0	BRL	96	52-166			
Chrysene	84.5	20	ug/L	100.0	BRL	84	62-135			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060682
Time Submitted: 6/28/2013 7:00:00PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0051 - 3510C MS										
Matrix Spike (P3G0051-MS1)	**Source: 3060682-03**			Prepared: 07/02/13 Analyzed: 07/09/13						
Dibenzo(a,h)anthracene	97.3	20	ug/L	100.0	BRL	97	45-155			
Dibenzofuran	85.6	20	ug/L	100.0	BRL	86	58-119			
Diethyl phthalate	94.4	20	ug/L	100.0	BRL	94	55-137			
Dimethyl phthalate	89.5	20	ug/L	100.0	BRL	90	46-135			
Di-n-butyl phthalate	104	20	ug/L	100.0	6.31	98	53-141			
Di-n-octyl phthalate	114	20	ug/L	100.0	BRL	114	48-166			
Fluoranthene	89.3	20	ug/L	100.0	BRL	89	51-136			
Fluorene	88.0	20	ug/L	100.0	BRL	88	57-121			
Hexachlorobenzene	83.4	20	ug/L	100.0	BRL	83	55-131			
Hexachlorobutadiene	59.4	20	ug/L	100.0	BRL	59	39-110			
Hexachlorocyclopentadiene	57.3	20	ug/L	100.0	BRL	57	26-122			
Hexachloroethane	70.9	20	ug/L	100.0	BRL	71	37-98			
Indeno(1,2,3-cd)pyrene	86.2	20	ug/L	100.0	BRL	86	14-177			
Isophorone	97.5	20	ug/L	100.0	BRL	97	49-113			
Naphthalene	76.1	20	ug/L	100.0	BRL	76	38-109			
Nitrobenzene	80.0	20	ug/L	100.0	BRL	80	34-117			
N-Nitroso-di-n-propylamine	80.3	20	ug/L	100.0	BRL	80	44-115			
N-Nitrosodiphenylamine	91.1	20	ug/L	100.0	BRL	91	57-156			
Pentachlorophenol	91.6	20	ug/L	100.0	BRL	92	17-167			
Phenanthrene	88.1	20	ug/L	100.0	BRL	88	62-131			
Phenol	48.2	20	ug/L	100.0	BRL	48	10-68			
Pyrene	81.7	20	ug/L	100.0	BRL	82	46-156			
Surrogate: 2,4,6-Tribromophenol	*176*		*ug/L*	*200.0*		*88*	*49-109*			
Surrogate: 2-Fluorobiphenyl	*78.7*		*ug/L*	*100.0*		*79*	*55-96*			
Surrogate: 2-Fluorophenol	*107*		*ug/L*	*200.0*		*54*	*27-74*			
Surrogate: Nitrobenzene-d5	*77.0*		*ug/L*	*100.0*		*77*	*53-99*			
Surrogate: Phenol-d5	*91.7*		*ug/L*	*200.0*		*46*	*11-52*			
Surrogate: Terphenyl-d14	*80.4*		*ug/L*	*100.0*		*80*	*42-133*			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060682
Time Submitted: 6/28/2013 7:00:00PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0051 - 3510C MS										
Matrix Spike Dup (P3G0051-MSD1)	**Source: 3060682-03**			Prepared: 07/02/13 Analyzed: 07/09/13						
1,2,4-Trichlorobenzene	62.6	20	ug/L	100.0	BRL	63	44-100	2	30	
1,2-Dichlorobenzene	70.1	20	ug/L	100.0	BRL	70	42-99	2	34	
1,3-Dichlorobenzene	64.7	20	ug/L	100.0	BRL	65	35-101	2	36	
1,4-Dichlorobenzene	71.7	20	ug/L	100.0	BRL	72	43-97	2	35	
1-Methylnaphthalene	74.8	20	ug/L	100.0	BRL	75	45-135	2	50	
2,4,5-Trichlorophenol	87.2	20	ug/L	100.0	BRL	87	51-122	3	22	
2,4,6-Trichlorophenol	81.7	20	ug/L	100.0	BRL	82	46-117	6	30	
2,4-Dichlorophenol	72.6	20	ug/L	100.0	BRL	73	42-108	3	33	
2,4-Dimethylphenol	76.5	20	ug/L	100.0	BRL	76	13-122	4	36	
2,4-Dinitrophenol	152	20	ug/L	100.0	BRL	152	10-166	6	41	
2,4-Dinitrotoluene	100	20	ug/L	100.0	BRL	100	64-135	0.3	24	
2,6-Dinitrotoluene	105	20	ug/L	100.0	BRL	105	50-146	0.4	28	
2-Chloronaphthalene	104	20	ug/L	100.0	BRL	104	46-114	7	30	
2-Chlorophenol	70.6	20	ug/L	100.0	BRL	71	36-94	4	37	
2-Methylnaphthalene	73.4	20	ug/L	100.0	BRL	73	36-115	1	33	
2-Methylphenol	81.2	20	ug/L	100.0	BRL	81	27-92	5	36	
2-Nitroaniline	90.6	20	ug/L	100.0	BRL	91	51-139	5	24	
2-Nitrophenol	71.2	20	ug/L	100.0	BRL	71	43-108	3	33	
3,3'-Dichlorobenzidine	49.3	20	ug/L	100.0	BRL	49	10-214	16	34	
3/4-Methylphenol	81.8	20	ug/L	100.0	BRL	82	22-84	3	30	
3-Nitroaniline	86.0	20	ug/L	100.0	BRL	86	50-145	3	24	
4,6-Dinitro-2-methylphenol	96.1	20	ug/L	100.0	BRL	96	25-152	11	35	
4-Bromophenyl phenyl ether	91.8	20	ug/L	100.0	BRL	92	52-128	5	21	
4-Chloro-3-methylphenol	89.2	20	ug/L	100.0	BRL	89	44-110	3	25	
4-Chloroaniline	78.1	20	ug/L	100.0	BRL	78	10-156	4	38	
4-Chlorophenyl phenyl ether	91.3	20	ug/L	100.0	BRL	91	55-125	2	29	
4-Nitroaniline	93.8	20	ug/L	100.0	BRL	94	39-159	8	29	
4-Nitrophenol	75.0	20	ug/L	100.0	BRL	75	10-105	5	40	
Acenaphthene	87.8	20	ug/L	100.0	BRL	88	55-117	6	33	
Acenaphthylene	90.8	20	ug/L	100.0	BRL	91	52-121	5	30	
Aniline	95.5	20	ug/L	100.0	BRL	96	11-124	9	35	
Anthracene	94.9	20	ug/L	100.0	BRL	95	60-136	4	27	
Azobenzene	115	20	ug/L	100.0	BRL	115	50-135	5	34	
Benzo(a)anthracene	86.7	20	ug/L	100.0	BRL	87	64-135	5	18	
Benzo(a)pyrene	99.3	20	ug/L	100.0	BRL	99	68-136	5	21	
Benzo(b)fluoranthene	102	20	ug/L	100.0	BRL	102	61-149	5	34	
Benzo(g,h,i)perylene	95.9	20	ug/L	100.0	BRL	96	47-151	6	27	
Benzo(k)fluoranthene	88.0	20	ug/L	100.0	BRL	88	45-148	2	39	
Benzoic Acid	BRL	200	ug/L	100.0	BRL		10-125		51	P
Benzyl alcohol	81.4	20	ug/L	100.0	BRL	81	30-97	5	37	
bis(2-Chloroethoxy)methane	85.3	20	ug/L	100.0	BRL	85	43-119	1	30	
Bis(2-Chloroethyl)ether	79.5	20	ug/L	100.0	BRL	80	36-115	0.5	33	
Bis(2-chloroisopropyl)ether	98.7	20	ug/L	100.0	BRL	99	36-113	2	34	
Bis(2-Ethylhexyl)phthalate	94.5	20	ug/L	100.0	BRL	94	50-168	1	21	
Butyl benzyl phthalate	97.5	20	ug/L	100.0	BRL	98	52-166	2	23	
Chrysene	82.9	20	ug/L	100.0	BRL	83	62-135	2	22	

