



December 15, 2011

Mr. Terry Alison  
Compliance Manager  
Georgia Environmental Protection Division  
2 JLK Jr. Dr. SE  
Suite 1462 East  
Atlanta, GA 30334

**Subject: Voluntary Investigation and Remediation Plan and  
Voluntary Remediation Program Application  
Former Farmers Favorite Fertilizer Site  
Moultrie, Colquitt County, Georgia  
HSI Number: 10259**

Mr. Alison:

URS is submitting the above referenced Plan and Application on behalf of PCS Joint Venture, Ltd. This submittal is in response to the September 23, 2011 Georgia Environmental Protection Division (GEPD) correspondence which discussed participation in the Voluntary Remediation Program (VRP) and the subsequent VRP discussions during the November 3 meeting with you and David Reuland.

In addition to the required copies, a check for the \$5,000 application fee is also enclosed.

If you have any questions regarding the Plan or Application, please call me at 850-574-3197.

Sincerely,

Jeffrey R. Wagner  
Project Manager

Candace Beauvais  
Project Hydrogeologist  
Georgia PG License # 2067

JRW/CB/lc

Enclosure: (1) Hardcopy and (2) CD copies

cc: Michael Brom, PCS Joint Venture Ltd.  
David Reuland, GEPD (w/o enclosure)

**R E P O R T**

**VOLUNTARY INVESTIGATION AND  
REMEDICATION PLAN AND  
VOLUNTARY REMEDIATION  
PROGRAM APPLICATION**

**FARMERS FAVORITE FERTILIZER SITE  
MOULTRIE, COLQUITT COUNTY, GEORGIA  
HSI # 10259**

*Prepared for*  
PCS Joint Venture, Ltd.  
1101 Skokie Blvd., Suite 400  
Northbrook, IL 60062

December 15, 2011



URS Corporation  
1625 Summit Lake Drive  
Tallahassee, FL, 32317  
(850) 574.3197



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VOLUNTARY INVESTIGATION AND REMEDIATION PLAN AND VOLUNTARY REMEDIATION  
PROGRAM APPLICATION

FORMER FARMERS FAVORITE FERTILIZER SITE

315 4<sup>TH</sup> AVENUE

MOULTRIE, COLQUITT COUNTY, GEORGIA

HSI NUMBER: 10259

Dated December 15, 2011

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URS Corporation  
1625 Summit Lake Drive,  
Suite 200  
Tallahassee, Florida 32317  
Tel: 850.574.3197  
Fax: 850.576.3676



## Certification By Georgia Registered Professional Geologist

In accordance with Title 43, Chapter 15 of the Official Code of Georgia, the geologic aspects of this report titled *Voluntary Investigation and Remediation Plan and Voluntary Remediation Program Application* has been prepared by or supervised by the undersigned registered Georgia Professional Geologist. URS Corporation (URS) has prepared the geologic information presented in this Report in a manner consistent with sound geologic practices and the customary level of care and skill exercised by members of the profession currently practicing in the same locality under similar circumstances.

Information developed and presented by others was used by URS in good faith as representative of the site conditions. The work performed by URS is in conformance with the current standards of practice.



Candace Beauvais  
Candace Beauvais, P.G.  
Registered Professional Geologist No. 002067

December 15, 2011  
Date

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Investigations and remediation activities have been performed at the former Farmers Favorite Fertilizer site in Moultrie, Colquitt County, Georgia since 1998 under the Hazardous Site Response Act (HSRA). The Site was first listed in the Hazardous Site Inventory (HSI) on June 29, 1994. On September 23, 2011, PCS Joint Venture, Ltd (PCS) (responsible party) received a correspondence from the Georgia Environmental Protection Division (GEPD) related to approvals of Semi-Annual Monitoring Reports, which presented the option to submit an application for the Voluntary Remediation Program (VRP). PCS is electing to participate in the Program and is making application via this submittal.

### 1.1 □ PURPOSE AND OBJECTIVE

The purpose of this report and application is to enroll in the Voluntary Remediation Program. The information provided is intended to satisfy the requirement for participation and also to provide supporting documentation for the Conceptual Site Model and the proposed Voluntary Investigation and Remediation Plan (VIRP). The objectives are:

- Provide a complete application
- Present a concise and accurate Conceptual Site Model
- Assess potential exposure pathways to receptors based on existing data and identify any data gaps
- Present an investigation and remedial plan that includes the following:
  - Continued semi-annual groundwater monitoring
  - Completion the horizontal delineation of groundwater impacts
  - Evaluation of groundwater concentration trends using all the groundwater data collected for the Site
  - Groundwater flow and transport modeling and assessment of the potential for plume migration

A Gantt Chart type schedule presents the time frame for completion of the above tasks within the 60-month requirement. It should be noted that delineation on-site and the vertical delineation are considered completed.

Secondarily, this report is intended to summarize more than 13 years of assessment and remediation activities associated with HSI Site #10259, former Farmers Favorite Fertilizer Site, Moultrie, Colquitt County, Georgia.

### 1.2 □ QUALIFYING PROPERTY

HSI Site #10259 is a former fertilizer and sulfuric acid manufacturing facility that had been in operation since at least the late 1940s. The manufacturing of sulfuric acid ceased in 1982 and fertilizer production ceased in the 2007. Currently, the Site is a bulk fertilizer blending operation owned by Griffin Terminal Services, LLC (Griffin). PCS is a former owner of the property and through an Agreement with Griffin retained certain environmental liabilities associated with operations conducted at the property for activities associated with the property prior to the purchase by Griffin in 2007. The Agreement allows PCS access on the Griffin property to perform investigation and corrective action.

The HSI Inventory lists various property parcels associated with the Site throughout the years. Parcels included in past HSI listings are the following:

- M033-033 owned by PCS – 2.48 acres
- M034-001 owned by Griffin – 9.9 acres
- M023-199 owned by Griffin – 2.68 acres

Other property parcels that are relevant to this Site include:

- M033-034 owned by PCS – 0.37 acres
- M033-032 owned by PCS – 1.22 acres
- M024-215 owned by Griffin – 1.86 acres
- M024-214 owned by Griffin – 1.37 acres

It should be noted that the seven parcels identified above comprise the property where the former fertilizer and sulfuric acid manufacturing operations resided. These property parcels are identified on **Figure 1** and constitute the Qualifying Property being applied for under the VRP. The total acreage of the Site is approximately 19.9 acres.

Properties abutting the Qualifying Property are shown on **Figure 1**, along with the parcel identification numbers.

The Warranty Deeds for the Qualifying Property is included as **Appendix A**.

### 1.3 □ REGULATORY HISTORY

In December 1986, the GEPD conducted a preliminary assessment of the Site that included installation of monitoring wells, soil and water sampling, inventory of shallow wells, sampling of Moultrie city wells # 1 and # 2, and presenting their findings in a report dated June 1987 (GEPD, 1987). Site impacts to soil and groundwater were found relating to metals constituents.

In 1994, the U.S. Environmental Protection Agency, Region 4, contracted with Weston to prepare a Technical Direction Document. Their work included soil, ditch sediment and groundwater sampling. Analyses included volatile organic constituents, semi-volatile organic constituents, pesticides/herbicides and priority pollutant metals.

On June 29, 1994, the Site was listed on Georgia's Hazardous Site Inventory and assigned the Site number 10259.

In March 1998, a Compliance Status Report was submitted for the Site reporting results for soil sampling and direct push sampling activities.

On April 14, 1999, PCS entered into a Consent Order (EPD-HSR-122) regarding the remediation activities for the Site.

Various soil and groundwater delineation activities were conducted between 1998 and 2005. Background metals concentrations for groundwater were included in a report dated July 8, 2003 (Golder, 2003). On August 31, 2005, a Soil Corrective Action Workplan (Golder, 2005) was submitted to GEPD and approved. The soil corrective action was implemented between January 6, 2006 and March 9, 2006. A total of 16,000 tons of impacted soil were excavated and removed from parcel M033-033, the Site of the former Acid Plant. The impacted soil was disposed of in a Subtitle D Landfill in Valdosta, Georgia. The results of this Corrective Action

for Soil were contained in the report dated August 14, 2006 (Golder, 2006). On January 27, 2009, a Groundwater Monitoring Plan (Golder, 2009) was submitted and approved by GEPD on March 1, 2010. From August 2009 through August 2011, five semi-annual sampling events were performed.

On September 23, 2011, PCS received a letter notifying them to either prepare a Corrective Action Plan for groundwater or to submit an application for the Georgia Voluntary Remediation Program. PCS has elected to submit an application for participation in the VRP.

## 2.1 □ LOCATION

The former Farmers Favorite Fertilizer Site (FFF) (HSI # 10259) is located in Moultrie, Colquitt County, Georgia (**Figure 1**). The Site address as listed in the HSI is 315 4<sup>th</sup> Avenue N.E., Moultrie, GA 31776. The current business owning and operating most of the property is Griffin Terminal Services, LLC. This company is not associated with the FFF Corrective Actions being conducted for HSI #10259. The Site is comprised of approximately 19.9 acres. The Site is located south of the Georgia Florida Railroad right-of-way to the north, east of 3<sup>rd</sup> Street N.E. to the west, north of 2<sup>nd</sup> Avenue N.E. to the south, and west of 6<sup>th</sup> Street N.E. The Site is contained within the U.S. Geological Survey, Moultrie, Georgia, 7.5-minute topographic quadrangle map with coordinates of approximately 31 degrees, 10 minutes, and 55 seconds north latitude and 83 degrees, 46 minutes, 59 seconds west longitude. The Site is bounded on the north and west by industrial/commercial land use and to the east and west by residential/commercial land use.

## 2.2 □ FORMER OWNERSHIP AND OPERATIONAL HISTORY

The earliest records for the Site (1920 Sanborn Map) indicate that the northwest and northeast portion were undeveloped in 1920. In 1920, the Colquitt Lumber Company was located in the northwest corner of parcel M034-001. This is approximately the location of the superphosphate plant buildings. On the remaining portion of the northern half of parcel M034-001, the Moultrie Compress Company operated a cotton compression station. The business compressed cotton before transport by railcar.

By the mid-1940s, the property was owned by C.O. Smith Guano Company. Sulfuric acid production is estimated to have started around 1948 with the construction of the first two reaction chambers for the Acid Plant (located on parcel M033-033). By 1950, four additional chambers were added to increase acid production.

In 1962, C.O. Smith Guano Company sold the business to Columbia Nitrogen Corporation (CNC). CNC manufactured phosphate, superphosphate, and potassium fertilizers. They also continued production of sulfuric acid from the Acid Plant. In addition to the Acid Plant, there was also the Granulation Plant, the Superphosphate Plant, and several warehouses that made up the operations. The process included two acidulation wastewater ponds and a granulation recirculation, a horseshoe-shaped pond. The ponds were located on the south side of parcel M034-001.

In 1982, CNC sold the business to Florida Favorite Fertilizer, which was owned by Tom Cason. The Moultrie business was named Farmers Favorite Fertilizer. Manufacturing of sulfuric acid ceased in 1982 and instead purchased concentrated (90%) sulfuric acid by railcar. The acid was diluted to 78% using the acid plant. This acid was used in the production of superphosphate fertilizer.

The two former ponds on the south portion of the property were used to hold effluent from the production of superphosphate fertilizer. The locations of the former ponds are shown on **Figure 2**. Additionally, a horseshoe-shaped pond was used to hold granulation fertilizer effluent/recirculation water. The location of the horseshoe-shaped pond is reportedly north of the two acidulation ponds. The pond location, however, is not clear on the early 1970s aerial photograph (**Figure 2**). In 1983, FFF cleaned the smaller of the two acidulation ponds and the horseshoe-shaped pond. During this cleaning, approximately 1,000 tons of sludge was removed

and disposed of as non-hazardous sludge at the Colquitt County Landfill. Following sludge removal, the small treatment pond (north pond) was lined with clay. The large (south) pond was not cleaned at the time due to cost. In September 1983, superphosphate production resumed and the ponds remained in operation as effluent holding ponds until 1986. In 1985, FFF installed process equipment to allow recirculation of superphosphate and granulation plant effluent to maintain a closed system and eliminate discharge to the ponds. Discharge to the ponds ceased in 1986 after the closed system became operational. Standing water was drained and sludge was removed from the ponds in 1986. It is reported that 5,000 tons of sludge was removed from the ponds and tested for disposal. The sludges were determined to be non-hazardous and were disposed of in the Colquitt County Landfill.

