



November 17, 2011

Mr. Victor Kung  
Royal Pacific Corporation  
1016 Montana Drive  
Charlotte, North Carolina 28216

Subject: **Work Plan for Environmental Assessment  
Former Pliana Facility  
1016 and 1024 Montana Drive  
Charlotte, Mecklenburg County, North Carolina  
Brownfields Project Number: 14006-10-60  
AMEC Project: 6228-09-5055**

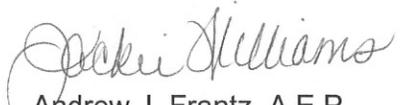
Dear Mr. Kung:

As authorized by your acceptance of our Proposal (Prop11chlt200, dated June 17, 2011), AMEC E&I, Inc. (AMEC) is pleased to submit this *Work Plan for Environmental Assessment*. This work plan includes a description of the procedures of the field work and sampling for approval by the NCDENR Brownfield Program prior to conducting field work.

AMEC appreciates the continued opportunity to provide our environmental consulting services. If you have questions concerning this report or this project, please contact us at 704-357-8600.

Sincerely,

**AMEC E&I, INC.**

  
Andrew J. Frantz, A.E.P.  
Staff Environmental Scientist

  
Robert C. Foster, L.G.  
Principal Geologist

Enclosures

For   
**With Permission**

**Correspondence:**  
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November 17, 2011

Ms. Carolyn Minnich, Brownfields Project Manager  
North Carolina Department of Environment and Natural Resources  
Division of Waste Management  
Brownfields Program  
1646 Mail Service Center  
Raleigh, North Carolina 27699-1646

**Subject: Transmittal Letter  
Work Plan for Environmental Assessment  
Former Pliana Facility  
1016 and 1024 Montana Drive  
Charlotte, Mecklenburg County, North Carolina  
Brownfields Project Number: 14006-10-60  
AMEC Project: 6228-09-5055**

Dear Ms. Minnich:

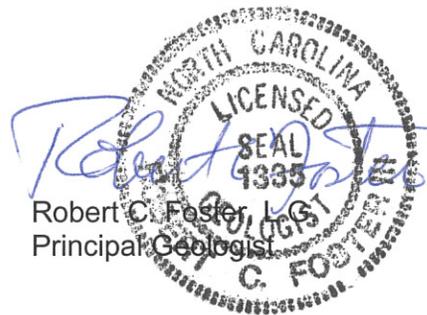
On behalf of Royal Pacific Corporation, AMEC E&I, Inc. (AMEC) is pleased to present this Work Plan to the North Carolina Department of Environment and Natural Resources (NCDENR) relating to the scope of services to be performed at the Former Pliana Facility located in Charlotte, North Carolina (subject property).

We appreciate your review of this Work Plan. Please contact the undersigned at (704) 357-8600 if you have questions.

Sincerely,

**AMEC E&I, INC.**

Andrew J. Frantz, A.E.P.  
Staff Environmental Scientist



Robert C. Foster, L.G.S.T.  
Principal Geologist

Enclosures

For Andrew J. Frantz  
With Permission

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## **WORK PLAN FOR ENVIRONMENTAL ASSESSMENT**

**FORMER PLIANA FACILITY**  
1016 AND 1024 MONTANA DRIVE  
CHARLOTTE, MECKLENBURG COUNTY, NORTH CAROLINA

Prepared for:

**ROYAL PACIFIC CORPORATION**  
1016 MONTANA DRIVE  
CHARLOTTE, NORTH CAROLINA

Prepared By:

**AMEC E&I, INC.**  
2801 YORKMONT ROAD, SUITE 100  
CHARLOTTE, NORTH CAROLINA 28208

**NOVEMBER 17, 2011**

**AMEC PROJECT: 6228-09-5055**

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## **1. SITE HISTORY AND CHARACTERIZATION**

The 4.47-acre subject property (subject property) is located at 1016 and 1024 Montana Drive in Charlotte, North Carolina and consists of Mecklenburg County Tax Parcels 069-155-40 (1024 Montana Drive) and 069-155-41 (1016 Montana Drive). The subject property contains three buildings, an approximately 16,572-square foot light manufacturing building constructed in 1965, an approximately 26,510-square foot warehouse building constructed in 1997 and an approximately 14,236-square foot warehouse building constructed in 1962. Remaining portions of the site are asphalt-paved driveway and parking areas and grass covered areas. The site is currently occupied by the Classic Coffee Concepts, Inc. A topographic is provided as **Figure 1** and a site layout map is provided as **Figure 2**.