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060682
Time Submitted: 6/28/2013 7:00:00PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0051 - 3510C MS										
Matrix Spike Dup (P3G0051-MSD1)	**Source: 3060682-03**			Prepared: 07/02/13 Analyzed: 07/09/13						
Dibenzo(a,h)anthracene	104	20	ug/L	100.0	BRL	104	45-155	6	28	
Dibenzofuran	91.2	20	ug/L	100.0	BRL	91	58-119	6	23	
Diethyl phthalate	92.4	20	ug/L	100.0	BRL	92	55-137	2	22	
Dimethyl phthalate	90.4	20	ug/L	100.0	BRL	90	46-135	1	25	
Di-n-butyl phthalate	105	20	ug/L	100.0	6.31	99	53-141	2	24	
Di-n-octyl phthalate	108	20	ug/L	100.0	BRL	108	48-166	5	21	
Fluoranthene	93.4	20	ug/L	100.0	BRL	93	51-136	4	26	
Fluorene	92.5	20	ug/L	100.0	BRL	92	57-121	5	30	
Hexachlorobenzene	88.3	20	ug/L	100.0	BRL	88	55-131	6	29	
Hexachlorobutadiene	58.8	20	ug/L	100.0	BRL	59	39-110	0.9	35	
Hexachlorocyclopentadiene	60.4	20	ug/L	100.0	BRL	60	26-122	5	36	
Hexachloroethane	71.7	20	ug/L	100.0	BRL	72	37-98	1	37	
Indeno(1,2,3-cd)pyrene	93.2	20	ug/L	100.0	BRL	93	14-177	8	34	
Isophorone	101	20	ug/L	100.0	BRL	101	49-113	3	27	
Naphthalene	77.6	20	ug/L	100.0	BRL	78	38-109	2	35	
Nitrobenzene	82.3	20	ug/L	100.0	BRL	82	34-117	3	34	
N-Nitroso-di-n-propylamine	83.2	20	ug/L	100.0	BRL	83	44-115	4	33	
N-Nitrosodiphenylamine	95.8	20	ug/L	100.0	BRL	96	57-156	5	26	
Pentachlorophenol	96.9	20	ug/L	100.0	BRL	97	17-167	6	36	
Phenanthrene	94.4	20	ug/L	100.0	BRL	94	62-131	7	23	
Phenol	54.0	20	ug/L	100.0	BRL	54	10-68	11	43	
Pyrene	84.7	20	ug/L	100.0	BRL	85	46-156	4	31	
Surrogate: 2,4,6-Tribromophenol	*180*		*ug/L*	*200.0*		*90*	*49-109*			
Surrogate: 2-Fluorobiphenyl	*80.4*		*ug/L*	*100.0*		*80*	*55-96*			
Surrogate: 2-Fluorophenol	*124*		*ug/L*	*200.0*		*62*	*27-74*			
Surrogate: Nitrobenzene-d5	*77.5*		*ug/L*	*100.0*		*78*	*53-99*			
Surrogate: Phenol-d5	*96.8*		*ug/L*	*200.0*		*48*	*11-52*			
Surrogate: Terphenyl-d14	*80.8*		*ug/L*	*100.0*		*81*	*42-133*			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060682
Time Submitted: 6/28/2013 7:00:00PM

Organochlorine Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0080 - 3510C GC										
Blank (P3G0080-BLK1)				Prepared: 07/03/13 Analyzed: 07/16/13						
4,4'-DDD	BRL	0.050	ug/L							
4,4'-DDE	BRL	0.050	ug/L							
4,4'-DDT	BRL	0.050	ug/L							
Aldrin	BRL	0.050	ug/L							
alpha-BHC	BRL	0.050	ug/L							
cis-Chlordane	BRL	0.050	ug/L							
beta-BHC	BRL	0.050	ug/L							
Chlordane	BRL	0.50	ug/L							
delta-BHC	BRL	0.050	ug/L							
Dieldrin	BRL	0.050	ug/L							
Endosulfan I	BRL	0.050	ug/L							
Endosulfan II	BRL	0.050	ug/L							
Endosulfan Sulfate	BRL	0.050	ug/L							
Endrin	BRL	0.050	ug/L							
Endrin Aldehyde	BRL	0.050	ug/L							
Endrin Ketone	BRL	0.050	ug/L							
gamma-BHC	BRL	0.050	ug/L							
trans-Chlordane	BRL	0.050	ug/L							
Heptachlor	BRL	0.050	ug/L							
Heptachlor Epoxide	BRL	0.050	ug/L							
Methoxychlor	BRL	0.050	ug/L							
Toxaphene	BRL	0.50	ug/L							
Surrogate: Decachlorobiphenyl	*1.18*		*ug/L*	*1.000*		*118*	*13-186*			
Surrogate: Tetrachloro-m-xylene	*1.02*		*ug/L*	*1.000*		*102*	*40-134*			
LCS (P3G0080-BS1)				Prepared: 07/03/13 Analyzed: 07/16/13						
4,4'-DDD	1.05	0.050	ug/L	1.000		105	66-138			
4,4'-DDE	1.31	0.050	ug/L	1.000		131	67-127			LH
4,4'-DDT	1.20	0.050	ug/L	1.000		120	66-142			
Aldrin	1.30	0.050	ug/L	1.000		130	62-124			LH
alpha-BHC	1.37	0.050	ug/L	1.000		137	63-125			LH
cis-Chlordane	1.25	0.050	ug/L	1.000		125	68-126			
beta-BHC	1.19	0.050	ug/L	1.000		119	65-137			
delta-BHC	1.35	0.050	ug/L	1.000		135	65-132			LH
Dieldrin	1.16	0.050	ug/L	1.000		116	69-130			
Endosulfan I	1.19	0.050	ug/L	1.000		119	71-129			
Endosulfan II	1.14	0.050	ug/L	1.000		114	73-135			
Endosulfan Sulfate	1.25	0.050	ug/L	1.000		125	72-137			
Endrin	1.12	0.050	ug/L	1.000		112	69-144			
Endrin Aldehyde	0.860	0.050	ug/L	1.000		86	68-139			
Endrin Ketone	1.09	0.050	ug/L	1.000		109	68-150			
gamma-BHC	1.33	0.050	ug/L	1.000		133	66-129			LH
trans-Chlordane	1.26	0.050	ug/L	1.000		126	66-126			
Heptachlor	1.05	0.050	ug/L	1.000		105	61-136			
Heptachlor Epoxide	1.19	0.050	ug/L	1.000		119	69-131			
Methoxychlor	0.910	0.050	ug/L	1.000		91	70-157			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060682
Time Submitted: 6/28/2013 7:00:00PM

Organochlorine Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0080 - 3510C GC										
LCS (P3G0080-BS1)				Prepared: 07/03/13 Analyzed: 07/16/13						
Surrogate: Decachlorobiphenyl	*0.990*		*ug/L*	*1.000*		*99*	*13-186*			
Surrogate: Tetrachloro-m-xylene	*1.01*		*ug/L*	*1.000*		*101*	*40-134*			
LCS (P3G0080-BS2)				Prepared: 07/03/13 Analyzed: 07/16/13						
Chlordane	10.9	0.50	ug/L	10.00		109	50-150			
Surrogate: Decachlorobiphenyl	*1.09*		*ug/L*	*1.000*		*109*	*13-186*			
Surrogate: Tetrachloro-m-xylene	*0.880*		*ug/L*	*1.000*		*88*	*40-134*			
LCS (P3G0080-BS3)				Prepared: 07/03/13 Analyzed: 07/17/13						
Toxaphene	11.9	0.50	ug/L	10.00		119	50-150			
Surrogate: Decachlorobiphenyl	*1.09*		*ug/L*	*1.000*		*109*	*13-186*			
Surrogate: Tetrachloro-m-xylene	*0.940*		*ug/L*	*1.000*		*94*	*40-134*			
LCS Dup (P3G0080-BSD1)				Prepared: 07/03/13 Analyzed: 07/16/13						
4,4'-DDD	1.16	0.050	ug/L	1.000		116	66-138	10	20	
4,4'-DDE	1.41	0.050	ug/L	1.000		141	67-127	7	20	LH
4,4'-DDT	1.35	0.050	ug/L	1.000		135	66-142	12	20	
Aldrin	1.35	0.050	ug/L	1.000		135	62-124	4	20	LH
alpha-BHC	1.42	0.050	ug/L	1.000		142	63-125	4	20	LH
cis-Chlordane	1.33	0.050	ug/L	1.000		133	68-126	6	20	LH
beta-BHC	1.25	0.050	ug/L	1.000		125	65-137	5	20	
delta-BHC	1.45	0.050	ug/L	1.000		145	65-132	7	20	LH
Dieldrin	1.25	0.050	ug/L	1.000		125	69-130	7	20	
Endosulfan I	1.27	0.050	ug/L	1.000		127	71-129	7	20	
Endosulfan II	1.25	0.050	ug/L	1.000		125	73-135	9	20	
Endosulfan Sulfate	1.37	0.050	ug/L	1.000		137	72-137	9	20	
Endrin	1.23	0.050	ug/L	1.000		123	69-144	9	20	
Endrin Aldehyde	0.970	0.050	ug/L	1.000		97	68-139	12	20	
Endrin Ketone	1.19	0.050	ug/L	1.000		119	68-150	9	20	
gamma-BHC	1.39	0.050	ug/L	1.000		139	66-129	4	20	LH
trans-Chlordane	1.34	0.050	ug/L	1.000		134	66-126	6	20	L2
Heptachlor	1.09	0.050	ug/L	1.000		109	61-136	4	20	
Heptachlor Epoxide	1.25	0.050	ug/L	1.000		125	69-131	5	20	
Methoxychlor	1.03	0.050	ug/L	1.000		103	70-157	12	20	
Surrogate: Decachlorobiphenyl	*1.15*		*ug/L*	*1.000*		*115*	*13-186*			
Surrogate: Tetrachloro-m-xylene	*0.960*		*ug/L*	*1.000*		*96*	*40-134*			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060682
Time Submitted: 6/28/2013 7:00:00PM