In 1988, Grasslands, owned by Leopold Suhr, purchased FFF and owned the business until 1992, when PCS Joint Venture Ltd. (PCS) was formed from Grasslands, FFF, and others on January 15, 1992 and became the owner of the business.

During the summer of 1996, the sulfuric acid plant, cooling towers, acid storage tanks and other associated operations were demolished. The plant was composed almost entirely of material containing lead. This material was transported to a recycler.

FFF ceased production of Normal Superphosphate fertilizer in September 2006; and NPK Granular fertilizer was last produced at the Moultrie plant in February 2007.

PCS owned the business until April 27, 2007, when Griffin Terminal Services purchased the business.

Griffin disassembled and removed all production equipment from the facility. The current Griffin operation receives granular fertilizer by truck and rail and stores it in the warehouses on-site. Following blending processes the fertilizer is reshipped by truck.

### 2.3 □ TOPOGRAPHY AND DRAINAGE

A review of the U.S. Geological Survey (USGS) Moultrie 7.5-minute topographic quadrangle map (**Figure 3**) indicated that the ground surface elevation at the Site ranges from approximately 290 to 300 feet above the National Geodetic Vertical Datum of 1929 (NGVD). These elevations closely approximate the findings of a Site survey conducted in April 2005 indicating that actual elevations range from 288 feet to 298 feet above NGVD. The land surface gradually slopes downward from west to east. In general, the topography in the area surrounding the Site can be characterized as rolling hills with gentle to moderate slopes.

Colquitt County is located within the Coastal Plain physiographic province. The Coastal Plain consists of rocks and sediments eroded from the Piedmont province as well as deposition from marine processes. These strata gently dip toward the southeast and are comprised of sand, clay, and limestone.

Streams in the vicinity of the Moultrie Site have carved a dendritic drainage pattern into the underlying Miocene silt and clay beds. These streams function as conveyance systems for draining stormwater runoff in the Moultrie area. The surface water has limited hydraulic connection with the subsurface and is only slightly more connected with subsurface sediments within the immediate areas of the floodplains of the streams and rivers (USGS, 2010 and USGS, 1977).

## 2.4 □ GEOLOGIC AND HYDROGEOLOGIC FRAMEWORK

The geologic structures (**Figure 4**) present in the Moultrie area (**Figure 5**) have controlled sedimentation and influenced the hydrogeology and water exchange between hydrogeologic units and the surface water through time. More than 300 ft of clastic sediments overlie the primary groundwater aquifer system, the Floridan aquifer, for the Moultrie area (**Figure 6**). Local tectonics associated with altered crystalline basement rocks, differential compaction, and solution and collapse have affected the accumulation and lithology of the sediments beneath the Moultrie area. A depositional feature, in which Moultrie lies at the center, stretches from the Atlantic Ocean to the Gulf of Mexico (from the Savannah area through Moultrie and southwest through Panama City, Florida). The feature in southwest Georgia is referred to as the Gulf Trough (USGS, 2010). There has been a nearly continuous sequence of filling of the southwest-plunging syncline with Jurassic clastic sediments, followed in more recent geologic time with a thickening of Oligocene to Miocene sediments. These sediments have severely restricted infiltration of rainfall to the Floridan aquifer (the primary drinking water source) locally in the Moultrie area (USGS, 2010). These Miocene sediments have low water transmitting ability throughout the structural feature.

### 2.4.1 □ Surficial Aquifer

Beneath the Moultrie area, the surficial aquifer is very thin to absent and has discontinuous distribution that is primarily occurring within the floodplains of streams in the area (**Figure 7**). The water-bearing characteristics tend to be very limited and unreliable during drought conditions (USGS, 2010).

### 2.4.2 □ Upper Confining Unit

The thick, massive clay Miocene sediments (**Figure 6**) beneath the Moultrie area comprise the hydrogeologic unit referred to as the Upper Confining Unit. This unit hydraulically separates the land surface from the Floridan aquifer. The Floridan aquifer serves as the primary source for water supplies and is the drinking water source for the Moultrie water system (USGS, 2010). The thickness of low-permeability fine-grained clay and clastic sediments constituting the upper confining unit creates a hydraulic barrier to groundwater that severely limits recharge from precipitation falling on the surface and prevents vertical leakage from reaching the underlying Floridan aquifer (USGS, 2010).

### 2.4.3 □ Floridan Aquifer

The Floridan aquifer beneath the Moultrie area is not recharged locally and thus is derived from transport from the carbonates outcrop area 40 to 80 miles upgradient and outside of the Gulf Trough feature. Drinking water wells installed in the Floridan aquifer beneath Moultrie are on the order of 700 to 900 feet below land surface (ft bls) and are constructed as open-hole, with the bottom of casings around 450 ft bls. The top of the Floridan aquifer lies more than 100 ft below sea level, or about 300 to 400 ft bls in the vicinity of Moultrie (**Figure 8**). Slow-moving groundwater across the Gulf Trough region coupled with slow downward vertical flow from upper to lower limestone units within the aquifer resulted in 40 to 50 ft of groundwater decline since 1969 in southeastern Colquitt County. Dry climatic conditions during the 1980s through the early 2000s contributed to seasonal and long-term groundwater level decline by reducing recharge to the aquifer and increasing hydrologic stress as a result of agricultural pumpage. The

lack of recharge is resulting in the depletion of the groundwater resource within the Floridan aquifer.

## 2.5 □ SITE SPECIFIC GEOLOGY

Site-specific geology was characterized by evaluation of lithologic samples collected during installation of deep soil boring DSB-1 and monitoring wells installed during the Compliance Status Report investigations. The locations of monitoring wells associated with the Site are shown on **Figure 9**. Site-specific geologic cross sections generated from these data are shown on **Figures 10, 11, and 12**. The alignment of the cross sections shows the site-specific geology for the former sulfuric acid plant and treatment pond areas.

The Site is underlain by deposits of fine to medium-grained sand with interbedded sandy clay and clayey sand extending to a depth of approximately 4 to 8 ft bls. This interval is referred to as Unit 1 on **Figure 10**. The upper sand unit consists of brown to dark brown, well sorted fine to medium sand, with a 1 to 1.5-foot thick, firm, orange and tan mottled sandy clay to clay layer at 3 ft bls.

This upper sand unit is underlain by a low permeability clay and clayey sand. This interval is referred to as Unit 2 on **Figure 10**. This low permeability unit primarily consists of soft to firm, gray, orange and red mottled clay with interbedded fine clayey sand layers. The clayey sand stringers are gray in color and generally 2 to 6 inches thick. The unit thickness is typically 15 to 20 feet when encountered in the borings, and was found to be laterally extensive.

Unit 2 is underlain by a silty sand unit, which is referred to as Unit 3 on **Figure 10**. The top of this unit was generally encountered approximately 25 to 30 ft bls, and, where present, ranged in thickness from approximately 2 feet (MW-1I) to 15 feet (DSB-1). In general, the unit thinned eastward and was not encountered in borings MW-4I and MW-5I. Unit 3 is characterized by an orange, red and pink, poorly sorted coarse to very coarse sand to silty sand. This unit is discontinuous and may represent an isolated sand lens.

Unit 3 is underlain by a clayey sand and sandy clay referred to as Unit 4 on **Figure 10**. The top of Unit 4 was encountered approximately 25 ft bls (MW-4I) to 40 ft bls (DSB-1). The thickness of this unit is unknown; however, it extends from 40 ft bls to at least 90 ft bls at DSB-1. This unit is characterized by a dense to very dense, compact, dry, gray, fine to medium clayey sand to sandy clay. While drilling DSB-1, a very dense, fine to medium-grained cemented sand was encountered at a depth of 74 ft and continued to 82 ft bls.

The lithologic log for Moultrie City Well #4 located south of 1<sup>st</sup> Avenue at the Moultrie Water Works is presented in **Appendix B**. This well was drilled to 800 ft bls and the surface elevation is 308 ft, which is comparable to the Site elevations. The log indicates that the massive clay layer, underlying what Golder Associates referred to as Unit 4, extends to a depth estimated to be 375 ft bls. The clay underlying this Unit 4 is dark green, somewhat indurated, blocky, and massive and is about 282 ft thick based on the Moultrie #4 lithologic log.

## 2.6 □ SITE SPECIFIC HYDROGEOLOGY

The shallow groundwater occurring beneath the Site consists of various shallow water-bearing zones that occur in the upper confining unit (**Figure 10**). The confining unit is composed of more than 300 ft of fine-grained clastics that include massive clay beds. The confining unit is composed of Miocene beds that outcrop in areas of the Site, and the defined surficial aquifer system is absent in this part of Colquitt County. Golder Associates has characterized the approximately 80 ft of sediments beneath the Site and has arbitrarily defined four units within this 80-ft zone.

The following represent the characterization of each unit based on Golder Associates' interpretation. The shallow subsurface at the Site consists primarily of interbedded layers of fine sand, silty sand and clayey sand (Unit 1) to a depth of up to 10 ft bls. Screen interval elevations from monitoring wells installed in Unit 1 (shallow water-bearing zone) are typically between 290 to 270 ft above NGVD in the monitoring wells located in the northern portion of the Site and 275 to 255 ft above NGVD in the monitoring wells located in the southern portion of the Site.

The shallow interval is underlain by a relatively low permeable clayey sand to sandy clay (Unit 2) to depths of 25 to 30 ft bls in the northern portion of the Site, and 30 to 45 ft bls in the southern portion of the Site. This unit was approximately 15 to 30 ft thick at the Site and was found in each boring drilled to that depth.

This low permeability unit separates the shallow water-bearing interval from the deeper water-bearing interval referred to by Golder Associates in previous documents as the intermediate water-bearing interval. This water-bearing zone is simply the next deeper water-bearing zone in the upper confining unit. Although Unit 2 contains some lenses of variable permeability material, it may not be continuous throughout the Site. In general, Unit 2, where present, inhibits vertical migration of groundwater.

This unit is underlain by coarse sand (Unit 3) with a trace of some silt and clay content. This sand unit in the intermediate water-bearing zone was encountered between elevations of 265 ft and 255 ft above NGVD in the northern portion of the Site and encountered between elevations of 245 ft and 240 NGVD in the southern portion of the Site. Therefore, the screened interval elevation for MW-32I, located in the southern portion of the Site, is 271-266 ft above NGVD, thus screened in the shallow water-bearing zone. This unit is considered to be a large isolated sand lens within a larger clay zone.

A dense to hard clayey sand to sandy clay (Unit 4), with seams of very dense cemented sand at a depth of 74 to 82 ft bls, underlies the coarse sand unit from approximately 40 to 90 ft bls. Due to its thickness and very low permeability, Unit 4 is considered an effective aquitard, which prevents downward migration of groundwater at the Site.

Based on information from a recent U.S. Geological Survey report (USGS, 2010), and the lithologic log from Moultrie Well #4, it is known that Unit 4 and deeper is part of a massive, clay confining unit in excess of 250 ft thick. Given the information from DSB-1 and the information from the Moultrie city well, the upper confining unit is estimated to be in excess of 300 ft beneath the Site.

The above-referenced soil descriptions of the water-bearing zones of the upper confining unit are characteristic of sediments within the Gulf Trough that exhibit a limited ability to transmit water.

The hydraulic conductivity of such sediments varies greatly both vertically and spatially with the ratio of horizontal to vertical hydraulic conductivity typically in the range of 10 to 100. Based on laboratory testing of Shelby tube samples, the potential for significant vertical migration of groundwater is low, as supported by measured permeabilities in the  $10^{-8}$  to  $10^{-9}$  cm/sec range and is consistent with published values for similar sediments.

## 2.7 □ GROUNDWATER DIRECTION AND HORIZONTAL GRADIENT

The general direction of groundwater flow across the Site is to the southeast. This direction is consistent for both water-bearing zones monitored within the upper confining unit. Potentiometric maps for the shallow and intermediate water-bearing zone are presented on **Figure 13**. Depth to groundwater measurements and groundwater elevations are summarized in **Table 1**. Groundwater elevations have been collected during six separate events beginning in November 2006. A summary of historical hydrogeologic data, including direction of groundwater flow, horizontal gradients, and groundwater flow rates, is presented in **Table 2**.