The original building at 1016 Montana Drive was operated as a production facility for Chem-Tex Laboratories, Inc. (Chem-Tex) prior to 1999. Chem-Tex produced textile-cleaning products by blending and processing raw materials into finished products that were transported off site in bulk containers and smaller drummed quantities. In approximately 1999, Chem-Tex vacated the property and removed chemicals, processing and packaging equipment, and waste material from the subject property. From 1999 to approximately 2010, Pliana, Inc. occupied the front office space of the building at 1016 Montana Drive and utilized the main portion of the building for storage of yarn product. In 2010, Pearl Pacific Properties, LLC purchased the property and utilizes the subject property to store coffee brewing equipment and supplies.

The subject property is located within the Charlotte Belt of the Piedmont Physiographic Province. Based on a review of the Geologic Map of North Carolina (1985), the site is underlain by granitic rock.

The Soil Survey of Mecklenburg County indicates that soils at the subject property are classified as Cecil-Urban land complex. Urban soils consist of areas where more than 85 percent of the surface area is covered with asphalt, concrete, buildings or other impervious cover.

Based on the USGS topographic map, the elevation of the subject property ranges from approximately 670 to 700 feet above mean sea level. Surface drainage patterns within

the Piedmont typically indicate the direction contaminants would be transported by surface water or groundwater. Based on our interpretation of the topographic map and on-site observations, surface water on the property would primarily be expected to flow south toward Stewart Creek.

The direction and movement of groundwater through soil is dependent on soil type and the presence of relict structures and textures of the underlying rock. Fractures, faults, folds and foliation planes affect the migration of groundwater in rock. Since no significant geologic features were identified on the site, it is reasonable to assume that the direction of groundwater flow under static conditions (no pumping interference) approximates the surface topography of the site. Groundwater at the property would be expected to flow south toward Stewart Creek.

## **2. HISTORICAL ENVIRONMENTAL ASSESSMENT INFORMATION**

Based on the results of a Phase I Environmental Site Assessment Update (dated November 5, 1999) completed by AMEC (as LAW) a Phase II Environmental Site Assessment was conducted at the former Chemical Tex facility. In 1999, analysis of soil samples collected at the 1016 site identified concentrations of Total Chromium above background levels. Concentrations of organic compounds were detected, including the presence of 2-Butanone (MEK) and Acetone at concentrations of 0.11 mg/kg and 0.66 mg/kg, respectively, as well as, trace amounts of tetrachloroethene and 1,1,1-trichloroethane.

In 2002, AMEC (as MACTEC) completed a Phase I Environmental Site Assessment Update (report dated July 26, 2002) of both parcels. Several areas of corroded concrete flooring were observed adjacent to floor drains within the plant building at 1024 Montana Drive. Corroded flooring beneath a vat located within the plant was also observed. In the 2002 update report, AMEC recommended soil sampling at 1024 Montana Drive to assess the potential impact of chemical products to soil; and groundwater sampling at 1016 Montana Drive.

In May 2006, AMEC (as MACTEC) completed a Phase II Environmental Assessment on behalf of a prospective purchaser of the property. Four monitoring wells were installed (MW-1016, MW-1024, MW-1 and MW-2) at the locations shown on Figure 2. Soil and groundwater samples were collected and analyzed.

The analytical results of the soil samples 1016-1 and 1016-2 identified elevated concentrations of total chromium, but they did not exceed the applicable state standards. Furthermore, hexavalent chromium (Chromium VI) was not identified in these samples. Therefore, the identified total chromium is presumed to be Chromium III, which is less toxic than chromium VI. Furthermore, the soil analytical results identified concentrations of tetrachloroethene (PCE) ranging from 7.5 to 18 parts per billion (ppb) at the 1016 and 1024 parcels.

The groundwater analytical results identified concentrations of the organic solvent PCE at concentrations ranging from 51 to 150 ppb in water samples MW-1016, MW-1024, MW-1 and MW-2. The NC 2L Standard for PCE is 0.7 ppb. Trichloroethene, 1,1,1-

dichloroethene and 1,2-dichloroethane were also identified at concentrations that exceeded their respective NC 2L standards.

On July 23 and 27, 2009 AMEC personnel collected groundwater samples from three of the four wells. Well MW-1016 was apparently paved over by a previous occupant and could not be sampled. The samples were placed on ice and delivered to Pace for analysis of volatile organics (EPA Method 6200B). The groundwater analytical results identified concentrations of the organic solvent PCE at concentrations ranging from 32.8 to 74.9 ppb in water samples MW-1024, MW-1 and MW-2. The NC 2L Standard for PCE is 0.7 ppb. Trichloroethene, 1,1-dichloroethene and 1,2-dichloroethane were also identified at concentrations that exceeded their respective NC 2L standards.