Organochlorine Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0080 - 3510C GC										
Matrix Spike (P3G0080-MS1)	**Source: 3060682-03**			Prepared: 07/03/13 Analyzed: 07/16/13						
4,4'-DDD	2.28	0.10	ug/L	2.000	BRL	114	17-160			
4,4'-DDE	2.58	0.10	ug/L	2.000	BRL	129	10-158			
4,4'-DDT	2.54	0.10	ug/L	2.000	BRL	127	15-171			
Aldrin	2.40	0.10	ug/L	2.000	BRL	120	24-142			
alpha-BHC	2.38	0.10	ug/L	2.000	BRL	119	52-130			
cis-Chlordane	2.40	0.10	ug/L	2.000	BRL	120	18-147			
beta-BHC	2.06	0.10	ug/L	2.000	BRL	103	31-166			
delta-BHC	2.56	0.10	ug/L	2.000	BRL	128	20-171			
Dieldrin	2.40	0.10	ug/L	2.000	BRL	120	27-148			
Endosulfan I	2.34	0.10	ug/L	2.000	BRL	117	40-141			
Endosulfan II	2.28	0.10	ug/L	2.000	BRL	114	43-146			
Endosulfan Sulfate	2.58	0.10	ug/L	2.000	BRL	129	37-153			
Endrin	2.40	0.10	ug/L	2.000	BRL	120	35-165			
Endrin Aldehyde	1.86	0.10	ug/L	2.000	BRL	93	15-165			
Endrin Ketone	2.28	0.10	ug/L	2.000	BRL	114	36-172			
gamma-BHC	2.36	0.10	ug/L	2.000	BRL	118	45-150			
trans-Chlordane	2.44	0.10	ug/L	2.000	BRL	122	35-136			
Heptachlor	2.26	0.10	ug/L	2.000	BRL	113	38-150			
Heptachlor Epoxide	2.32	0.10	ug/L	2.000	BRL	116	40-141			
Methoxychlor	2.08	0.10	ug/L	2.000	BRL	104	37-187			
Surrogate: Decachlorobiphenyl	*2.20*		*ug/L*	*2.000*		*110*	*13-186*			
Surrogate: Tetrachloro-m-xylene	*1.56*		*ug/L*	*2.000*		*78*	*40-134*			
Matrix Spike Dup (P3G0080-MSD1)	**Source: 3060682-03**			Prepared: 07/03/13 Analyzed: 07/16/13						
4,4'-DDD	2.48	0.10	ug/L	2.000	BRL	124	17-160	8	29	
4,4'-DDE	2.70	0.10	ug/L	2.000	BRL	135	10-158	5	38	
4,4'-DDT	2.74	0.10	ug/L	2.000	BRL	137	15-171	8	30	
Aldrin	2.56	0.10	ug/L	2.000	BRL	128	24-142	6	35	
alpha-BHC	2.42	0.10	ug/L	2.000	BRL	121	52-130	2	31	
cis-Chlordane	2.50	0.10	ug/L	2.000	BRL	125	18-147	4	40	
beta-BHC	2.12	0.10	ug/L	2.000	BRL	106	31-166	3	29	
delta-BHC	2.70	0.10	ug/L	2.000	BRL	135	20-171	5	27	
Dieldrin	2.54	0.10	ug/L	2.000	BRL	127	27-148	6	28	
Endosulfan I	2.42	0.10	ug/L	2.000	BRL	121	40-141	3	40	
Endosulfan II	2.38	0.10	ug/L	2.000	BRL	119	43-146	4	32	
Endosulfan Sulfate	2.72	0.10	ug/L	2.000	BRL	136	37-153	5	36	
Endrin	2.60	0.10	ug/L	2.000	BRL	130	35-165	8	27	
Endrin Aldehyde	1.98	0.10	ug/L	2.000	BRL	99	15-165	6	33	
Endrin Ketone	2.42	0.10	ug/L	2.000	BRL	121	36-172	6	29	
gamma-BHC	2.42	0.10	ug/L	2.000	BRL	121	45-150	3	32	
trans-Chlordane	2.52	0.10	ug/L	2.000	BRL	126	35-136	3	34	
Heptachlor	2.36	0.10	ug/L	2.000	BRL	118	38-150	4	36	
Heptachlor Epoxide	2.42	0.10	ug/L	2.000	BRL	121	40-141	4	36	
Methoxychlor	2.24	0.10	ug/L	2.000	BRL	112	37-187	7	34	
Surrogate: Decachlorobiphenyl	*2.38*		*ug/L*	*2.000*		*119*	*13-186*			
Surrogate: Tetrachloro-m-xylene	*1.58*		*ug/L*	*2.000*		*79*	*40-134*			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060682
Time Submitted: 6/28/2013 7:00:00PM

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0009 - 3010A										
Blank (P3G0009-BLK1)				Prepared & Analyzed: 07/01/13						
Antimony	BRL	0.010	mg/L							
Arsenic	BRL	0.010	mg/L							
Beryllium	BRL	0.0020	mg/L							
Cadmium	BRL	0.0010	mg/L							
Chromium	BRL	0.0050	mg/L							
Copper	BRL	0.010	mg/L							
Lead	BRL	0.0050	mg/L							
Nickel	BRL	0.010	mg/L							
Selenium	BRL	0.020	mg/L							
Silver	BRL	0.0050	mg/L							
Thallium	BRL	0.010	mg/L							
Zinc	BRL	0.030	mg/L							
LCS (P3G0009-BS1)				Prepared & Analyzed: 07/01/13						
Antimony	0.237	0.010	mg/L	0.2500		95	80-120			
Arsenic	0.247	0.010	mg/L	0.2500		99	80-120			
Beryllium	0.244	0.0020	mg/L	0.2500		98	80-120			
Cadmium	0.242	0.0010	mg/L	0.2500		97	80-120			
Chromium	0.242	0.0050	mg/L	0.2500		97	80-120			
Copper	0.242	0.010	mg/L	0.2500		97	80-120			
Lead	0.243	0.0050	mg/L	0.2500		97	80-120			
Nickel	0.246	0.010	mg/L	0.2500		98	80-120			
Selenium	0.240	0.020	mg/L	0.2500		96	80-120			
Silver	0.244	0.0050	mg/L	0.2500		98	80-120			
Thallium	0.246	0.010	mg/L	0.2500		99	80-120			
Zinc	0.245	0.030	mg/L	0.2500		98	80-120			
Matrix Spike (P3G0009-MS1)		**Source: 3060682-03**		Prepared & Analyzed: 07/01/13						
Antimony	0.233	0.010	mg/L	0.2500	BRL	93	75-125			
Arsenic	0.252	0.010	mg/L	0.2500	0.00269	100	75-125			
Beryllium	0.244	0.0020	mg/L	0.2500	BRL	98	75-125			
Cadmium	0.239	0.0010	mg/L	0.2500	BRL	96	75-125			
Chromium	0.239	0.0050	mg/L	0.2500	BRL	96	75-125			
Copper	0.239	0.010	mg/L	0.2500	0.000740	95	75-125			
Lead	0.237	0.0050	mg/L	0.2500	0.00108	94	75-125			
Nickel	0.241	0.010	mg/L	0.2500	0.00368	95	75-125			
Selenium	0.241	0.020	mg/L	0.2500	BRL	97	75-125			
Silver	0.243	0.0050	mg/L	0.2500	BRL	97	75-125			
Thallium	0.240	0.010	mg/L	0.2500	BRL	96	75-125			
Zinc	0.263	0.030	mg/L	0.2500	0.0227	96	75-125			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060682
Time Submitted: 6/28/2013 7:00:00PM