Horizontal hydraulic gradients and flow direction were calculated using groundwater elevation data obtained on August 22, 2011, from monitoring wells installed in the shallow water-bearing zone (MW-2S/MW-3S/MW-11S and MW-43S/MW-TP5S/MW-TP1S) and the intermediate water-bearing zone (MW-2I/MW-3I/MW-12I and MW-34I/MW-TP5I/MW-TP1I). The horizontal gradients calculated for the shallow and intermediate water-bearing zones are consistent with groundwater flow directions identified from previous measurements. As shown on **Figure 13**, the general direction of groundwater flow is to the southeast.

Vertical hydraulic head differences were calculated during the five semiannual sampling events from monitoring well clusters installed in the shallow and intermediate water-bearing zones (MW-2S and MW-2I; MW-3S and MW-3I; MW-TP1S and MW-TP1I; MW-10S-R and MW-10I; and MW-1S-R and MW-1I-R). With the addition of four monitoring wells screened in the intermediate water-bearing zone in February 2010, four additional well clusters (MW-39S and MW-6I; MW-34S and MW-34I; MW-TP5S and MW-TP5I; and FFFW-2-R and FFFW- 2I) were added for the calculation of vertical hydraulic head differences. A summary of the historical vertical head differences are presented in **Table 3**. Hydraulic head differences indicate little vertical migration of groundwater at the Site.

The hydraulic head differences in groundwater elevations measured on August 22, 2011 and those measured during the February 21, 2011 event in monitoring wells located north of 4<sup>th</sup> Avenue N.E. ranged between -0.44 ft (MW-3S) and -6.15 ft (MW-38S) in the shallow water-bearing zone, and between -0.42 ft (MW-13I) and -1.69 ft (MW-10I) in the intermediate water-bearing zone. Groundwater elevations measured in monitoring wells located south of 4<sup>th</sup> avenue N.E. on August 22, 2011 ranged between -5.66 ft (MW-25S) and 0.44 ft (MW-4S) in the shallow water-bearing zone and between -0.72 ft (FFFW-2I) and -1.58 ft (MW-34I) in the intermediate water-bearing zone. The hydraulic head differences indicate that the primary flow in the shallow water-bearing zones is lateral and limited in the vertical direction.

## 2.8 □ GROUNDWATER FLOW RATE

Using Darcy's Law and the water elevations from August 22, 2011, the linear groundwater velocity ( $v$ ) in the shallow and intermediate water-bearing zones were calculated using the equation:

$$v = \frac{ki}{n_e}$$

where:

$k$  = the hydraulic conductivity (see **Table 2**);

$i$  = the average horizontal hydraulic gradient (see **Table 2**); and

$n_e$  = the effective porosity (assumed to be 30 percent for the northeast portion of the Site and 25 percent for the shallow water-bearing zone in the northwest and southern portions of the Site).

The linear groundwater velocity in the shallow water-bearing zone for the northern and southern portions of the Site were calculated to be approximately 13 and 32.9 ft per year, respectively; and the linear groundwater velocity in the intermediate water-bearing zone for the northern and southern portions of the Site were calculated to be approximately 2.92 and 62 ft per year, respectively. **Table 2** shows the range of rates between May 2000 and August 2011.

The following Conceptual Site Model (CSM) discussion is based on the results of previous assessment and remediation and historical data collected for the Site. A three-dimensional depiction of the CSM is shown on **Figure 14**. It is intended that the CSM will be updated as new information is gathered for the Site. The CSM illustrates the Site's surface and subsurface setting, the known or suspected source(s) of contamination, how contamination might move within the environment, the potential human health and ecological receptors, and the complete and incomplete exposure pathways that exist for the Site.

### 3.1 □ GEOLOGIC AND HYDROGEOLOGIC FRAMEWORK

The geologic and hydrogeologic setting for the Site and the vicinity of Moultrie in general is such that the sediments underlying the Site are fine-grained clayey to silty clastics with poor water-transmitting characteristics. All groundwater impacts are contained within a shallow 50 ft thick zone of the subsurface underlying the Site. The sediments that occur at the Site are part of the hydrogeologic unit referred to as the Upper Confining Unit. This unit has poor water-bearing characteristics, and transport is limited by the low conductivity of the clayey sediments; therefore, the expected lateral migration extent is limited. Water contained in the shallow portions of the confining unit is derived from local rainfall occurring in the near vicinity of the Site. The water table beneath the Site is variable and ranges from about 2 ft to 10 ft bls. The hydraulic head difference between the shallow and deeper monitoring wells (less than 50 ft bls total depth) is nearly the same, indicating that the lateral flow potential is likely more dominant than the vertical flow direction for groundwater. The lateral flow direction of groundwater from the Site is to the southeast.

It should be noted that deeper investigation of the confining unit has the potential for inducing deeper impacts due to well construction issues that could cause vertical pathways due to conduits potentially occurring at the grout/aquifer matrix interface. Additionally, the thickness and composition of the confining unit result in conditions that do not allow significant vertical migration of groundwater plumes (**Figure 6**). The massive clay confining unit is more than 300 ft thick in the Moultrie vicinity (USGS, 2010).

Likewise, the Floridan aquifer beneath the Upper Confining Unit will not be impacted by the shallow groundwater impacts because of limited exchange of water between the confining unit and the aquifer (**Figure 6**). Additionally, no recharge occurs to the Floridan aquifer locally; rather, groundwater is derived from the recharge area 40 to 80 miles upgradient from area.

### 3.2 □ SOURCE OF IMPACTS

Fertilizer and Sulfuric Acid Manufacturing Operations prior to the 1980s appear to be responsible for impacts to soil and groundwater observed at the Site. Soil and groundwater impacts are attributed to former identified sources on the Site that were associated with the Fertilizer and Sulfuric Acid manufacturing, specifically the Acid Plant (**Figure 15**) and the Acidulation Ponds sludges (**Figure 15**).

Impacts to the Site are assumed to have originated in the late 1940s when the Acid Plant was constructed. It is expected that impacts to soil were discontinued or slowed with the cessation of sulfuric acid production in the early 1980s. Continuing leaching is expected to have ceased with the removal of the sludges from the southern ponds in the mid- 1980s. With the removal of

affected soils, contaminant leaching to the groundwater is expected to be significantly reduced or stopped as a result of this remedial action.

### 3.2.1 □ Upgradient, Off-Site Potential Sources

Based on the groundwater assessment on-site, there remain two areas requiring further assessment. Each of these areas involved unknown source area(s) that appear to be off-site and are not related to any Site historical operations. The two areas were also referenced in the GEPD September 23, 2011, Monitoring Reports approval letter where GEPD indicated that delineation was incomplete. During a meeting on November 3, 2011, with GEPD, Mr. David Reuland indicated that it was necessary to install at least one monitoring well upgradient to determine if the area was “clean” or impacted. No further upgradient assessment would be required if the concentrations of lead were found to be higher than those existing on the Site.

The areas where further delineation is necessary include northwest of the northwest corner of the Site and west of the southwest portion of the Site. **Figure 15** shows the areas related to these unknown source areas. Delineation activities have been outlined as part of the investigation activities proposed in the VIRP.

### 3.2.2 □ On-Site Sulfuric Acid Plant Source

The operations occurring at the former Sulfuric Acid Plant from at least 1948 through 1982 were found to have impacted soils on property parcel M033-033 (**Figure 15**). The primary source impacts were related to metals, with lead and arsenic being the most extensive.

The Sulfuric Acid production for the operations was discontinued in the early 1980s. The Acid Plant and associated structures was demolished during the summer of 1996. Impacted soils were delineated from 1998 through 2005 and then excavated to approved soil Risk Reduction Standards (RRS) and disposed of off-Site between January and March 2006 in accordance with an approved Workplan. The excavated area was backfilled with clean fill. This eliminated the leaching exposure route from soil to groundwater for this source area. The direct exposure route from contact of soils or from dust created from the Site was also eliminated with the removal of soils. This source requires no further action (**Appendix C**).

### 3.2.3 □ On-Site Acidulation Wastewater Ponds Source

Two acidulation ponds were located on the southern portion of parcel M034-001 (**Figure 2** and **Figure 15**). These ponds were part of the phosphate/superphosphate fertilizer production that occurred at the facility prior to the early 1980s. The ponds were unlined until at least 1983, when the smaller pond was lined. Discharge to the ponds ceased in 1986. According to correspondence (**Appendix D**), 5,000 tons of sludge was removed from the ponds in 1985. The sludges were determined to be non-hazardous and were disposed of in the Colquitt County Landfill. The pond area was backfilled to existing grade with a sand/clay mixture.

The leaching exposure routes from sludges to groundwater and direct exposure potential were eliminated for this source area with the removal of sludges. The area is not secured with fencing; but because this property is part of an active business, access to the property is limited primarily to workers. This source requires no further action.

### 3.3 □ SITE CONSTITUENTS OF CONCERN

From early investigations at the Site to delineation activities conducted under HSRA, soil and groundwater have been analyzed for volatile and semi-volatile constituents, pesticides, herbicides and metals. Metals were found to be the primary constituents of concern (COCs) for the Site in soils and shallow groundwater. The main metals impacts are associated with lead and arsenic. Metals in addition to lead and arsenic detected above background concentrations include the following: antimony, barium, beryllium, cadmium, chromium, copper, mercury, nickel, selenium, silver, thallium, vanadium, and zinc. Further refinement of the metals COCs that require monitoring was approved by GEPD on September 23, 2011. It was agreed that antimony, chromium, silver and vanadium be removed from the groundwater monitoring program.

### 3.4 □ POTENTIAL EXPOSURE ROUTES

#### 3.4.1 □ Air and Vapor Intrusion Exposure Routes

With the remediation of impacted soils to soil RRS, airborne dust from the Site is not currently a completed pathway exposure route. Additionally, since the COCs for the Site do not include volatile constituents, vapor intrusion is not an expected pathway for exposure.

#### 3.4.2 □ Soil Exposure Route

Impacted soils have been delineated for the Site and these soils have been remediated to meet RRS. No significant further leaching and no direct exposure potential are expected from the soil exposure pathway. This exposure pathway represents a completed exposure pathway where the source area has been remediated and is now controlled.

#### 3.4.3 □ Soil Exposure Pathway Assessment

Soils on the Site were delineated and found to be impacted on the former Sulfuric Acid Plant operations portion of the property. Subsequently, a Corrective Action Plan (Golder, 2005) was developed and approved by GEPD.

Soil impacts have been suitably delineated and remediated to achieve the RRS outlined in the following table. The cleanup goals for each metal were to meet Type 3 Risk Reduction Standards (except for lead, which is a Type 4 RRS) were approved by GEPD.

COC	Soil RRS (mg/kg)
Antimony	10
Arsenic	41
Barium	1,000
Beryllium	3
Cadmium	39
Chromium	1,200
Cobalt	25
Copper	1,500
Lead (0-2 ft bls)	930
Lead (greater than 2 ft bls)	1,303
Mercury	17
Nickel	420
Selenium	36
Silver	10
Thallium	10
Vanadium	100
Zinc	2,800

Generally, where soils were affected by metals other than lead, the impacts all fell within the footprint of lead impacts. Where peripheral areas outside of the main excavation area were impacted by metals other than lead, they were addressed by separate excavation and off-site disposal. Confirmation samples were collected post excavation to confirm that soil cleanup goals had been achieved. The results of the soil Corrective Actions are contained in the Golder, August 2006, Corrective Action for Soil Report (Golder, 2006) (excerpts provided in **Appendix C**).

Soil remediation was completed between January and March 2006. The following is a summary of these corrective actions:

- Excavation of impacted soils was performed to depths up to 10 ft bls.
- Saturated soils were allowed to gravity drain in the staging area, and then were mechanically screened.
- Mechanical screening of excavated soils provided for separation of soils and debris, which were segregated.
- The screened soils were ex-situ stabilized by mixing with Enviroblend<sup>®</sup> treatment reagent in a large pug mill to achieve TCLP disposal criteria.