### 3. SAMPLING AND ANALYSIS PLAN

#### 3.1 Groundwater Sampling Activities

AMEC will collect groundwater samples from the existing site monitoring wells (MW-1, MW-2 and MW-1024). This scope of work does not include installing monitoring wells. This sampling scope includes the following items:

- Obtain current depth to groundwater measurements at each groundwater monitoring well prior to conducting purging or sampling activities;
- Purge each well prior to collection of a groundwater sample. Groundwater characteristics (temperature, dissolved oxygen, pH, turbidity, and conductivity) will be obtained prior to sampling activities to aid in determining an adequate purge volume as well as evaluate general groundwater chemistry;
- Obtain one groundwater sample from each well. Samples shall be collected using dedicated disposable bailers and containerized in laboratory-supplied bottles and stored in an ice filled cooler pending shipment to a North Carolina certified laboratory for analysis;
- Submit groundwater samples to a laboratory for analysis of volatile organic compounds (VOCs) via EPA Method 8260B, semi-volatile organic compounds (SVOCs) via EPA Method 8270C, and 13 Hazardous Substance List metals plus total and hexavalent chromium;
- Contain purge water for analysis prior to disposal following approval by DENR. AMEC assumes that purge water collected from the site monitoring wells will be stored on-site prior to disposal off-site as non-hazardous material.

#### 3.2 Sub-slab Soil-Gas Sampling Activities

AMEC proposes to collect six sub-slab soil-gas samples (see Figure 2). The soil-gas samples will be installed and collected in general accordance with the "*Supplemental Guidelines for the Evaluation of Structural Vapor Intrusion Potential for Site Assessments and Remedial Actions Under the Inactive Hazardous Sites Branch*", dated November 5, 2009. The sampling scope includes the following items:

- Soil-gas samples will be collected during worst case weather conditions. Cold, windy weather produces the worst case conditions. Samples will be collected when the average highs are less than 60 degrees (Fahrenheit) which for Charlotte, North Carolina, generally means mid-November through mid-March.
- Select the soil-gas sample locations based on accessibility and known site activities;

- Contact North Carolina One-Call and a private utility locating service to identify underground utilities at the property prior to initiating sampling activities;
- Core a hole through the concrete slab;
- At each sample location, advance a borehole beneath the concrete slab to a depth of about 12 inches below the base of the slab using a hand auger;
- In each borehole a sampling point shall be installed. Teflon® tubing with an outer diameter of 3/8" shall be connected to the sampling point with an in-line valve connected at the surface. Sand shall be used as backfill around the sampling point with the remainder of the borehole annulus sealed with a bentonite seal. The seal shall be left to cure for 24-hours prior to sampling;
- Prior sample collection, three to four volumes of stagnant air inside the tubing shall be purged using a dedicated syringe. After purging is complete, a sample shall be collected into a Summa canister at a flow rate of approximately 2 mL/min (8-hour sample time) and submitted to a North Carolina certified laboratory for analysis;
- The Summa canisters shall be submitted to a laboratory for analysis of VOCs via EPA Method TO-15;
- To ensure that valid soil-gas samples are collected with no breakthrough of outside air, a tracer compound (i.e. isopropyl alcohol, pentane, freons, etc.) shall be applied to the tubing where it contacts the surface and near connections in the sample train;

### 3.3 Quality Assurance/Quality Control Procedures

The following Quality Assurance/Quality Control Procedures shall be implemented:

- Collect at least one duplicate and one trip blank during collection of the groundwater samples;
- Maintain samples under a manually-prepared chain-of-custody record;
- Non-dedicated sampling equipment shall be decontaminated between sample locations.