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0009 - 3010A										
Matrix Spike Dup (P3G0009-MSD1)		**Source: 3060682-03**		Prepared & Analyzed: 07/01/13						
Antimony	0.232	0.010	mg/L	0.2500	BRL	93	75-125	0.5	20	
Arsenic	0.250	0.010	mg/L	0.2500	0.00269	99	75-125	0.9	20	
Beryllium	0.242	0.0020	mg/L	0.2500	BRL	97	75-125	1	20	
Cadmium	0.237	0.0010	mg/L	0.2500	BRL	95	75-125	0.9	20	
Chromium	0.237	0.0050	mg/L	0.2500	BRL	95	75-125	0.7	20	
Copper	0.236	0.010	mg/L	0.2500	0.000740	94	75-125	1	20	
Lead	0.236	0.0050	mg/L	0.2500	0.00108	94	75-125	0.3	20	
Nickel	0.240	0.010	mg/L	0.2500	0.00368	95	75-125	0.5	20	
Selenium	0.240	0.020	mg/L	0.2500	BRL	96	75-125	0.6	20	
Silver	0.241	0.0050	mg/L	0.2500	BRL	96	75-125	0.9	20	
Thallium	0.238	0.010	mg/L	0.2500	BRL	95	75-125	0.8	20	
Zinc	0.261	0.030	mg/L	0.2500	0.0227	95	75-125	0.9	20	
Batch P3G0075 - 7470A										
Blank (P3G0075-BLK1)				Prepared & Analyzed: 07/03/13						
Mercury	BRL	0.00020	mg/L							
LCS (P3G0075-BS1)				Prepared & Analyzed: 07/03/13						
Mercury	0.00977	0.00020	mg/L	0.009375		104	80-120			
Matrix Spike (P3G0075-MS1)		**Source: 3060682-04**		Prepared & Analyzed: 07/03/13						
Mercury	0.00196	0.00020	mg/L	0.009375	BRL	21	80-120			MI
Matrix Spike Dup (P3G0075-MSD1)		**Source: 3060682-04**		Prepared & Analyzed: 07/03/13						
Mercury	0.00194	0.00020	mg/L	0.009375	BRL	21	80-120	1	20	MI

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060682
Time Submitted: 6/28/2013 7:00:00PM

Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0015 - NO PREP										
Blank (P3G0015-BLK1)				Prepared & Analyzed: 07/01/13						
Nitrate as N	BRL	0.10	mg/L							
LCS (P3G0015-BS1)				Prepared & Analyzed: 06/28/13						
Nitrate as N	4.15	0.10	mg/L	4.000		104	80-120			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Mid-Atlantic Associates, Inc.
Attn: Chuck Hoffman
409 Rogers View Court
Raleigh, NC 27610

Project: Cho Property Brownsfields

Project No: R2377.01

Prism Work Order: 3060682
Time Submitted: 6/28/2013 7:00:00PM

General Chemistry Parameters - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P3G0005 - SM4500-PB5										
Blank (P3G0005-BLK1)				Prepared: 07/01/13 Analyzed: 07/02/13						
Phosphorus-Total	BRL	0.050	mg/L							
LCS (P3G0005-BS1)				Prepared: 07/01/13 Analyzed: 07/02/13						
Phosphorus-Total	1.96	0.050	mg/L	2.000		98	90-110			

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

Sample Extraction Data

Prep Method: SM4500-PB5

Lab Number	Batch	Initial	Final	Date/Time
3060682-03	P3G0005	50 mL	50 mL	07/01/13 11:05
3060682-04	P3G0005	50 mL	50 mL	07/01/13 11:05
3060682-05	P3G0005	50 mL	50 mL	07/01/13 11:05
3060682-06	P3G0005	50 mL	50 mL	07/01/13 11:05
3060682-07	P3G0005	50 mL	50 mL	07/01/13 11:05
3060682-08	P3G0005	50 mL	50 mL	07/01/13 11:05

Prep Method: 3510C GC

Lab Number	Batch	Initial	Final	Date/Time
3060682-03	P3G0080	1000 mL	10 mL	07/03/13 9:30
3060682-04	P3G0080	1000 mL	10 mL	07/03/13 13:00
3060682-05	P3G0080	960 mL	10 mL	07/03/13 13:00
3060682-06	P3G0080	980 mL	10 mL	07/03/13 13:00
3060682-07	P3G0080	980 mL	10 mL	07/03/13 13:00
3060682-08	P3G0080	980 mL	10 mL	07/03/13 13:00

Prep Method: 3510C MS

Lab Number	Batch	Initial	Final	Date/Time
3060682-03	P3G0051	1000 mL	1 mL	07/02/13 12:40
3060682-04	P3G0051	1000 mL	1 mL	07/02/13 12:40
3060682-05	P3G0051	960 mL	1 mL	07/02/13 12:40
3060682-06	P3G0051	1000 mL	1 mL	07/02/13 12:40
3060682-07	P3G0051	980 mL	1 mL	07/02/13 12:40
3060682-08	P3G0051	980 mL	1 mL	07/03/13 7:45

Prep Method: 3010A

Lab Number	Batch	Initial	Final	Date/Time
3060682-03	P3G0009	50 mL	50 mL	07/01/13 7:45
3060682-04	P3G0009	50 mL	50 mL	07/01/13 7:45
3060682-05	P3G0009	50 mL	50 mL	07/01/13 7:45
3060682-06	P3G0009	50 mL	50 mL	07/01/13 7:45
3060682-07	P3G0009	50 mL	50 mL	07/01/13 7:45
3060682-08	P3G0009	50 mL	50 mL	07/01/13 7:45

Prep Method: 7470A

Lab Number	Batch	Initial	Final	Date/Time
3060682-03	P3G0075	20 mL	30 mL	07/03/13 9:15
3060682-04	P3G0075	20 mL	30 mL	07/03/13 9:15
3060682-05	P3G0075	20 mL	30 mL	07/03/13 9:15
3060682-06	P3G0075	20 mL	30 mL	07/03/13 9:15
3060682-07	P3G0075	20 mL	30 mL	07/03/13 9:15
3060682-08	P3G0075	20 mL	30 mL	07/03/13 9:15

Prep Method: 5030B

Lab Number	Batch	Initial	Final	Date/Time
3060682-01	P3G0028	10 mL	10 mL	07/01/13 8:02
3060682-02	P3G0028	10 mL	10 mL	07/01/13 8:02
3060682-03	P3G0028	10 mL	10 mL	07/01/13 8:02
3060682-04	P3G0028	10 mL	10 mL	07/01/13 8:02
3060682-05	P3G0028	10 mL	10 mL	07/01/13 8:02
3060682-06	P3G0028	10 mL	10 mL	07/01/13 8:02
3060682-07	P3G0028	10 mL	10 mL	07/01/13 8:02

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

Sample Extraction Data

Prep Method: 5030B

Lab Number	Batch	Initial	Final	Date/Time
3060682-08	P3G0028	10 mL	10 mL	07/01/13 8:02

This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc.

449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409

CHAIN OF CUSTODY RECORD

PRISM LABORATORIES, INC. | Full-Service Analytical & Environmental Solutions

449 Springbrook Road • P.O. Box 240543 • Charlotte, NC 28224-0543
Phone: 704/529-6364 • Fax: 704/525-0409

PAGE 1 OF 1 QUOTE # TO ENSURE PROPER BILLING:

Project Name: Cho Property Brownfields

Short Hold Analysis: (Yes) (No) UST Project: (Yes) (No)

*Please ATTACH any project specific reporting (QC LEVEL I II III IV) provisions and/or QC Requirements

Client Company Name: Mid-Atlantic Assoc.

Report To/Contact Name: Chuck Hoffmann

Reporting Address: 409 Eggs View Ct. Raleigh, N.C. 27610

Phone: (919) 258-9918 Fax (Yes) (No): (919) 250-9950

Email (Yes) (No) Email Address

EDD Type: PDF___ Excel___ Other

Site Location Name:

Site Location Physical Address: 6601 Ward Blvd. Wilson, N.C.