- The treated soil was sampled for off-site disposal; results indicated that the soil was non-hazardous waste.
- A total of approximately 16,000 tons of treated soil was subsequently transported and disposed at the Pecan Row Landfill (Subtitle D) located in Valdosta, Georgia.
- 440 tons of debris was recovered and also disposed of at Pecan Row Landfill.
- Approximately 164,000 gallons of wastewater, generated as part of the debris rinsing operation, was discharged to the City of Moultrie publicly owned treatment works (POTW) in accordance with permit limits on discharge.
- Soil confirmatory samples were collected to confirm concentrations were removed to cleanup levels.
- Excavation area was backfilled with tested clean fill.

This exposure pathway represents a completed exposure pathway where the source area has been remediated to meet applicable soil RRS and is now controlled.

#### 3.4.4 □ Former Waste Ponds Sludge Exposure Route

Impacted sludges have been excavated from the former Acidulation Ponds on-site (**Figure 14**). No further leaching, direct exposure, or impacts to surface water or sediment are expected to have occurred since the mid-1980s when the material was removed from the Site. Since the ponds and sludges have been removed, current Site conditions do not require any further action regarding this former source. This exposure pathway represents a completed exposure pathway where the source has been remediated and is now controlled.

##### 3.4.4.1 Former Waste Ponds Area Assessment

The southern portion of the Site where the former ponds were located has been assessed as part of the site-wide delineation efforts for groundwater and specifically for soils as part of field assessment activities conducted during November and December 2001. During that phase 34 soil samples were collected to assess the former wastewater ponds area. These results were reported in Compliance Status Report Addendum #4 dated December 2003 (Golder, 2003). The following conclusions were given:

- Delineation of metals in the former treatment pond area is complete and no additional assessment is warranted.
- Soil is not impacted by metals at depths corresponding to the depth of the former ponds. No corrective action is required for soil.

#### 3.4.5 □ Groundwater Exposure Route

Impacted groundwater has been delineated for the Site. The vertical delineation of groundwater for the Site is considered to be adequate and complete. Two areas related to potential upgradient, off-site sources not associated with the Site historical operations still require horizontal delineation. All other groundwater impacts are contained within the property parcel boundaries defined as the VRP Qualifying Property. An Environmental Covenant will be executed to restrict groundwater use beneath the Qualifying Property. The preparation of a draft

Environmental Covenant has been included as a task for the VIRP. The footprints for all metals plumes associated with the Site are shown on **Figure 16**. Because all known sources attributable to the Site are controlled and/or removed, significant increases in groundwater concentrations with time are not expected. However, some increase may occur from impacts still remaining in the top of the saturated soil column that may be released by rainfall events... Nonetheless, significant lateral movement of the groundwater plumes over time is not anticipated. Again, this lateral migration will be confirmed with groundwater modeling proposed as part of the VIRP.

Downgradient metals extents at property boundaries are currently defined by on-site monitoring wells and Point of Determination (POD) monitoring wells off-site (MW-23S, MW-47S, MW-25S and MW-46S) (**Figure 9**). As part of the VIRP, an analysis of groundwater concentrations will be conducted to determine stability or potential for migration to off-site Point of Exposure properties. Groundwater flow and transport modeling will be conducted to confirm stability or to define the potential extent of off-site migration. The model will take into account the closest existing water supply well (Moultrie Wells #1 and #2). These wells are sidegradient to groundwater flow from the Site. The model will also consider a hypothetical point of drinking water exposure located at a distance of 1,000 ft downgradient from the Site's delineated groundwater impacts. If significant off-site migration of the groundwater plume for lead is confirmed to be possible, additional assessment and potential remedial technologies will be evaluated for the property boundary hot spot(s).

### 3.4.6 □ Groundwater Exposure Pathway Assessment

Groundwater impacts at the Site are attributable to soil leaching contaminants to the groundwater in the Acid Plant source area, leaching from sludges in unlined effluent ponds, and possibly upgradient off-site unknown sources. Since the operations contributing to the impacts for the Acid Plant area are contained within the property boundary and the groundwater flow direction is to the southeast, no groundwater impacts caused by the operations at the Site would be expected north of the Acid Plant property boundary. The Acid Plant source was removed in 2005; effluent ponds were removed from service in 1985; and also in 1985, the fertilizer manufacturing process went to a non-discharge, closed, recirculating effluent process.

Sixty (66) monitoring wells have been installed to date to delineate the groundwater impacts for the Site (**Table 4**). The locations of these monitoring wells are shown on **Figure 9**. The groundwater delineation criteria for the metal COCs are listed in the following table:

Groundwater COC	Delineation Standard (mg/L)
Antimony	0.006
Arsenic	0.01
Barium	2
Beryllium	0.004

Groundwater COC	Delineation Standard (mg/L)
Cadmium	0.005
Chromium	0.1
Copper	1.3
Lead	0.015
Mercury	0.002
Nickel	0.1
Selenium	0.05
Silver	0.1
Thallium	0.002
Vanadium	None
Zinc	2

In October and November 2006, 52 monitoring wells were sampled to determine baseline groundwater concentrations following the excavation of soils on the Acid Plant property between January and March 2006.

In August 2009, semi-annual groundwater monitoring was initiated. Four additional semi-annual sampling events have been completed, in February 2010, August 2010, February 2011, and August 2011. A total of 65 monitoring wells were sampled during the most recent event.

**Table 5** summarizes the historical groundwater field parameter data. **Table 6** summarizes the historical groundwater data collected as part of the Site monitoring.

Generally, the groundwater plumes associated with the Site have been delineated and are confined to the Site. The vertical delineation has been completed and no further delineation is needed. As part of the VIRP, two areas will be further assessed to finalize the off-site horizontal delineation. These areas (**Figure 9**) include the following:

- Northwest of MW-29S
- West of MW-41S

### 3.4.7 □ Potential Surface Water and Ecological Receptors

In an assessment conducted by Golder Associates (2002) and documented in the Compliance Status Report ,4<sup>th</sup> Addendum (Golder, 2003), the potential for impacts to sediment in the unnamed intermittent flow drainage way on-site, off-site upstream, and off-site downstream was assessed. Additionally, Okapilco Creek (**Figure 14**), the downstream receptor for waters flowing from the unnamed drainage way (**Figure 9** and **Figure 14**) was assessed. The evaluation consisted of sediment and biodiversity assay of benthic organisms at nine locations along the drainage way and the stream. Excerpts of the results of this assessment are presented in **Appendix E**. The conclusions of the assessment (Golder, 2003) were as follows:

- No significant impacts to sediment were found. Sediments on the Site were marginally impacted.
- Surface water runoff from the Site appears to have no significant impact on benthic species diversification in the Okapilco Creek. Species diversity values appear to be reduced upstream of the Site, increase slightly within the unnamed intermittent flow drainage way on-site, and achieved the highest diversity values downstream in the unnamed tributary to Okapilco Creek and within Okapilco Creek.
- No further action is required related to surface water or sediment evaluation.

The only potential exposure pathway would be migration of groundwater plumes from the Site, downgradient and discharging to the surface water creek. The Okapilco Creek is more than 3,000 ft southeast of the Site. Migration of groundwater from the Site for a distance of 3,000 ft is not expected but will be evaluated and confirmed with the planned VIRP groundwater modeling task. The unnamed drainage way bottom is above the water table and groundwater does not discharge to the drainage way.

### 3.4.8 □ Land Use and Potential Off-Site Points of Exposure for Human Receptors

The land use surrounding the Site is generally industrial/commercial upgradient of the Site and residential/commercial downgradient of Site (**Figure 14**). Nearby off-site residential properties currently have Point of Determination (POD) monitoring wells (**Figure 9**) installed to monitor groundwater migration to potential Point of Exposure properties. This migration will be further evaluated through groundwater concentration trend analysis and groundwater modeling tasks as discussed in the VIRP contained within this report.

Potential human receptors downgradient are not expected to use the shallow groundwater as a source of drinking or irrigation. The City of Moultrie supplies water to these residents and businesses. As discussed in **Section 2** the off-site subsurface sediments are not suitable for supplying a dependable water supply to domestic households. Commercial establishments are connected to the municipal water distribution system for any water needs the businesses may have. Additionally, this area is within the city limits of Moultrie and an established water distribution system has existed for this area since the late 1930s. Therefore, shallow well installation is extremely unlikely.

The City of Moultrie has two municipal supply wells located about 900 ft sidegradient of the Site. These wells are installed into the Floridan Aquifer System. The wells are City Wells #1 and #2. The wells are constructed to 750 ft bls or more, and they are cased to more than 450 ft bls. The well specifications are presented in the following table:

Well ID Number	Date Completed	Depth of Well (ft bls)	Casing Depth (ft bls)	Finish
#1	1936	750	470	Open-hole
#2	1943	825	469	Open-hole

Source: E.A. Zimmerman, 1977, Groundwater Resources of Colquitt County, Georgia; Open-File Report 77-56; U.S. Geological Survey.

As discussed in the hydrogeologic framework section, the Floridan aquifer is covered by a massive 300 ft thick clay confining unit that does not allow water to exchange from the overlying confining unit into the Floridan aquifer. Through groundwater modeling proposed in this VIRP, it will be confirmed whether any plume migration is possible sidegradient to the location of the municipal wells. The only potential exposure pathway to this receptor is by vertical movement along the cement/aquifer matrix interface. This scenario is not expected. If migration to this location is not possible (as confirmed by groundwater monitoring and completion of a groundwater model) then there is no potential to impact the drinking water supply source.

### 3.5 □ CONCEPTUAL SITE MODEL SUMMARY

In summary, Site data and understanding allow for a fairly complete CSM (**Figure 14**). Sources causing impacts to the Site have been removed and operations attributing to impact ceased approximately 30 years ago. The hydrogeologic setting beneath the Site assists in mitigating impacts caused to shallow groundwater. The groundwater found beneath the Site is contained in shallow water-bearing zones within the Upper Confining Unit. The subsurface sediments do not allow for significant transmission of water and therefore migration impacts. Groundwater impacts related to the Site historical operations are contained on-site even after more than 60 years.

Air and vapor intrusion is an incomplete pathway for human receptor exposure. The soil exposure pathway for both direct contact and leaching potential has been remediated and no further action is required. The surface water and ecological receptors have been evaluated for both the unnamed intermittent flow drainage way and the downstream surface water receptor, Okapilco Creek. Findings indicate no further assessment is required and surface water and ecological receptors remain an incomplete pathway.

Groundwater on the Site has been delineated both vertically and laterally. Two areas upgradient and off-site remain to be assessed laterally and are part of the VIRP. Groundwater trends to demonstrate stability and demonstration of the lateral migration potential are data gaps for the Site that will be completed with trend analysis of data and a groundwater model as part of the VIRP.

The Site does not pose a threat to the Moultrie municipal supply source, the Floridan aquifer. Since only shallow groundwater impacts remain for the Site, a construction/utility worker exposure scenario for work extending below the water table will be detailed if needed as part of a future Operations and Maintenance Plan for the Site in conjunction with the planned Environmental Covenant for the Site property parcels.

URS has developed a Voluntary Investigation and Remediation Plan (VIRP) in accordance with the Voluntary Remediation Program (VRP) enrollment. Tasks include:

- Installation of groundwater monitoring wells to finalize off-site horizontal delineation upgradient related to unknown non-site related sources
- Semi-annual groundwater sampling
- Monitoring well status documentation
- Evaluation of historical groundwater concentrations
- Groundwater modeling
- Preparation of a preliminary remediation plan
- Preparation of a draft Environmental Covenant and an operations and maintenance plan

#### 4.1 □ FIELD INVESTIGATION AND SAMPLING PROCEDURES

Field activities proposed for the VIRP will continue to follow the approved March 2010 Groundwater Monitoring Plan. Specific procedures for the various activities are summarized below.

##### 4.1.1 □ Well Abandonment and Well Installation Procedures

Any monitoring wells to be installed or abandoned will be according to the United States Environmental Protection Agency (USEPA) Region 4 Guidance SESDGUID-101-R0, effective February 18, 2008. Additionally, the well abandonment and installation activities will be supervised by a Georgia licensed Professional Geologist in accordance with the Water Well Standards Act.