#### **4. REPORT AND FIGURES**

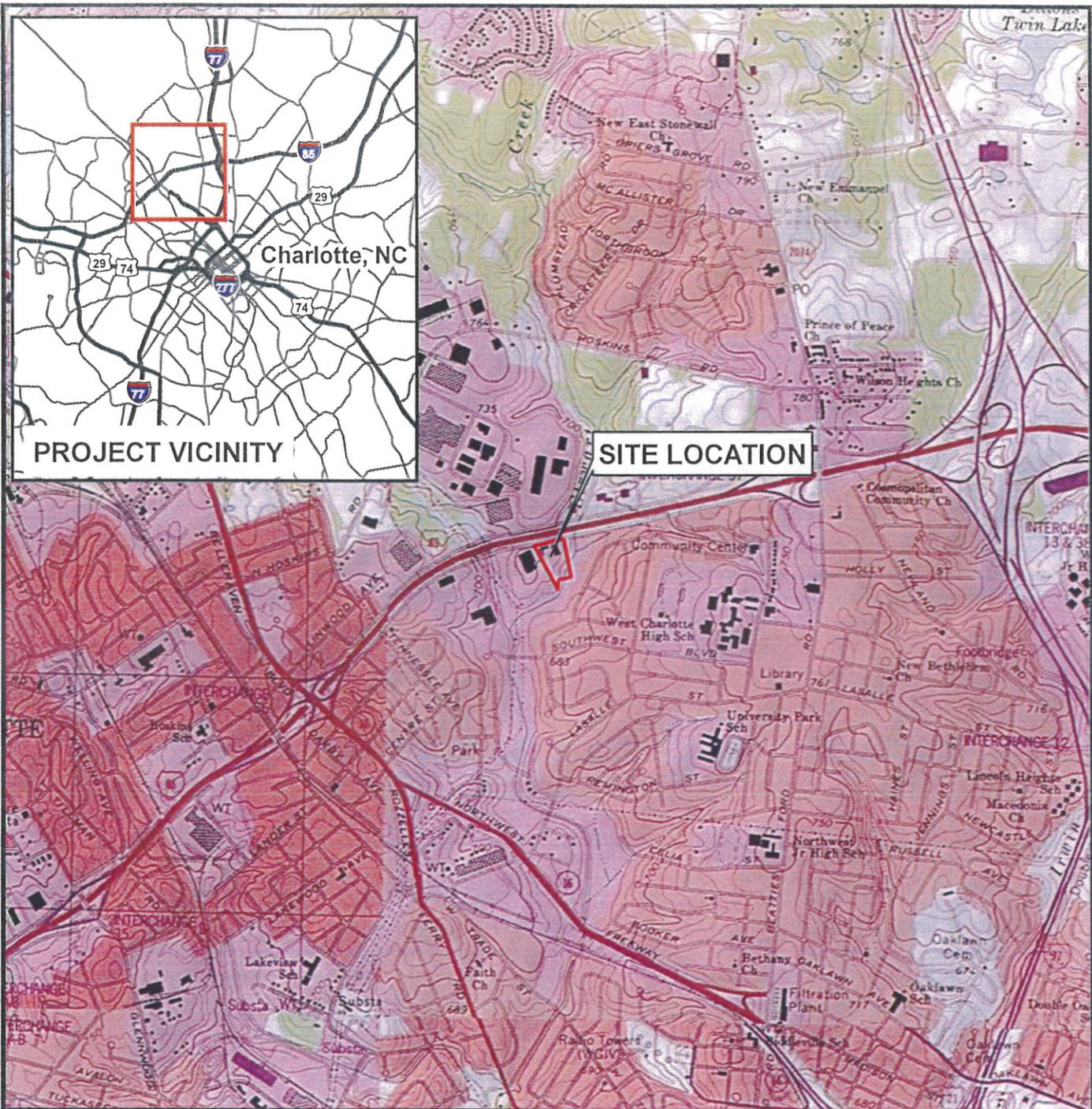
AMEC will describe the field activities, present the results of the groundwater and soil-gas sampling as tabulated data, and submit the laboratory data packet in a suitable report format for submittal to the NCDENR Brownfields Program. The report will include a site plan with current and estimated previous sampling locations and current site structures. Concentration map(s) for contaminants detected above applicable standards will be provided. The report will summarize the data collected and/or generated and provide recommendations for additional assessment, if necessary.

## **5. SCHEDULE**

AMEC anticipates the coordination and implementation of the field activities can be completed within ten days of NCDENR approval, assuming sampling locations are readily accessible. Laboratory analysis is expected to be completed on a standard turnaround time of ten business days. A final report can be submitted to the NCDENR within approximately 10 business days of receiving the final laboratory data.