Invoice To: SAME

Address:

Purchase Order No./Billing Reference R2377.01

Requested Due Date ❑ 1 Day ❑ 2 Days ❑ 3 Days ❑ 4 Days ❑ 5 Days

"Working Days" ❑ 6-9 Days ☒ Standard 10 days ❑ Rush Work Must Be Pre-Approved

Samples received after 15:00 will be processed next business day.

Turnaround time is based on business days, excluding weekends and holidays.

(SEE REVERSE FOR TERMS & CONDITIONS REGARDING SERVICES RENDERED BY PRISM LABORATORIES, INC. TO CLIENT)

LAB USE ONLY

	YES	NO	N/A
Samples INTACT upon arrival? 4.4° 3.8°	✓		
Received ON WET ICE? Temp	✓		
PROPER PRESERVATIVES indicated?	✓		
Received WITHIN HOLDING TIMES?	✓		
CUSTODY SEALS INTACT?			✓
VOLATILES rec'd W/OUT HEADSPACE?	✓		
PROPER CONTAINERS used?	✓		

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL

Certification: NELAC____ USACE____ FL____ NC____ SC____ OTHER____ N/A____

Water Chlorinated: YES___ NO___

Sample Iced Upon Collection: YES___ NO___

CLIENT SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED MILITARY HOURS	MATRIX (SOIL, WATER OR SLUDGE)	SAMPLE CONTAINER *TYPE SEE BELOW	SAMPLE CONTAINER NO.	SAMPLE CONTAINER SIZE	PRESERVATIVES	ANALYSES REQUESTED: VOCs 8260 / SVOCs 8270 / Pesticides 8081 / Metals* / Nitrate / Phosphorous	REMARKS	PRISM LAB ID NO.
Trip blank	6/27/13		H_2O						Pesticides by 8081 #1	
Field blank		1325							Metals (Thirteen Priority Pollutant Metals) #3	
MW-6		1500							Silver, Arsenic, Beryllium, Cadmium, Chromium, Copper, Mercury, Nickel, Lead, Antimony, Selenium, Thallium, Zinc	
Duplicate (MW)		1510								
MW-7		1320								
MW-8		1210								
MW-9		1035								
MW-10		0910								

Sampler's Signature: Gary A. Fischer Sampled By (Print Name): Gary A. Fischer Affiliation: MAA

PRESS DOWN FIRMLY - 3 COPIES

Upon relinquishing, this Chain of Custody is your authorization for Prism to proceed with the analyses as requested above. Any changes must be submitted in writing to the Prism Project Manager. There will be charges for any changes after analyses have been initialized.

		Date	Military/Hours
Relinquished By: (Signature) Gary A. Fischer	Received By: (Signature)	6/28/13	11:50
Relinquished By: (Signature)	Received By: (Signature)	6-28-13	1445
Relinquished By: (Signature) 6-28-13 1900	Received For Prism Laboratories By:	6-28-13	1900

Method of Shipment: NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH CUSTODY SEALS FOR TRANSPORTATION TO THE LABORATORY. SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST COC UNTIL RECEIVED AT THE LABORATORY.

COC Group No. 396682

❑ Fed Ex ❑ UPS ❑ Hand-delivered ☒ Prism Field Service ❑ Other

Additional Comments:

PRISM USE ONLY

Site Arrival Time:

Site Departure Time:

Field Tech Fee:

Mileage:

SEE REVERSE FOR TERMS & CONDITIONS

NPDES:	UST:	GROUNDWATER:	DRINKING WATER:	SOLID WASTE:	RCRA:	CERCLA	LANDFILL	OTHER:
❑ NC ❑ SC ❑	❑ NC ❑ SC ❑	☒ NC ❑ SC ❑	❑ NC ❑ SC ❑	❑ NC ❑ SC ❑	❑ NC ❑ SC ❑	❑ NC ❑ SC ❑	❑ NC ❑ SC ❑	❑ NC ❑ SC ❑

*CONTAINER TYPE CODES: A = Amber C = Clear G = Glass P = Plastic; TL = Teflon-Lined Cap VOA = Volatile Organics Analysis (Zero Head Space)

ORIGINAL

APPENDIX F

LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY RECORD FOR SOIL GAS SAMPLES

Mid Atlantic
Engineering & Environmental Solutions

con-test®
ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

July 11, 2013

Chuck Hoffman
Mid-Atlantic Associates, Inc. - Raleigh, NC
409 Rogers View Court
Raleigh, NC 27610

Project Location: Cho. Property Brownfields
Client Job Number:
Project Number: R2377.01 T.4000
Laboratory Work Order Number: 13G0030

Enclosed are results of analyses for samples received by the laboratory on July 1, 2013. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Lisa A. Worthington
Project Manager

QA Officer
Katherine Allen

Laboratory Manager
Daren Damboragian

con-test®
ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Mid-Atlantic Associates, Inc. - Raleigh, NC
409 Rogers View Court
Raleigh, NC 27610
ATTN: Chuck Hoffman

REPORT DATE: 7/11/2013

PURCHASE ORDER NUMBER:

PROJECT NUMBER: R2377.01 T.4000

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 13G0030

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Cho. Property Brownfields

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
SG-1 Sub Grade Air Sample	13G0030-01	Soil Gas		EPA TO-15	

con-test®
ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

EPA TO-15

Qualifications:

Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

2-Hexanone (MBK), Ethanol

13G0030-01[SG-1 Sub Grade Air Sample], B076217-BLK1, B076217-BS1

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

2-Hexanone (MBK)

13G0030-01[SG-1 Sub Grade Air Sample], B076217-BLK1, B076217-BS1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Michael A. Erickson
Laboratory Director

con-test®
ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ANALYTICAL RESULTS

Project Location: Cho. Property Brownfields
Date Received: 7/1/2013
Field Sample #: SG-1 Sub Grade Air Sample
Sample ID: 13G0030-01
Sample Matrix: Soil Gas
Sampled: 6/26/2013 00:00

Sample Description/Location:
Sub Description/Location:
Canister ID:
Canister Size: 0.4 liter
Flow Controller ID:
Sample Type: Grab