##### 4.1.2 □ Groundwater Elevation Measurements

The depth to groundwater will be measured in all monitoring wells associated with the Site. Prior to purging and sampling activities, monitoring wells will be opened and groundwater levels allowed to equilibrate to atmospheric conditions. Following the collection of groundwater level data and prior to purging monitoring wells, the depth of each monitoring well will be measured and recorded in a field book. The water level data will be used to calculate approximate water table elevations and to evaluate the general direction of groundwater flow in the water-bearing zones of the upper confining unit.

##### 4.1.3 □ Purging Methods

Prior to purging the well, the depth to water will be measured. These data will be used with the total depth of the well, well casing diameter, and well casing diameter volume factor to determine the volume of water to be removed from the well prior to sampling.

Each well will be purged a minimum of 3 well volumes and when stabilization criteria (as follows) for three consecutive measurements have been reached, the wells will be sampled:

- pH (constant within 0.1 Standard Units [SU])
- Specific conductance (constant within 5 percent)

- Turbidity (below 10 nephelometric turbidity units [NTUs])
- Dissolved oxygen (do) (within 0.2 milligrams per liter [mg/l] or 10% saturation, whichever is greater)

During purging the following data (with corresponding units) will be recorded in a bound logbook: time, temperature, specific conductance, DO, pH, ORP, turbidity, color, odor, and depth to water. In addition, purge start time, tubing placement and purge rate will be recorded.

At several monitoring wells, where the purge rates did not exceed the recharge rates of the water-bearing zone, a low flow/low stress purging method will be used to minimize purge water volume and obtain samples with lower turbidity measurements. If the purge rate exceeds the recharge rate of the water-bearing zone, then the well will be purged dry, one set of stabilization parameters will be collected as soon as an adequate volume of water is available, and a sample will be collected.

The water level will be measured before purging and during purging to record the drawdown in the well. This measurement will be made at regular intervals and recorded in the logbook along with the time of measurements and purge rates.

#### 4.1.4 □ Field Parameters

During purging, samples will be analyzed in the field for oxidation reduction potential (ORP), dissolved oxygen (DO), pH, specific conductance, turbidity, and temperature. The field values measured will be recorded in a bound logbook. Other observations will include color and odor. Additionally, the depth of water will be measured at regular intervals to document drawdown in the well. Copies of field equipment calibration logs will be provided in all deliverables that involve groundwater sampling.

#### 4.1.5 □ Groundwater Sampling

Groundwater sample collection will be performed in accordance with the USEPA Region 4 Standard Operating Procedures (SOPs) SESD-PROC-301-R1, effective November 1, 2007. Prior to collecting groundwater samples, water levels will be measured to determine the volume of water to be removed from the monitoring well during purging. The monitoring wells will be purged using a peristaltic pump in accordance with USEPA Region 4 SOPs. Pump will be carefully lowered to a mid-point of the screen in a manner to create the less amount of disturbance to the groundwater. Duplicate field-filtered groundwater samples will be collected at monitoring well locations where field-measured groundwater turbidity values exceeded 10 NTUs. Copies of the groundwater sampling logs will be provided in all deliverables that involve groundwater sampling.

#### 4.1.6 □ COCs and Analytical Methods

All groundwater samples will be sent under chain-of-custody to TestAmerica Laboratories, Inc. (NELAC Certification #81005) located in Tallahassee, Florida. All groundwater samples, except as noted, will be analyzed for the following COCs:

- Arsenic
- Barium
- Beryllium
- Cadmium
- Copper
- Lead
- Nickel
- Selenium
- Thallium
- Zinc
- Mercury (for MW-29S and MW-35S only)

USEPA Method 6020 will be used for analysis of all metals COCs, except mercury, for which USEPA Method 7470A will be used. Copies of analytical laboratory reports, including chain-of-custody documentation will be included in all deliverables that involve groundwater sampling.

#### 4.1.7 Investigative Derived Waste Management

All investigative derived waste (IDW) will be containerized in labeled 55-gallon drums and temporarily staged at a secure on-site location for subsequent transport to a permitted disposal facility.

#### 4.1.8 Quality Assurance/Quality Control Procedures

Quality Assurance/Quality Control (QAQC) samples will be collected from the sampling network. One duplicate sample and one matrix spike sample per every 10 samples and one equipment blank per every 20 samples will be collected.

### 4.2 PROPOSED ADDITIONAL GROUNDWATER DELINEATION AND MONITORING WELL INSTALLATION LOCATIONS

Generally, the groundwater plumes have been delineated and have been determined to remain on-site. However, the GEPD review letter dated September 23, 2011, recommended additional horizontal delineation in the following areas:

- Northwest of MW-29S to delineate barium, beryllium, lead, and mercury
- West of MW-41S to delineate beryllium, copper and lead

The proposed monitoring well installation locations are shown on **Figure 9** and **Figure 15**. Installation at the proposed locations will be dependent on acquiring access to properties not owned by either PCS or Griffin.

The September 23, 2011, GEPD comment letter also recommended further delineation north of MW-9S-R for arsenic and beryllium. Groundwater flow is to the south/southeast.

Concentrations found in groundwater for this former Acid Plant area are the result of impacted soil occurring within the property boundaries of the former Acid Plant leaching to the groundwater. For these reasons, groundwater impacts are not expected to occur north of the north property boundary in the area of MW-9S-R.

As discussed with David Reuland and Terry Alison during the November 3, 2011, meeting at GEPD in Atlanta, PCS has agreed to off-site delineation. However, the work will only encompass identifying a clean location upgradient of the Site plume or whether the plume extends upgradient at higher concentrations. This work is not to delineate or identify an off-site source that is not related to the FFF Site.

All monitoring wells will be installed by a qualified well construction contractor and all applicable permits will be acquired prior to construction of the wells. Wells will be installed in accordance with local and state rules and regulations. The installation of the monitoring wells will be overseen by a Georgia licensed Professional Geologist.

The proposed well construction specifications for both upgradient areas (north/northwest of MW-29S and west of MW-41S) (**Figure 9**) are as follows:

- Total Depth = 30 ft bls
- Screen Interval = 20 to 30 ft bls
- Diameter = 2-inch PVC casing and slotted screen
- Aboveground protected casing construction

Results of this activity will be documented in the Site Semi-annual Status Report.

#### 4.3 □ PROPOSED MONITORING WELL NETWORK INVENTORY

It is proposed that the Site monitoring well network be evaluated to determine that all wells are accounted for and to document the condition of each well. Well protection, wellhead seals, and labeling will be noted. Any deficiencies will be corrected during scheduled sampling event periods. If the integrity of the well has been found to be compromised, recommendations will be made to abandon or repair, if appropriate. Depending on the well, a recommendation may also include replacement of the well with a new well of similar construction. Results of the monitoring evaluation will be included in the Semi-annual Status Reports for the Site.

#### 4.4 □ PROPOSED SEMI-ANNUAL GROUNDWATER SAMPLING

It is proposed that the semi-annual groundwater sampling continue for the Site as conducted under the HSRA program and as conducted in August 2011, with the modifications per the GEPD September 23, 2011 correspondence. The sampling events are proposed for March and August time frames. The results will be submitted as part of the Semi-annual Status Reports.

It is proposed that each of the monitoring well be evaluated (Section 4.5). As part of the evaluation, each well will be review for value to the overall monitoring network for the site. Those wells which are no longer adding to the understanding of concentration trends or the plume delineation will be recommended for abandonment.

**Table 4** lists the monitoring wells that are initially proposed for sampling prior to any monitoring well evaluation. The number of wells utilized for future sampling events will be determined based on the monitoring well evaluation. **Figure 9** shows the locations of the monitoring wells for the Site as well as the locations of wells that may have been sampled in the past but have been abandoned.

**4.5 □ PROPOSED GROUNDWATER CONCENTRATION DATA EVALUATION**

All historical and current groundwater sampling results will be compiled and evaluated. This task will involve generating concentration versus time plots and concentration versus distance plots for known source areas. Each metal COC will be evaluated separately. The results of this evaluation will be used to refine the Conceptual Site Model and as input for the proposed groundwater modeling task.

The groundwater data evaluation will be updated and included in a Semi-annual Status Report. The Status Report will also include any proposed modifications to the sampling plan based on the data evaluation.

As part of the evaluation, it is proposed that the monitoring well network be reviewed. Each monitoring well will be assessed. Those wells that are not providing value to the understanding of the concentration trends or plume delineation or are duplicating information or have well integrity problems (Section 4.3) will be recommended for abandonment.

**4.6 □ PROPOSED GROUNDWATER FLOW AND TRANSPORT MODELING**

It is proposed that a groundwater model be completed for the Site to further understand the potential for groundwater movement within the shallow water-bearing zones of the upper confining unit. The model will be based on the Conceptual Site Model and will utilize existing hydrogeologic framework information, hydraulic characteristics data and groundwater quality results. The model will use a calibration based on the estimated time(s) of release and the observed (worst case) source concentrations, and will be validated based on groundwater concentrations for samples collected from more than 50 monitoring wells for as many as 6 groundwater sampling events occurring between 2006 and 2011.

It is proposed that the groundwater model Visual MODFLOW (Waterloo Hydrologic Inc., Version 2009.1) be used to complete the modeling task. This model incorporates the USGS code of MODFLOW (Harbaugh and others, 2000) for groundwater flow simulations.

Additionally, MODPATH will be used. It is a solute transport model that is limited to advection only (no dispersion). MODPATH uses the groundwater velocities calculated by MODFLOW to determine groundwater flow vectors and/or particle tracks.

Also MT3DMS (version 5.2, Zheng and Wang, 1999) will be used to simulate advection, dispersion, and chemical reactions of contaminants in the groundwater system. MT3DMS is a solute transport code that incorporates both groundwater advection and dispersion (plume spreading).

All three model codes are available in the public domain. MODFLOW and MODPATH were developed by the U.S. Geological Survey and MT3DMS was developed for the U.S. Army Corps of Engineers.

The modeling process will incorporate the following steps:

- Model Design – The lateral extent of the area to be modeled; the area will be large enough to avoid any artificial boundary influences.
- Model Grid and Laying – A non-uniform grid will be used with cell dimensions adjusted so that no more than a single monitoring well is contained in a cell (calibration point). Layers

will include land surface to approximately 50 ft (zone of impacts) and 50 ft to 300 ft (the remaining thickness of the upper confining unit). Other layers will be considered if appropriate.

- Model Boundary Conditions – Streams will be represented by river cells; the model bottom will be considered a no-flow boundary coinciding with the point where there is no exchange of water between the upper confining unit and the Floridan aquifer. Boundaries will be designed to represent existing conditions.
- Model parameters will include recharge, stream flow, and hydraulic conductivity. All Model Parameter Values (input and output) will be compiled in an Excel table format and will be presented with the model results. If representative instead of Site-specific values are used, supporting information will be provided and, if appropriate, the regulatory citation.
- Calibration Process – Model calibration will consist of adjusting a model parameter until a reasonable match for known data is obtained. Care will be taken not to exceed a reasonable value for any given parameter, thus ensuring a realistic model. The purpose of the calibration is to approximate known conditions within a reasonable degree of uncertainty. A model is generally considered calibrated for flow when the normalized root mean squared error is less than 10% between modeled and actual groundwater elevations. Calibration of transport is more complex than flow and the goal is to mimic the behavior and spatial distribution of groundwater concentrations. Source(s) concentration and location will be adjusted until the model reasonably mimics field data.
- Sensitivity Analysis – This analysis will involve varying input parameters and observing the model response to the changes. The purpose is to determine which parameters have the greatest effect on the model and, thereby the possibility of creating a margin of error in the model results.
- Particle Tracking – Backward tracking of particles will be used to determine the potential contaminant source regions based on advective groundwater flow.
- Transport – Modeling scenarios will be conducted to determine the current and projected selected metal distribution in groundwater. The model will be run a sufficient amount of time to determine migration extent and to predict changes in selected metals concentrations over time. Therefore, the model will continue in time until the maximum extent of the plume is reached.

Model assumptions will be documented in the discussion presenting the model results. The model results will be presented in a Semi-Annual Status Report in advance of the Compliance Status Report. As appropriate, site-specific RRS may be developed as part of this task.