**APPENDIX A**

**FIGURES**



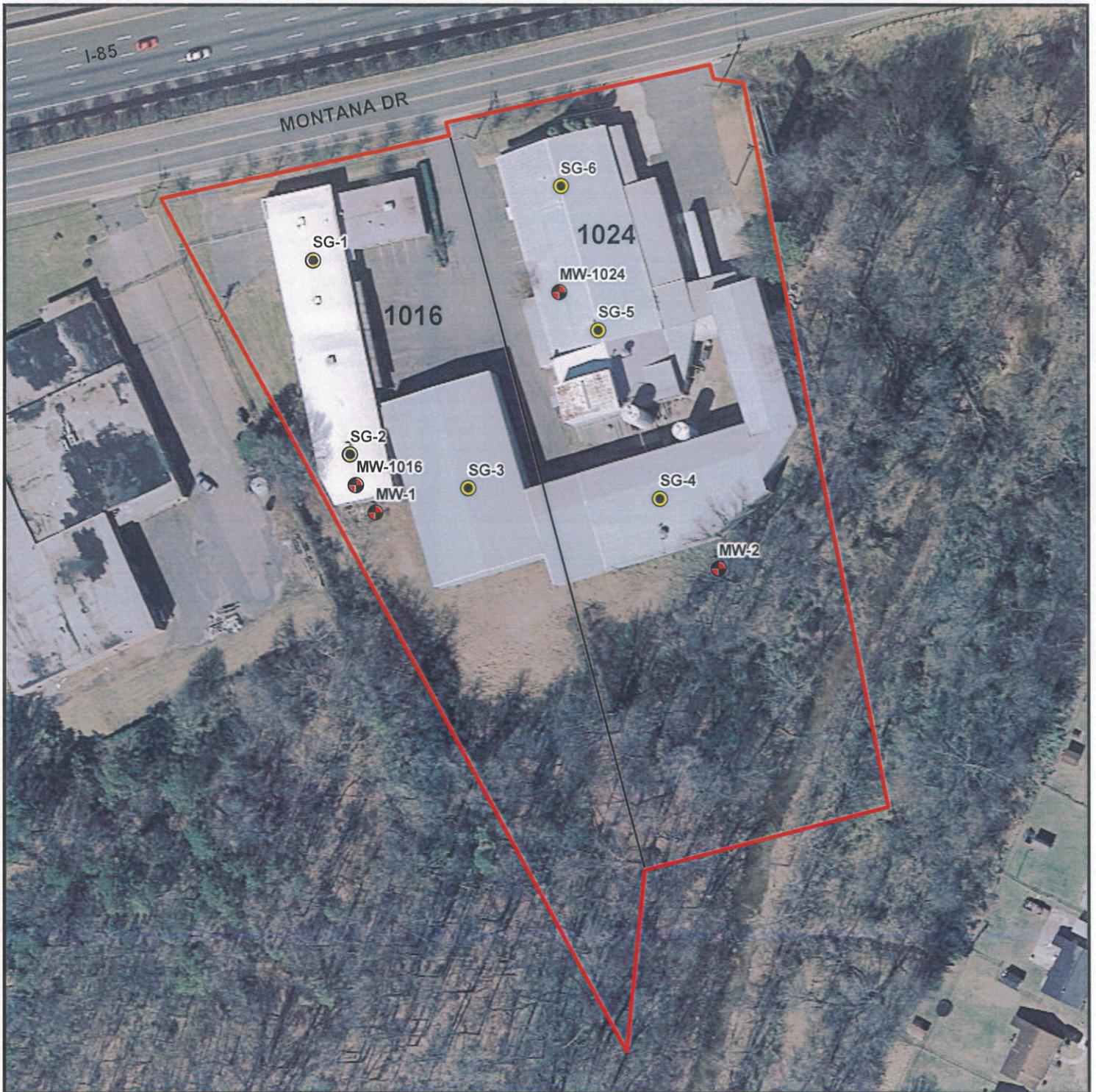
Source: USDA-NRCS Digital Raster Graphic Mosaic for Mecklenburg County, NC, dated 2005.

 Site Location



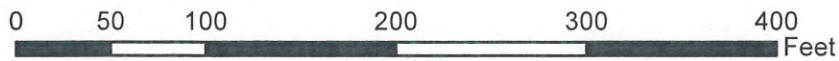
**SITE LOCATION/SURROUNDING PROPERTIES  
FORMER PIANA FACILITY  
1016 AND 1024 MONTANA DRIVE  
CHARLOTTE, NORTH CAROLINA**

PREPARED BY <b>RF</b>	DATE <b>10-31-11</b>	CHECKED BY <b>RCF</b>	DATE <b>11-7-11</b>	JOB NUMBER <b>6228-09-5055</b>	FIGURE <b>1</b>
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Source: Mecklenburg County Aerial Photography, dated 2009.

Site Boundary    
 ● Approximate Location of Monitoring Well    
 ○ Proposed Soil-Gas Sample Location



**SITE LAYOUT MAP**  
**FORMER PLIANA FACILITY**  
**1016 AND 1024 MONTANA DRIVE**  
**CHARLOTTE, NORTH CAROLINA**

PREPARED BY <b>AJF</b>	DATE <b>11-18-11</b>	CHECKED BY <b>ROF</b>	DATE <b>11-17-11</b>	JOB NUMBER 6228-09-5055	FIGURE	2
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