Work Order: 13G0030
Initial Vacuum(in Hg):
Final Vacuum(in Hg):
Receipt Vacuum(in Hg):
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv Results	ppbv RL	ppbv MDL	Flag	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Dilution	Date/Time Analyzed	Analyst
Acetone	53	4.0	1.4		130	9.5	3.3	2	7/2/13 18:14	TPH
Benzene	4.7	0.10	0.052		15	0.32	0.17	2	7/2/13 18:14	TPH
Benzyl chloride	ND	0.10	0.019		ND	0.52	0.10	2	7/2/13 18:14	TPH
Bromodichloromethane	ND	0.10	0.022		ND	0.67	0.15	2	7/2/13 18:14	TPH
Bromoform	ND	0.10	0.019		ND	1.0	0.20	2	7/2/13 18:14	TPH
Bromomethane	ND	0.10	0.069		ND	0.39	0.27	2	7/2/13 18:14	TPH
1,3-Butadiene	11	0.10	0.051		23	0.22	0.11	2	7/2/13 18:14	TPH
2-Butanone (MEK)	5.8	4.0	0.075		17	12	0.22	2	7/2/13 18:14	TPH
Carbon Disulfide	1.5	1.0	0.034		4.7	3.1	0.11	2	7/2/13 18:14	TPH
Carbon Tetrachloride	0.036	0.10	0.024	J	0.23	0.63	0.15	2	7/2/13 18:14	TPH
Chlorobenzene	ND	0.10	0.035		ND	0.46	0.16	2	7/2/13 18:14	TPH
Chloroethane	0.47	0.10	0.038		1.2	0.26	0.10	2	7/2/13 18:14	TPH
Chloroform	0.070	0.10	0.023	J	0.34	0.49	0.11	2	7/2/13 18:14	TPH
Chloromethane	3.2	0.20	0.044		6.7	0.41	0.090	2	7/2/13 18:14	TPH
Cyclohexane	0.45	0.10	0.057		1.5	0.34	0.20	2	7/2/13 18:14	TPH
Dibromochloromethane	ND	0.10	0.027		ND	0.85	0.23	2	7/2/13 18:14	TPH
1,2-Dibromoethane (EDB)	ND	0.10	0.022		ND	0.77	0.17	2	7/2/13 18:14	TPH
1,2-Dichlorobenzene	ND	0.10	0.027		ND	0.60	0.16	2	7/2/13 18:14	TPH
1,3-Dichlorobenzene	ND	0.10	0.022		ND	0.60	0.13	2	7/2/13 18:14	TPH
1,4-Dichlorobenzene	ND	0.10	0.025		ND	0.60	0.15	2	7/2/13 18:14	TPH
Dichlorodifluoromethane (Freon 12)	0.44	0.10	0.043		2.2	0.49	0.21	2	7/2/13 18:14	TPH
1,1-Dichloroethane	ND	0.10	0.028		ND	0.40	0.11	2	7/2/13 18:14	TPH
1,2-Dichloroethane	ND	0.10	0.028		ND	0.40	0.11	2	7/2/13 18:14	TPH
1,1-Dichloroethylene	ND	0.10	0.024		ND	0.40	0.097	2	7/2/13 18:14	TPH
cis-1,2-Dichloroethylene	ND	0.10	0.038		ND	0.40	0.15	2	7/2/13 18:14	TPH
trans-1,2-Dichloroethylene	ND	0.10	0.026		ND	0.40	0.10	2	7/2/13 18:14	TPH
1,2-Dichloropropane	ND	0.10	0.035		ND	0.46	0.16	2	7/2/13 18:14	TPH
cis-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	0.12	2	7/2/13 18:14	TPH
trans-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	0.12	2	7/2/13 18:14	TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.10	0.024		ND	0.70	0.17	2	7/2/13 18:14	TPH
1,4-Dioxane	ND	1.0	0.64		ND	3.6	2.3	2	7/2/13 18:14	TPH
Ethanol	7.9	4.0	1.8	L-03	15	7.5	3.4	2	7/2/13 18:14	TPH
Ethyl Acetate	0.84	0.10	0.075		3.0	0.36	0.27	2	7/2/13 18:14	TPH
Ethylbenzene	0.76	0.10	0.028		3.3	0.43	0.12	2	7/2/13 18:14	TPH
4-Ethyltoluene	0.22	0.10	0.023		1.1	0.49	0.11	2	7/2/13 18:14	TPH
Heptane	5.0	0.10	0.032		21	0.41	0.13	2	7/2/13 18:14	TPH
Hexachlorobutadiene	ND	0.10	0.038		ND	1.1	0.40	2	7/2/13 18:14	TPH
Hexane	15	4.0	0.18		55	14	0.62	2	7/2/13 18:14	TPH
2-Hexanone (MBK)	ND	0.10	0.026	L-03, V-05	ND	0.41	0.10	2	7/2/13 18:14	TPH
Isopropanol	4.7	4.0	0.12		12	9.8	0.30	2	7/2/13 18:14	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.10	0.031		ND	0.36	0.11	2	7/2/13 18:14	TPH
Methylene Chloride	1.4	1.0	0.12		4.9	3.5	0.42	2	7/2/13 18:14	TPH
4-Methyl-2-pentanone (MIBK)	12	0.10	0.024		50	0.41	0.098	2	7/2/13 18:14	TPH
Naphthalene	0.68	0.10	0.054		3.5	0.52	0.29	2	7/2/13 18:14	TPH
Propene	77	4.0	0.31		130	6.9	0.53	2	7/2/13 18:14	TPH
Styrene	0.62	0.10	0.019		2.6	0.43	0.083	2	7/2/13 18:14	TPH
1,1,2,2-Tetrachloroethane	ND	0.10	0.024		ND	0.69	0.16	2	7/2/13 18:14	TPH

con-test®
ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ANALYTICAL RESULTS

Project Location: Cho. Property Brownfields
Date Received: 7/1/2013
Field Sample #: SG-1 Sub Grade Air Sample
Sample ID: 13G0030-01
Sample Matrix: Soil Gas
Sampled: 6/26/2013 00:00

Sample Description/Location:
Sub Description/Location:
Canister ID:
Canister Size: 0.4 liter
Flow Controller ID:
Sample Type: Grab

Work Order: 13G0030
Initial Vacuum(in Hg):
Final Vacuum(in Hg):
Receipt Vacuum(in Hg):
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

	ppbv				ug/m3				Date/Time	
Analyte	Results	RL	MDL	Flag	Results	RL	MDL	Dilution	Analyzed	Analyst
Tetrachloroethylene	0.090	0.10	0.028	J	0.61	0.68	0.19	2	7/2/13 18:14	TPH
Tetrahydrofuran	ND	0.10	0.042		ND	0.29	0.12	2	7/2/13 18:14	TPH
Toluene	4.5	0.10	0.031		17	0.38	0.12	2	7/2/13 18:14	TPH
1,2,4-Trichlorobenzene	0.83	0.10	0.038		6.1	0.74	0.28	2	7/2/13 18:14	TPH
1,1,1-Trichloroethane	ND	0.10	0.018		ND	0.55	0.098	2	7/2/13 18:14	TPH
1,1,2-Trichloroethane	ND	0.10	0.030		ND	0.55	0.17	2	7/2/13 18:14	TPH
Trichloroethylene	ND	0.10	0.030		ND	0.54	0.16	2	7/2/13 18:14	TPH
Trichlorofluoromethane (Freon 11)	0.44	0.10	0.035		2.5	0.56	0.20	2	7/2/13 18:14	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.080	0.10	0.028	J	0.61	0.77	0.21	2	7/2/13 18:14	TPH
1,2,4-Trimethylbenzene	0.80	0.10	0.025		3.9	0.49	0.12	2	7/2/13 18:14	TPH
1,3,5-Trimethylbenzene	0.22	0.10	0.020		1.1	0.49	0.098	2	7/2/13 18:14	TPH
Vinyl Acetate	ND	2.0	0.051		ND	7.0	0.18	2	7/2/13 18:14	TPH
Vinyl Chloride	0.85	0.10	0.043		2.2	0.26	0.11	2	7/2/13 18:14	TPH
m&p-Xylene	1.8	0.20	0.050		7.6	0.87	0.22	2	7/2/13 18:14	TPH
o-Xylene	0.82	0.10	0.029		3.6	0.43	0.13	2	7/2/13 18:14	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	111	70-130	7/2/13 18:14

con-test®
ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: TO-15 Prep-EPA TO-15

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
13G0030-01 [SG-1 Sub Grade Air Sample]	B076217	2	1	N/A	1000	400	400	07/02/13

con-test®
ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results	ppbv RL	ug/m3 Results	ug/m3 RL	Spike Level ppbv	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch B076217 - TO-15 Prep											
Blank (B076217-BLK1)					Prepared & Analyzed: 07/02/13						
Acetone	ND	1.0									
Benzene	ND	0.025									
Benzyl chloride	ND	0.025									
Bromodichloromethane	ND	0.025									
Bromoform	ND	0.025									
Bromomethane	ND	0.025									
1,3-Butadiene	ND	0.025									
2-Butanone (MEK)	ND	1.0									
Carbon Disulfide	ND	0.25									
Carbon Tetrachloride	ND	0.025									
Chlorobenzene	ND	0.025									
Chloroethane	ND	0.025									
Chloroform	ND	0.025									
Chloromethane	ND	0.050									
Cyclohexane	ND	0.025									
Dibromochloromethane	ND	0.025									
1,2-Dibromoethane (EDB)	ND	0.025									
1,2-Dichlorobenzene	ND	0.025									
1,3-Dichlorobenzene	ND	0.025									
1,4-Dichlorobenzene	ND	0.025									
Dichlorodifluoromethane (Freon 12)	ND	0.025									
1,1-Dichloroethane	ND	0.025									
1,2-Dichloroethane	ND	0.025									
1,1-Dichloroethylene	ND	0.025									
cis-1,2-Dichloroethylene	ND	0.025									
trans-1,2-Dichloroethylene	ND	0.025									
1,2-Dichloropropane	ND	0.025									
cis-1,3-Dichloropropene	ND	0.025									
trans-1,3-Dichloropropene	ND	0.025									
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.025									
1,4-Dioxane	ND	0.25									
Ethanol	ND	1.0									L-03
Ethyl Acetate	ND	0.025									
Ethylbenzene	ND	0.025									
4-Ethyltoluene	ND	0.025									
Heptane	ND	0.025									
Hexachlorobutadiene	ND	0.025									
Hexane	ND	1.0									
2-Hexanone (MBK)	ND	0.025									L-03, V-05
Isopropanol	ND	1.0									
Methyl tert-Butyl Ether (MTBE)	ND	0.025									
Methylene Chloride	0.10	0.25									J
4-Methyl-2-pentanone (MIBK)	ND	0.025									
Naphthalene	ND	0.025									
Propene	0.092	1.0									J
Styrene	ND	0.025									