#### **4.7 □ PRELIMINARY REMEDIATION PLAN**

Previously, Golder Associates had recommended a pilot test for evaluating a potential pump and treat option for impacted groundwater in selected areas. Prior to initiating any groundwater treatment option, URS believes that results from the proposed groundwater flow and transport modeling should be considered. Due to the extremely poor water transmitting characteristics of the shallow water-bearing zones, URS is questioning whether a pumping option is the most effective and cost-effective means for achieving results in these selected areas. For this reason, if groundwater conditions are found to exceed applicable RRS, it is proposed that other potential

options be evaluated and an option recommended that is more compatible with the hydraulic properties for the impacted interval beneath the Site. Including the results of the groundwater model task proposed for the VIRP is an integral part of this evaluation.

The scope associated with the preliminary remediation plan will be presented in a Semi-Annual Status Report.

#### **4.8 □ DRAFT ENVIRONMENTAL COVENANT**

If it can be demonstrated through groundwater monitoring and modeling that the groundwater plume poses no threat to off-site receptors, development of an Environmental Covenant is planned as part of the VIRP for property parcels owned by PCS and Site parcels where PCS has an access agreement in place with Griffin Terminal. If environmental covenants are used, applicable RRS will reflect these imposed limitations.

The Operations and Maintenance Plan that will detail information associated with the Environmental Covenant is proposed to be completed as part of the VIRP.

#### **4.9 □ SCHEDULE FOR COMPLETION**

**Figure 17** is a Gantt Chart showing the target dates for completion of the above tasks and the projected milestones. The schedule will be updated in each Semi-annual Status Report. The primary milestones are as follows:

- Within 12 months after enrollment, the horizontal delineation will be completed on-site.
- Within 24 months after enrollment, the horizontal delineation will be completed off-site.
- Within 30 months after enrollment, vertical delineation will be completed, the remediation plan will be finalized, and a preliminary cost estimate for implementation of remediation and associated actions will be submitted.
- Within 60 months after enrollment, a Compliance Status Report including requisite certifications will be submitted.

#### **4.10 □ STATUS REPORTING**

The progress and results for tasks completed during the reporting period will be submitted in Semi-Annual Status Reports. The report will present the results of the VIRP implementation and will include an update of the Conceptual Site Model. It is proposed that the Semi-annual Status Reports be submitted by June 30 and November 30 of each year. The Compliance Status Report will be submitted within the 60-month time frame requirement.

5.1  COMPLETED VRP APPLICATION

**Voluntary Investigation and Remediation Plan Application Form and Checklist**

VRP APPLICANT INFORMATION			
COMPANY NAME	PCS Joint Venture Ltd.		
CONTACT PERSON/TITLE	Michael Brom / Director Environment		
ADDRESS	1101 Skokie Blvd., Suite 400, Northbrook, IL 60062		
PHONE	847.849.4279	FAX	847 849 4279 E-MAIL Michael.brom@potashcorp.com
GEORGIA CERTIFIED PROFESSIONAL GEOLOGIST OR PROFESSIONAL ENGINEER OVERSEEING CLEANUP			
NAME	Candace Beauvais	GA PE/PG NUMBER	002067
COMPANY	URS Corporation		
ADDRESS	1625 Summit Lake Drive, Suite 200, Tallahassee, FL 32317		
PHONE	850.574.3197	FAX	850.402.6490 E-MAIL Candace.beauvais@urs.com
APPLICANT'S CERTIFICATION			
<p>In order to be considered a qualifying property for the VRP:</p> <p>(1) The property must have a release of regulated substances into the environment;</p> <p>(2) The property shall not be:</p> <p>(A) Listed on the federal National Priorities List pursuant to the federal Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. Section 9601.</p> <p>(B) Currently undergoing response activities required by an order of the regional administrator of the federal Environmental Protection Agency; or</p> <p>(C) A facility required to have a permit under Code Section 12-8-86.</p> <p>(3) Qualifying the property under this part would not violate the terms and conditions under which the division operates and administers remedial programs by delegation or similar authorization from the United States Environmental Protection Agency.</p> <p>(4) Any lien filed under subsection (e) of Code Section 12-8-96 or subsection (b) of Code Section 12-13-12 against the property shall be satisfied or settled and released by the director pursuant to Code Section 12-8-94 or Code Section 12-13-6.</p> <p>In order to be considered a participant under the VRP:</p> <p>(1) The participant must be the property owner of the voluntary remediation property or have express permission to enter another's property to perform corrective action.</p> <p>(2) The participant must not be in violation of any order, judgment, statute, rule, or regulation subject to the enforcement authority of the director.</p> <p>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</p> <p>I also certify that this property is eligible for the Voluntary Remediation Program (VRP) as defined in Code Section 12-8-105 and I am eligible as a participant as defined in Code Section 12-8-106.</p>			
APPLICANT'S SIGNATURE	<i>Michael Brom</i>		
APPLICANT'S NAME/TITLE (PRINT)	Michael Brom / Director, Environment	DATE	12/9/11

QUALIFYING PROPERTY INFORMATION (For additional qualifying properties, please refer to the last page of application form)			
HAZARDOUS SITE INVENTORY INFORMATION (if applicable)			
HSI Number	10254	Date HSI Site listed	June 29, 1994
HSI Facility Name	Farmers Favorite Fertilizer	NAICS CODE	Not Applicable
PROPERTY INFORMATION			
TAX PARCEL ID	M033-033	PROPERTY SIZE (ACRES)	2.48
PROPERTY ADDRESS	315 4 <sup>th</sup> Avenue		
CITY	Moultrie	COUNTY	Colquitt
STATE	GA	ZIPCODE	31776
LATITUDE (decimal format)	31° 11' 04" N	LONGITUDE (decimal format)	83° 47' 01" W
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)	PCS Joint Venture, Ltd.	PHONE #	847.849.4279
MAILING ADDRESS	1101 Skokie Blvd., Suite 400		
CITY	Northbrook	STATE/ZIPCODE	IL, 60062
ITEM #	DESCRIPTION OF REQUIREMENT	Location in VRP (i.e. pg., Table #, Figure #, etc.)	For EPD Comment Only (Leave Blank)
1.	<b>\$5,000 APPLICATION FEE</b> IN THE FORM OF A CHECK PAYABLE TO THE GEORGIA DEPARTMENT OF NATURAL RESOURCES. (PLEASE LIST CHECK DATE AND CHECK NUMBER IN COLUMN TITLED "LOCATION IN VRP." PLEASE DO NOT INCLUDE A SCANNED COPY OF CHECK IN ELECTRONIC COPY OF APPLICATION.)	Inside Binder Cover 11/30/11 # 10322202	
2.	<b>WARRANTY DEED(S)</b> FOR QUALIFYING PROPERTY.	Appendix A	
3.	<b>TAX PLAT</b> OR OTHER FIGURE INCLUDING QUALIFYING PROPERTY BOUNDARIES, ABUTTING PROPERTIES, AND TAX PARCEL IDENTIFICATION NUMBER(S).	Figure 1	
4.	<b>ONE (1) PAPER COPY AND TWO (2) COMPACT DISC (CD) COPIES</b> OF THE VOLUNTARY REMEDIATION PLAN IN A SEARCHABLE PORTABLE DOCUMENT FORMAT (PDF).	Inside Binder Cover	
5.	The VRP participant's initial plan and application must include, using all reasonably available current information to the extent known at the time of application, a graphic three-dimensional preliminary conceptual site model (CSM) including a preliminary remediation plan with a table of delineation standards, brief supporting text, charts, and figures (no more than 10 pages, total) that illustrates the site's surface and subsurface setting, the known or suspected source(s) of contamination, how contamination might move within the environment, the potential human health and ecological receptors, and the complete or incomplete exposure pathways that may exist at the site; the preliminary CSM must be updated as the investigation and remediation progresses and an up-to-date CSM must be included in each semi-annual status report submitted to the director by the participant; a <b>PROJECTED MILESTONE SCHEDULE</b> for investigation and remediation of the site, and after enrollment as a participant, must update the schedule in each semi-annual status report to the director describing implementation of the plan	VRP – Sections One through Seven  Project Milestone Schedule Figure 17	

	<p>during the preceding period. A Gantt chart format is preferred for the milestone schedule.</p> <p>The following four (4) generic milestones are required in all initial plans with the results reported in the participant's next applicable semi-annual reports to the director. The director may extend the time for or waive these or other milestones in the participant's plan where the director determines, based on a showing by the participant, that a longer time period is reasonably necessary:</p>		
5.a.	<p>Within the first 12 months after enrollment, the participant must complete horizontal delineation of the release and associated constituents of concern on property where access is available at the time of enrollment;</p>	Included as Milestone Figure 17	
5.b.	<p>Within the first 24 months after enrollment, the participant must complete horizontal delineation of the release and associated constituents of concern extending onto property for which access was not available at the time of enrollment;</p>	Included as Milestone Figure 17	
5.c.	<p>Within 30 months after enrollment, the participant must update the site CSM to include vertical delineation, finalize the remediation plan and provide a preliminary cost estimate for implementation of remediation and associated continuing actions; and</p>	Included as Milestone Figure 17	
5.d.	<p>Within 60 months after enrollment, the participant must submit the compliance status report required under the VRP, including the requisite certifications.</p>	Included as Milestone Figure 17	
6.	<p><b>SIGNED AND SEALED PE/PG CERTIFICATION AND SUPPORTING DOCUMENTATION:</b></p> <p>"I certify under penalty of law that this report and all attachments were prepared by me or under my direct supervision in accordance with the Voluntary Remediation Program Act (O.C.G.A. Section 12-8-101, <u>et seq.</u>). I am a professional engineer/professional geologist who is registered with the Georgia State Board of Registration for Professional Engineers and Land Surveyors/Georgia State Board of Registration for Professional Geologists and I have the necessary experience and am in charge of the investigation and remediation of this release of regulated substances.</p> <p>Furthermore, to document my direct oversight of the Voluntary Remediation Plan development, implementation of corrective action, and long term monitoring, I have attached a monthly summary of hours invoiced and description of services provided by me to the Voluntary Remediation Program participant since the previous submittal to the Georgia Environmental Protection Division.</p> <p>The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."</p> <p>Candace Beauvais #2067                  Printed Name and GA PE/PG Number                  December 9, 2011                  Date                    Signature and Stamp  </p>		

**ADDITIONAL QUALIFYING PROPERTIES (COPY THIS PAGE AS NEEDED)**

PROPERTY INFORMATION			
TAX PARCEL ID	M034-001	PROPERTY SIZE (ACRES)	9.9
PROPERTY ADDRESS	4 <sup>th</sup> Avenue NE		
CITY	Moultrie	COUNTY	Colquitt
STATE	GA	ZIPCODE	31766
LATITUDE (decimal format)	31° 10' 59" N	LONGITUDE (decimal format)	83° 47' 01" W
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)	R.W. Griffin Terminal Ltd.	PHONE #	229.985.1624
MAILING ADDRESS	305 4 <sup>th</sup> Avenue N.E.		
CITY	Moultrie	STATE/ZIPCODE	GA, 31766

PROPERTY INFORMATION			
TAX PARCEL ID	M023-199	PROPERTY SIZE (ACRES)	2.68
PROPERTY ADDRESS	305 4 <sup>th</sup> Avenue NE		
CITY	Moultrie	COUNTY	Colquitt
STATE	GA	ZIPCODE	31766
LATITUDE (decimal format)	31° 11' 04" N	LONGITUDE (decimal format)	83° 47' 05" W
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)	R.W. Griffin Terminal Ltd.	PHONE #	229.985.1624
MAILING ADDRESS	305 4 <sup>th</sup> Avenue N.E.		
CITY	Moultrie	STATE/ZIPCODE	GA, 31766

PROPERTY INFORMATION			
TAX PARCEL ID	M033-032	PROPERTY SIZE (ACRES)	1.22
PROPERTY ADDRESS	6 <sup>th</sup> Street NE		
CITY	Moultrie	COUNTY	Colquitt
STATE	GA	ZIPCODE	31766
LATITUDE (decimal format)	31° 11' 04" N	LONGITUDE (decimal format)	83° 46' 58" W
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)	PCS Joint Venture, Ltd.	PHONE #	847.849.4279
MAILING ADDRESS	1101 Skokie Blvd., Suite 400		
CITY	Northbrook	STATE/ZIPCODE	IL, 60062

**ADDITIONAL QUALIFYING PROPERTIES (COPY THIS PAGE AS NEEDED)**

PROPERTY INFORMATION			
TAX PARCEL ID	M033-034	PROPERTY SIZE (ACRES)	0.37
PROPERTY ADDRESS	No Address (See Figure 1: parcel abuts M033-033)		
CITY	Moultrie	COUNTY	Colquitt
STATE	GA	ZIPCODE	31766
LATITUDE (decimal format)	31° 11' 06" N	LONGITUDE (decimal format)	83° 47' 02" W
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)	PCS Joint Venture, Ltd.	PHONE #	847.849.4279
MAILING ADDRESS	1101 Skokie Blvd., Suite 400		
CITY	Northbrook	STATE/ZIPCODE	IL, 60062

PROPERTY INFORMATION			
TAX PARCEL ID	M024-215	PROPERTY SIZE (ACRES)	1.86
PROPERTY ADDRESS	4 <sup>th</sup> Avenue NE		
CITY	Moultrie	COUNTY	Colquitt
STATE	GA	ZIPCODE	31766
LATITUDE (decimal format)	31° 11' 00" N	LONGITUDE (decimal format)	83° 47' 05" W
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)	R.W. Griffin Terminal Ltd.	PHONE #	229.985.1624
MAILING ADDRESS	305 4 <sup>th</sup> Avenue N.E.		
CITY	Moultrie	STATE/ZIPCODE	GA, 31766

PROPERTY INFORMATION			
TAX PARCEL ID	M024-214	PROPERTY SIZE (ACRES)	1.37
PROPERTY ADDRESS	224 3d Street NE		
CITY	Moultrie	COUNTY	Colquitt
STATE	GA	ZIPCODE	31766
LATITUDE (decimal format)	31° 10' 58" N	LONGITUDE (decimal format)	83° 47' 05" W
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)	R.W. Griffin Terminal Ltd.	PHONE #	229.985.1624
MAILING ADDRESS	305 4 <sup>th</sup> Avenue N.E.		
CITY	Moultrie	STATE/ZIPCODE	GA, 31766

## 5.2 □ PROFESSIONAL GEOLOGIST TIME LOG

<b>Professional Geologist</b>	<b>Candace Beauvais No. 002067</b>	
<b>Charges to Client Re: VRP</b>		
<b>Date</b>	<b>Hours</b>	<b>Description</b>
November 8, 2011	2.0	Oversee initial outline and data gathering
November 9, 2011	1.0	Supervise figure production
November 10, 2011	1.5	Supervise figure production
November 15, 2011	1.0	Oversee preliminary draft preparation
November 16, 2011	2.0	Review conceptual model approach
November 17, 2011	3.0	Preparation of groundwater modeling task
November 21, 2011	4.5	Technical peer review Draft VIRP
November 22, 2011	3.5	Technical peer review Draft VIRP
November 28, 2011	1.0	Oversee draft revision
November 29, 2011	1.0	Oversee final draft preparation
November 30, 2011	1.5	Peer review potentiometric surface, hydraulic gradient and velocity calculations.
December 1, 2011	1.0	Oversee revisions to exposure pathway discussions
December 7, 2011	1.5	Final peer review
<b>Total</b>	<b>24.5</b>	

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# **TABLES**















LE  
 Former Farmers Favorite Fertilizer Facility  
 Moultrie, Georgia

Aquifer Zone	05/11/00	MW-1S; MW-11S; MW-4S	South 54 degrees east; Azimuth 126	23.7 feet/day	0.012 feet/foot	0.908 feet/day - 332 feet/year
Upper (NE)	05/11/00	MW-1S; MW-11S; MW-4S	South 54 degrees east; Azimuth 126	23.7 feet/day	0.012 feet/foot	0.908 feet/day - 332 feet/year
Upper (NW & South)	05/11/00	MW-7S; MW-13S; MW-5S	South 29 degrees east; Azimuth 151	0.67 feet/day	0.011 feet/foot	0.03 feet/day - 11 feet/year
Intermediate	05/11/00	MW-2I; MW-6I; MW-12I	South 55 degrees west; Azimuth 235	1.24 feet/day	0.011 feet/foot	0.048 feet/day - 17 feet/year
Upper (NE)	09/20/00	MW-1S; MW-11S; MW-4S	South 29 degrees east; Azimuth 151	23.7 feet/day	0.014 feet/foot	1.22 feet/day - 445 feet/year
Upper (NW & South)	09/20/00	MW-7S; MW-13S; MW-5S	South 11 degrees east; Azimuth 169	0.67 feet/day	0.017 feet/foot	0.046 feet/day - 17 feet/year
Intermediate	09/20/00	MW-2I; MW-6I; MW-12I	South 20 degrees east; Azimuth 160	1.24 feet/day	0.002 feet/foot	0.008 feet/day - 3 feet/year
Upper (NW & South)	12/21/02	MW-21S; MW-23S; MW-4S	South 70 degrees east; Azimuth 110	0.67 feet/day	0.023 feet/foot	0.061 feet/day - 22 feet/year
Upper (NE)	12/21/02	MW-8S; MW-20S; MW-27S	South 27 degrees east; Azimuth 153	23.7 feet/day	0.014 feet/foot	1.09 feet/day - 400 feet/year
Intermediate	12/21/02	MW-1I; MW-TP1I; MW-12I	South 45 degrees east; Azimuth 135	1.24 feet/day	0.017 feet/foot	0.072 feet/day - 26 feet/year
Upper (NW & South)	06/19/03	MW-21S; MW-23S; MW-4S	South 56 degrees east; Azimuth 124	0.67 feet/day	0.016 feet/foot	0.043 feet/day - 16 feet/year
Upper (NE)	06/19/03	MW-8S; MW-20S; MW-27S	South 38 degrees east; Azimuth 142	23.7 feet/day	0.013 feet/foot	1.03 feet/day - 375 feet/year
Intermediate	06/19/03	MW-1I; MW-TP1I; MW-12I	South 50 degrees east; Azimuth 130	1.24 feet/day	0.019 feet/foot	0.079 feet/day - 29 feet/year
Upper (NW & South)	08/24/09	MW-2S; MW-30S; MW-31S	South 25 degrees east; Azimuth 155	0.67 feet/day	0.012 feet/foot	0.032 feet/day - 12 feet/year
Upper (NW & South)	08/24/09	MW-22S; MW-23S; MW-TP1S	South 70 degrees east; Azimuth 110	0.67 feet/day	0.026 feet/foot	0.07 feet/day - 25 feet/year
Intermediate	8/24/2009	MW-2I; MW-13I; MW-3I	South 73 degrees east; Azimuth 107	1.24 feet/day	0.019 feet/foot	0.079 feet/day - 29 feet/year
Upper (North)	02/22/10	MW-2S; MW-3S; MW-11S	South 30 degrees east; Azimuth 150	0.67 feet/day	0.0101 feet/foot	0.023 feet/day - 8.2 feet/year
Upper (South)	02/22/10	MW-43; MW-TP5S; MW-TP1S	South 76 degrees east; Azimuth 104	0.67 feet/day	0.0428 feet/foot	0.0957 feet/day - 35 feet/year
Intermediate (North)	02/22/10	MW-2I; MW-3I; MW-12I	South 25 degrees west; Azimuth 205	1.24 feet/day	0.0031 feet/foot	0.0127 feet/day - 5 feet/year
Intermediate (South)	02/22/10	MW-34I; MW-TP5I; MW-TP1I	South 49 degrees east; Azimuth 131	1.24 feet/day	0.0371 feet/foot	0.1535 feet/day - 56 feet/year
Upper (North)	08/23/10	MW-2S; MW-3S; MW-11S	South 55 degrees east; Azimuth 125	0.67 feet/day	0.0112 feet/foot	0.025 feet/day - 9.1 feet/year
Upper (South)	08/23/10	MW-43; MW-TP5S; MW-TP1S	South 67 degrees east; Azimuth 113	0.67 feet/day	0.0415 feet/foot	0.0928 feet/day - 34 feet/year
Intermediate (North)	08/23/10	MW-2I; MW-3I; MW-12I	South 4 degrees east; Azimuth 176	1.24 feet/day	0.0027 feet/foot	0.0112 feet/day - 4 feet/year
Intermediate (South)	08/23/10	MW-34I; MW-TP5I; MW-TP1I	South 50 degrees east; Azimuth 130	1.24 feet/day	0.0368 feet/foot	0.1520 feet/day - 55 feet/year

**LE**  
**S R F DR GE L G C D**  
 Former Farmers Favorite Fertilizer Facility  
 Moultrie, Georgia

Aquifer Zone	LE D		D G F	C	G	G F R
Upper (North)	02/21/11	MW-2S; MW-3S; MW-11S	South 69 degrees east; Azimuth 111	0.67 feet/day	0.009 feet/foot	0.020 feet/day - 7.0 feet/year
Upper (South)	02/21/11	MW-43; MW-TP5S; MW-TP1S	South 71 degrees east; Azimuth 109	0.67 feet/day	0.041 feet/foot	0.0913 feet/day - 33 feet/year
Intermediate (North)	02/21/11	MW-2I; MW-3I; MW-12I	South 16 degrees west; Azimuth 196	1.24 feet/day	0.002 feet/foot	0.0092 feet/day - 3.0 feet/year
Intermediate (South)	02/21/11	MW-34I; MW-TP5I; MW-TP1I	South 52 degrees east; Azimuth 128	1.24 feet/day	0.037 feet/foot	0.154 feet/day - 56 feet/year
Upper (North)	08/22/11	MW-2S; MW-3S; MW-11S	North 85 degrees east	0.67 feet/day	0.016 feet/foot	0.036 feet/day - 13 feet/year
Upper (South)	08/22/11	MW-43S; MW-TP5S; MW-TP1S	South 73 degrees east	0.67 feet/day	0.041 feet/foot	0.09 feet/day - 32.9 feet/year
Intermediate (North)	08/22/11	MW-2I; MW-3I; MW-12I	South 32 degrees west	1.24 feet/day	0.002 feet/foot	0.008 feet/day - 2.92 feet/year
Intermediate (South)	08/22/11	MW-34I; MW-TP5I; MW-TP1I	South 55 degrees east	1.24 feet/day	0.04 feet/foot	0.17 feet/day - 62 feet/year

Notes:

Hydraulic conductivity values are presented in Section 5.3 of the Compliance Status Report, Addendum #4

S E R F D R L C E D D F F E R E N C E S N E S L L E R E R N G N E S  
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L	C E N D	D	S	G E N D					S D	D S				
				8/24/2009	2/22/2010	8/23/2010	2/21/2011	8/22/2011		8/24/2009	2/22/2010	8/23/2010	2/21/2011	8/22/2011
MW-1S-R	295.54	12.0	2 - 12	288.64	292.11	289.27	290.06	288.24	7.0	-0.0440	-0.1331	-0.0562	-0.0836	-0.0523
MW-1I-R	295.48	34.5	30 - 34.5	287.53	288.75	287.85	287.95	286.92	32.25					
MW-2S	292.81	14.0	4 - 14	288.79	291.37	289.70	289.54	287.90	9.0	-0.1077	-0.1630	-0.1264	-0.1217	-0.0966
MW-2I	292.97	35.0	30 - 35	286.26	287.54	286.73	286.68	285.63	32.5					
MW-3S	293.05	14.0	4 - 14	287.06	288.26	287.36	288.27	287.83	9.0	-0.0540	-0.0547	-0.0533	-0.0828	-0.1000
MW-3I	293.71	40.0	35 - 40	285.52	286.70	285.84	285.91	284.98	37.5					
MW-10S-R	290.14	14.0	4 - 14	283.00	284.35	283.42	283.60	282.31	9.0	-0.0144	-0.1439	-0.0137	-0.0091	-0.0232
MW-10I	289.67	40.0	35 - 40	282.59	280.25	283.03	283.34	281.65	37.5					
MW-34S	284.66	14.5	4.5 - 14.5	Not Installed	281.99	281.85	281.72	281.01	9.5	NA	0.0535	0.0190	0.0326	0.0045
MW-34I	287.49	43.0	38 - 43	Installed	283.65	282.44	282.73	281.15	40.5					
MW-39S	293.35	16.0	6 - 16	Not Installed	288.15	287.49	287.46	286.65	11.0	NA	0.0174	0.0092	0.0128	0.0072
MW-6I	293.41	33.0	28 - 33	Installed	288.49	287.67	287.71	286.79	30.5					
FFFW-2-R	292.05	27.0	17 - 27	Not Installed	275.63	274.68	274.92	274.50	22.0	NA	0.0192	0.0161	0.0176	0.0059
FFFW-2I	292.97	50.0	45 - 50	Installed	276.12	275.09	275.37	274.65	47.5					
MW-TP1S	284.24	20.0	10 - 20	272.26	273.27	272.46	272.66	272.35	15.0	0.0223	0.0325	0.0256	0.0272	0.0134
MW-TP1I	284.49	48.0	43 - 48	272.94	274.26	273.24	273.49	272.76	45.5					
MW-TP5S	288.33	25.0	15 - 25	Not Installed	279.31	277.03	277.81	276.58	20.0	NA	-0.1080	-0.0589	-0.0760	-0.0604
MW-TP5I	291.52	50.0	45 - 50	Installed	276.34	275.41	275.72	274.92	47.5					
										Arithmetic Average				
										-0.0395 Downward	-0.0533 Downward	-0.0265 Downward	-0.0314 Downward	-0.0335 Downward