con-test®
ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results	ppbv RL	ug/m3 Results	ug/m3 RL	Spike Level ppbv	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch B076217 - TO-15 Prep											
Blank (B076217-BLK1)					Prepared & Analyzed: 07/02/13						
1,1,2,2-Tetrachloroethane	ND	0.025									
Tetrachloroethylene	ND	0.025									
Tetrahydrofuran	ND	0.025									
Toluene	ND	0.025									
1,2,4-Trichlorobenzene	ND	0.025									
1,1,1-Trichloroethane	ND	0.025									
1,1,2-Trichloroethane	ND	0.025									
Trichloroethylene	ND	0.025									
Trichlorofluoromethane (Freon 11)	ND	0.025									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.025									
1,2,4-Trimethylbenzene	ND	0.025									
1,3,5-Trimethylbenzene	ND	0.025									
Vinyl Acetate	ND	0.50									
Vinyl Chloride	ND	0.025									
m&p-Xylene	ND	0.050									
o-Xylene	ND	0.025									
Surrogate: 4-Bromofluorobenzene (1)	*8.46*				*8.00*		*106*	*70-130*			
LCS (B076217-BS1)					Prepared & Analyzed: 07/02/13						
Acetone	6.14				5.00		123	70-130			
Benzene	4.37				5.00		87.5	70-130			
Benzyl chloride	4.31				5.00		86.2	70-130			
Bromodichloromethane	4.71				5.00		94.1	70-130			
Bromoform	5.30				5.00		106	70-130			
Bromomethane	6.33				5.00		127	70-130			
1,3-Butadiene	5.42				5.00		108	70-130			
2-Butanone (MEK)	4.72				5.00		94.5	70-130			
Carbon Disulfide	5.94				5.00		119	70-130			
Carbon Tetrachloride	4.65				5.00		93.1	70-130			
Chlorobenzene	4.88				5.00		97.6	70-130			
Chloroethane	5.58				5.00		112	70-130			
Chloroform	5.90				5.00		118	70-130			
Chloromethane	5.16				5.00		103	70-130			
Cyclohexane	4.22				5.00		84.4	70-130			
Dibromochloromethane	4.93				5.00		98.6	70-130			
1,2-Dibromoethane (EDB)	4.84				5.00		96.8	70-130			
1,2-Dichlorobenzene	4.99				5.00		99.9	70-130			
1,3-Dichlorobenzene	5.21				5.00		104	70-130			
1,4-Dichlorobenzene	5.14				5.00		103	70-130			
Dichlorodifluoromethane (Freon 12)	5.88				5.00		118	70-130			
1,1-Dichloroethane	5.48				5.00		110	70-130			
1,2-Dichloroethane	5.59				5.00		112	70-130			
1,1-Dichloroethylene	5.25				5.00		105	70-130			
cis-1,2-Dichloroethylene	5.69				5.00		114	70-130			
trans-1,2-Dichloroethylene	5.38				5.00		108	70-130			
1,2-Dichloropropane	4.21				5.00		84.2	70-130			

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results	ppbv RL	ug/m3 Results	ug/m3 RL	Spike Level ppbv	Source Result	%REC		%REC Limits	RPD	RPD Limit	Flag
Batch B076217 - TO-15 Prep												
LCS (B076217-BS1)					Prepared & Analyzed: 07/02/13							
cis-1,3-Dichloropropene	4.46				5.00		89.1		70-130			
trans-1,3-Dichloropropene	4.53				5.00		90.7		70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	6.20				5.00		124		70-130			
1,4-Dioxane	4.71				5.00		94.2		70-130			
Ethanol	3.19				5.00		**63.8**	*	70-130			L-03
Ethyl Acetate	5.25				5.00		105		70-130			
Ethylbenzene	4.60				5.00		92.1		70-130			
4-Ethyltoluene	4.47				5.00		89.4		70-130			
Heptane	4.02				5.00		80.5		70-130			
Hexachlorobutadiene	4.98				5.00		99.5		70-130			
Hexane	4.84				5.00		96.7		70-130			
2-Hexanone (MBK)	2.84				5.00		**56.7**	*	70-130			L-03, V-05
Isopropanol	4.12				5.00		82.4		70-130			
Methyl tert-Butyl Ether (MTBE)	5.70				5.00		114		70-130			
Methylene Chloride	4.86				5.00		97.1		70-130			
4-Methyl-2-pentanone (MIBK)	3.77				5.00		75.5		70-130			
Naphthalene	4.12				5.00		82.4		70-130			
Propene	5.40				5.00		108		70-130			
Styrene	4.76				5.00		95.2		70-130			
1,1,2,2-Tetrachloroethane	4.66				5.00		93.2		70-130			
Tetrachloroethylene	5.24				5.00		105		70-130			
Tetrahydrofuran	4.82				5.00		96.3		70-130			
Toluene	4.69				5.00		93.8		70-130			
1,2,4-Trichlorobenzene	5.88				5.00		118		70-130			
1,1,1-Trichloroethane	4.41				5.00		88.3		70-130			
1,1,2-Trichloroethane	4.86				5.00		97.2		70-130			
Trichloroethylene	4.73				5.00		94.6		70-130			
Trichlorofluoromethane (Freon 11)	6.19				5.00		124		70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	5.89				5.00		118		70-130			
1,2,4-Trimethylbenzene	4.55				5.00		91.0		70-130			
1,3,5-Trimethylbenzene	4.53				5.00		90.7		70-130			
Vinyl Acetate	3.96				5.00		79.2		70-130			
Vinyl Chloride	5.68				5.00		114		70-130			
m&p-Xylene	9.32				10.0		93.2		70-130			
o-Xylene	4.67				5.00		93.4		70-130			
Surrogate: 4-Bromofluorobenzene (1)	*8.94*				*8.00*		*112*		*70-130*			

con-test®
ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
RL	Reporting Limit
MDL	Method Detection Limit
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
LCS Dup	Duplicate Laboratory Control Sample
MS	Matrix Spike Sample
MS Dup	Duplicate Matrix Spike Sample
REC	Recovery
QC	Quality Control
ppbv	Parts per billion volume
EPA	United States Environmental Protection Agency
% REC	Percent Recovery
ND	Not Detected
N/A	Not Applicable
DL	Detection Limit
NC	Not Calculated
LFB/LCS	Lab Fortified Blank/Lab Control Sample
ORP	Oxidation-Reduction Potential
wet	Not dry weight corrected
% wt	Percent weight
Kg	Kilogram
g	Gram
mg	Milligram
µg	Microgram
ng	Nanogram
L	Liter
mL	Milliliter
µL	Microliter
m3	Cubic Meter
EPH	Extractable Petroleum Hydrocarbons
VPH	Volatile Petroleum Hydrocarbons
APH	Air Petroleum Hydrocarbons
FID	Flame Ionization Detector
PID	Photo Ionization Detector
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).
L-03	Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.
V-05	Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

ANALYST

TPH	Thomas P. Hnitecki
PEB	Paula E. Blakeborough
OJS	Olga J. Szymura
LAW	Lisa A. Worthington

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA TO-15 in Air	
Acetone	AIHA
Benzene	AIHA,FL,NJ,NY,VA
Benzyl chloride	AIHA,FL,NJ,NY,VA
Bromodichloromethane	AIHA,NJ,VA
Bromoform	AIHA,NJ,VA
Bromomethane	AIHA,FL,NJ,NY
1,3-Butadiene	AIHA,NJ,VA
2-Butanone (MEK)	AIHA,FL,NJ,NY,VA
Carbon Disulfide	AIHA,NJ,VA
Carbon Tetrachloride	AIHA,FL,NJ,NY,VA
Chlorobenzene	AIHA,FL,NJ,NY,VA
Chloroethane	AIHA,FL,NJ,NY,VA
Chloroform	AIHA,FL,NJ,NY,VA
Chloromethane	AIHA,FL,NJ,NY,VA
Cyclohexane	AIHA,NJ,VA
Dibromochloromethane	AIHA,NY
1,2-Dibromoethane (EDB)	AIHA,NJ,NY
1,2-Dichlorobenzene	AIHA,FL,NJ,NY,VA
1,3-Dichlorobenzene	AIHA,NJ,NY
1,4-Dichlorobenzene	AIHA,FL,NJ,NY,VA
Dichlorodifluoromethane (Freon 12)	AIHA,NY
1,1-Dichloroethane	AIHA,FL,NJ,NY,VA
1,2-Dichloroethane	AIHA,FL,NJ,NY,VA
1,1-Dichloroethylene	AIHA,FL,NJ,NY,VA
cis-1,2-Dichloroethylene	AIHA,FL,NY,VA
trans-1,2-Dichloroethylene	AIHA,NJ,NY,VA
1,2-Dichloropropane	AIHA,FL,NJ,NY,VA
cis-1,3-Dichloropropene	AIHA,FL,NJ,NY,VA
trans-1,3-Dichloropropene	AIHA,NY
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	AIHA,NJ,VA
1,4-Dioxane	AIHA,NJ,VA
Ethanol	AIHA
Ethyl Acetate	AIHA
Ethylbenzene	AIHA,FL,NJ,NY,VA
4-Ethyltoluene	AIHA,NJ
Heptane	AIHA,NJ,NY,VA
Hexachlorobutadiene	AIHA,NJ,NY,VA
Hexane	AIHA,FL,NJ,NY,VA
2-Hexanone (MBK)	AIHA
Isopropanol	AIHA,NY
Methyl tert-Butyl Ether (MTBE)	AIHA,FL,NJ,NY,VA
Methylene Chloride	AIHA,FL,NJ,NY,VA
4-Methyl-2-pentanone (MIBK)	AIHA,FL,NJ,NY
Naphthalene	NY
Propene	AIHA
Styrene	AIHA,FL,NJ,NY,VA
1,1,2,2-Tetrachloroethane	AIHA,FL,NJ,NY,VA

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA TO-15 in Air	
Tetrachloroethylene	AIHA,FL,NJ,NY,VA
Tetrahydrofuran	AIHA
Toluene	AIHA,FL,NJ,NY,VA
1,2,4-Trichlorobenzene	AIHA,NJ,NY,VA
1,1,1-Trichloroethane	AIHA,FL,NJ,NY,VA
1,1,2-Trichloroethane	AIHA,FL,NJ,NY,VA
Trichloroethylene	AIHA,FL,NJ,NY,VA
Trichlorofluoromethane (Freon 11)	AIHA,NY
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	AIHA,NJ,NY,VA
1,2,4-Trimethylbenzene	AIHA,NJ,NY
1,3,5-Trimethylbenzene	AIHA,NJ,NY
Vinyl Acetate	AIHA,FL,NJ,NY,VA
Vinyl Chloride	AIHA,FL,NJ,NY,VA
m&p-Xylene	AIHA,FL,NJ,NY,VA
o-Xylene	AIHA,FL,NJ,NY,VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2014
MA	Massachusetts DEP	M-MA100	06/30/2014
CT	Connecticut Department of Public Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2014
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2014
RI	Rhode Island Department of Health	LAO00112	12/30/2013
NC	North Carolina Div. of Water Quality	652	12/31/2013
NJ	New Jersey DEP	MA007 NELAP	06/30/2014
FL	Florida Department of Health	E871027 NELAP	06/30/2014
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2013
WA	State of Washington Department of Ecology	C2065	02/23/2014
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2013
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2012

con-test® ANALYTICAL LABORATORY

Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

39 SPRUCE ST
EAST LONGMEADOW, MA 01028

AIR SAMPLE CHAIN OF CUSTODY RECORD

1360030

Company Name: Mid-Atlantic Assoc.
Address: 409 Roger Vi[illegible] Ct.
Raleigh, N.C. 27610
Attention: Chuck Hoffman
Project Location: Chd. Property Brownfields
Sampled By: Cory A. Fischer

Telephone: (919 250-9918
Project # R2377.01 T.4000
Client PO #

DATA DELIVERY (check one):
☐FAX ☐EMAIL ☐WEBSITE CLIENT
Fax # :
Email:
Format: ☐ EXCEL ☐ PDF ☐ GIS KEY ☐ OTHER

Proposal Provided? (For Billing purposes)
☐ yes _____ proposal date

Field ID	Sample Description	Media	Lab #	Date Sampled Start Date Time	Date Sampled Stop Date Time	ONLY USE WHEN USING PUMPS: Total Minutes Sampled	Flow Rate M^3/Min. or L / Min.	Volume Liters or M^3	Matrix Code*	ANALYSIS REQUESTED	" Hg Initial pressure	" Hg Final Pressure	" Hg Lab Receipt Pressure	Summa Canister ID	Flow Contr ID
SG-1	sub grade air sample	S	01	6/26/13	6/26/13	2 mins			SG	7-10-13	30	0	4	1566	40[illegible]

Please fill out completely, sign, da[illegible] and retain the yello[illegible] copy for your recor[illegible]
Summa canisters a[illegible] flow controllers mu[illegible] returned within 14 [illegible] of receipt or rental will apply.
Summa canisters w[illegible] retained for a minim[illegible] of 14 days after sampling date prior cleaning.

Laboratory Comments:

CLIENT COMMENTS:

Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:	Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
[signature]	6/27/13 1630	[signature]	6/27/13 1630	[signature]	6/27/13 1700	Paula Lakeland	7.1.13 12:27

Turnaround **
☐ 7-Day
☐ 10-Day
☐ Other ___
RUSH *
☐ *24-Hr ☐ *48-Hr
☐ *72-Hr ☐ *4-Day
*Approval Required

Special Requirements
Regulations:
Data Enhancement/RCP? ☐ Y ☐ N
Enhanced Data Package ☐ Y ☐ N
(Surchage Applies)
Required Detection Limits:
Other:

***Matrix Code:**
SG= SOIL GAS
IA= INDOOR AIR
AMB=AMBIENT
SS = SUB SLAB
D = DUP
BL = BLANK
O = other

****Media Codes:**
S=summa can
TB=tedlar bag
P=PUF
T=tube
F= filter
C=cassette
O = Other

** TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

AIHA, NELAC & WBE/DBE Certified

Page 13 of 15 1360030_3 Contest_Final_IHSB_MDL_DUAL_07 11 13 1706 07/11/13 17:07:23

FedEx.

962204173000807421170079579 3

Ship (P/U) date :
Thur 6/27/2013
HUNTERSVILLE, NC US

Delivered
Signed for by: CCOLLINS

Actual delivery :
Mon 7/01/2013 12:27 pm
EAST LONGMEADOW, MA US

Let us tell you when your shipment arrives. Sign up for delivery notifications

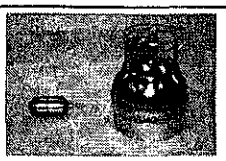
Travel History

Date/Time	Activity	Location
- 7/01/2013 - Monday		
12:27 pm	Delivered	East Longmeadow, MA
- 6/29/2013 - Saturday		
5:27 am	On FedEx vehicle for delivery	CHICOPEE, MA
5:19 am	At local FedEx facility	CHICOPEE, MA
1:06 am	Departed FedEx location	WILLINGTON, CT
- 6/28/2013 - Friday		
7:38 pm	Arrived at FedEx location	WILLINGTON, CT
3:02 am	Departed FedEx location	CHARLOTTE, NC
- 6/27/2013 - Thursday		
8:13 pm	Arrived at FedEx location	CHARLOTTE, NC
4:33 pm	Picked up	CHARLOTTE, NC
3:30 pm	In FedEx possession Tendered at FedEx location	HUNTERSVILLE, NC
3:30 pm	Shipment information sent to FedEx	

Local Scan Time

Shipment Facts

Tracking number	96220417300080742117007 95793649264	**Service**	FedEx Ground
		Dimensions	21x14x9 In.
Weight	14.7 lbs	**Packaging**	Package
Total pieces	1		



www.contestlabs.com

con-test® ANALYTICAL LABORATORY

AIR Only Receipt Checklist

39 Spruce St.
East Longmeadow, MA.
01028
P: 413-525-2332
F: 413-525-6405

CLIENT NAME: Mid Atlantic Assoc. RECEIVED BY: PB DATE: 7.1.13

1) Was the chain(s) of custody relinquished and signed? (Yes) No

2) Does the chain agree with the samples? (Yes) No
If not, explain:

3) Are all the samples in good condition? (Yes) No
If not, explain:

4) Are there any samples "On Hold"? Yes (No) Stored where:

5) Are there any RUSH or SHORT HOLDING TIME samples? Yes (No)
Who was notified _____ Date _____ Time _____

6) Location where samples are stored: Air Lab

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature:

Containers received at Con-Test

	# of Containers	Types (Size, Duration)
Summa Cans	1	.4
Tedlar Bags		
Tubes		
Regulators	1	Grab
Restrictors		
Tubing		
Other		

Unused Summas:

Unused Regulators:

1) Was all media (used & unused checked into the WASP?

2) Were all returned summa cans, Restrictors, & Regulators documented as returned in the Air Lab Inbound/Outbound Excel Spreadsheet?

Laboratory Comments: 1506 4038