- Notes:
1. TOC = top of casing
  2. NAVD88 = North American Vertical Datum of 1988
  3. ft bls = feet below land surface

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 S R F N R NG ELL C NS R C N NF R N F R C E ELLS  
 Former Farmers Favorite Fertilizer  
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ID	Installation Date	Construction Details	Depth	Groundwater Elevation (SL)	Case Elevation (SL)	Screen Length	Depth to Screen	Screen Diameter	Screen Elevation (SL)	Notes
MW-1S-R	10/27/2006	NA	2-INCH	292.86	295.54	2.68	12	2 - 12	290.86 - 280.86	Shallow
MW-1I-R	10/26/2006	NA	2-INCH	292.76	295.48	2.72	35.5	30 - 34.5	265.48 - 260.98	Intermediate
MW-2S	1/6/1999	NA	2-INCH	293.14	292.81	NA	14	4 - 14	289.14 - 279.14	Shallow
MW-2I	12/9/1998	6-INCH	2-INCH	289.72	292.97	NA	35.5	30 - 35	259.72 - 254.72	Intermediate
MW-3S	1/6/1999	NA	2-INCH	293.49	293.05	NA	14	4 - 14	289.49 - 279.49	Shallow
MW-3I	12/9/1998	6-INCH	2-INCH	293.87	293.71	NA	40	35 - 40	258.87 - 253.87	Intermediate
MW-4S	1/5/1999	NA	2-INCH	287.28	287.26	NA	12	2 - 12	285.28 - 275.28	Shallow
MW-5S-R	10/24/2006	NA	2-INCH	290.53	293.27	2.74	14	4 - 14	286.53 - 276.53	Shallow
MW-6S-R	10/24/2006	NA	2-INCH	297.44	300.34	2.9	14	4 - 14	293.44 - 283.44	Shallow
MW-6I	4/19/2000	6-INCH	2-INCH	293.66	293.41	2.75	33	28 - 33	265.66 - 260.66	Intermediate
MW-7S-R	10/24/2006	NA	2-INCH	293.40	296.45	3.05	14	4 - 14	289.40 - 279.40	Shallow
MW-7I	4/19/2000	6-INCH	2-INCH	295.41	295.13	NA	49.5	39.5 - 49.5	255.91 - 245.91	Intermediate
MW-8I	2/4/2010	6-INCH to 17 ft	2-INCH	297.02	299.94	2.92	35	30 - 35	267.02 - 262.02	Intermediate
MW-9S-R	10/24/2006	NA	2-INCH	290.69	293.57	2.88	14	4 - 14	286.69 - 276.69	Shallow
MW-10S-R	10/26/2006	NA	2-INCH	287.30	290.14	2.84	14	4 - 14	283.30 - 273.30	Shallow
MW-10I	10/26/2006	NA	2-INCH	286.94	289.67	2.73	40	35 - 40	256.94 - 251.94	Intermediate
MW-11S	3/3/1999	NA	2-INCH	288.97	290.97	2.7	12	2 - 12	286.97 - 276.97	Shallow
MW-12S	4/18/2000	NA	2-INCH	295.94	295.61	NA	25	15 - 25	280.94 - 270.94	Shallow
MW-12I	3/4/1999	6-INCH	2-INCH	295.85	295.68	NA	38	33.5 - 38.0	262.35 - 257.85	Intermediate
MW-13S-R	10/24/2006	NA	2-INCH	289.43	292.49	3.06	14	4 - 14	285.43 - 275.43	Shallow
MW-13I	6/18/2003	6-INCH	2-INCH	---	299.29	NA	54.1	44 - 54	255.29 - 245.29	Intermediate
MW-15S	4/18/2000	NA	2-INCH	295.86	295.38	NA	20	10 - 20	285.86 - 275.86	Shallow
MW-18S	8/2/2000	NA	2-INCH	285.64	285.48	NA	13	3 - 13	282.64 - 272.64	Shallow
MW-19S	8/2/2000	NA	2-INCH	284.71	287.75	3.04	13	3 - 13	281.71 - 271.71	Shallow
MW-20S	8/2/2000	NA	2-INCH	284.57	284.58	NA	15	5 - 15	279.57 - 269.57	Shallow
MW-21S	12/18/2002	NA	2-INCH	---	288.67	NA	20	5 - 20	283.67 - 268.67	Shallow
MW-22S	12/19/2002	NA	2-INCH	---	283.99	NA	16.5	6.5 - 16.5	277.49 - 267.49	Shallow
MW-23S	12/19/2002	NA	2-INCH	---	289.45	NA	32.25	22.25 - 32.25	267.20 - 257.20	Shallow
MW-24S	12/19/2002	NA	2-INCH	---	286.00	NA	30.75	20.75 - 30.75	265.25 - 255.25	Shallow
MW-25S	12/19/2002	NA	2-INCH	280.72	280.47	NA	15.25	5.25 - 15.25	275.47 - 265.47	Shallow
MW-26S	12/18/2002	NA	2-INCH	---	286.60	NA	20	5 - 20	281.60 - 266.60	Shallow
MW-27S-R	10/25/2006	NA	2-INCH	289.18	292.13	2.95	14	4 - 14	285.18 - 275.18	Shallow
MW-28S	12/18/2002	NA	2-INCH	---	301.26	NA	26	16 - 26	285.26 - 275.26	Shallow
MW-29S	6/16/2003	NA	2-INCH	---	299.96	NA	29.5	19 - 29	280.96 - 270.96	Shallow
MW-30S	6/18/2003	NA	2-INCH	---	302.44	NA	38.5	18.5 - 38.5	283.94 - 263.94	Intermediate
MW-31S	6/17/2003	NA	2-INCH	---	297.52	NA	39.5	19.5 - 39.5	278.02 - 258.02	Intermediate
MW-32S-R	2/4/2010	NA	2-INCH	293.65	296.56	2.91	13	3 - 13	290.65 - 280.65	Shallow
MW-32I	2/8/2010	6-INCH to 17 ft	2-INCH	293.60	296.39	2.79	27	22 - 27	271.60 - 266.60	Shallow
MW-33S	6/16/2003	NA	2-INCH	---	280.45	NA	27.5	17 - 27	263.45 - 253.45	Shallow
MW-34S	6/16/2003	NA	2-INCH	---	284.66	NA	14.5	4.5 - 14.5	280.16 - 270.16	Shallow
MW-34I	2/4/2010	6-INCH to 17 ft	2-INCH	284.54	287.49	2.95	43	38 - 43	246.54 - 241.54	Intermediate
MW-35S	10/23/2006	NA	2-INCH	302.62	302.41	NA	25	15 - 25	287.62 - 277.62	Shallow
MW-36S	10/24/2006	NA	2-INCH	290.76	293.18	2.58	14	4 - 14	286.76 - 276.76	Shallow
MW-37S	10/25/2006	NA	2-INCH	289.99	292.56	2.57	16	6 - 16	283.99 - 273.99	Shallow
MW-38S	10/25/2006	NA	2-INCH	289.81	292.92	3.11	16	6 - 16	283.81 - 273.81	Shallow
MW-39S	10/27/2006	NA	2-INCH	293.65	293.35	2.7	16	6 - 16	287.65 - 277.65	Shallow
MW-40S	2/9/2010	NA	2-INCH	298.59	298.42	NA	35	25 - 35	273.59 - 263.59	Shallow

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ID	Installation Date	Construction Details	Depth	Ground Surface Elevation (ft)	Construction Elevation (ft)	Screening	Depth (ft)	Screening Details	Screening Elevation (ft)	Notes
MW-41S	2/8/2010	NA	2-INCH	290.61	290.39	NA	30	20 - 30	270.61 - 260.61	Shallow
MW-42S	2/9/2010	NA	2-INCH	290.06	289.97	NA	15	5 - 15	285.06 - 275.06	Shallow
MW-43S	2/9/2010	NA	2-INCH	285.25	288.34	3.09	15	5 - 15	280.25 - 270.25	Shallow
MW-44S	2/8/2010	NA	2-INCH	287.35	290.44	3.09	20	10 - 20	277.35 - 267.35	Shallow
MW-45S	8/23/2011	NA	2-INCH	284.71	287.47	2.76	20	10 - 20	264.71 - 254.71	Shallow
MW-46S	2/10/2010	NA	2-INCH	282.70	282.48	NA	15	5 - 15	277.70 - 267.70	Shallow
MW-47S	2/10/2010	NA	2-INCH	293.37	293.11	NA	32	22 - 32	271.37 - 261.37	Shallow
FFFW-1-R	8/23/2011	NA	2-INCH	283.50	286.36	2.86	12	2 - 12	281.50 - 271.50	Shallow
FFFW-2-R	10/24/2006	NA	2-INCH	289.50	292.05	2.38	27	17 - 27	272.50 - 262.50	Shallow
FFFW-2I	2/3/2010	6-INCH to 36 ft	2-INCH	289.72	292.97	3.25	50	45 - 50	244.72 - 239.72	Intermediate
FFFW-3-R	8/23/2011	NA	2-INCH	285.06	288.06	3.00	14	4 - 14	281.06 - 271.06	Shallow
FFFW-4-R	8/22/2011	NA	2-INCH	283.58	286.39	2.81	14	4 - 14	279.58 - 269.58	Shallow
MW-TP1S	8/1/2000	NA	2-INCH	284.53	284.24	NA	20	10 - 20	274.53 - 264.53	Shallow
MW-TP1I	8/2/2000	6-INCH	2-INCH	284.57	284.49	NA	48	43 - 48	241.57 - 236.57	Intermediate
MW-TP2S	7/31/2000	NA	2-INCH	278.31	278.29	NA	20	10 - 20	268.31 - 258.31	Shallow
MW-TP3S	7/31/2000	NA	2-INCH	278.79	278.71	NA	20	10 - 20	268.79 - 258.79	Shallow
MW-TP4S	7/31/2000	NA	2-INCH	287.67	287.38	NA	25	15 - 25	272.67 - 262.67	Shallow
MW-TP5S	8/2/2000	NA	2-INCH	288.64	288.33	NA	25	15 - 25	273.64 - 263.64	Shallow
MW-TP5I	2/3/2010	6-INCH to 35 ft	2-INCH	288.46	291.52	3.06	50	45 - 50	243.46 - 238.46	Intermediate

Notes:

MSL = Mean Sea Level

ft als = Feet above land surface

ft bls = Feet below land surface

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SRFL FIELD RESENS

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Moultrie, Georgia

L	Date	pH	Temperature	Conductivity	Dissolved Oxygen (O <sub>2</sub> )	Oxidation Reduction Potential (ORP)	Turbidity
	Units	(SUs)	(°C)	(µS/cm)	(mg/L)	(mV)	(NTUs)
SR	8/27/2009	5.92	25.78	803	0.43	64	57
	8/31/2010	6.17	28.48	550	0.99	80	5.1
	3/2/2011	6.58	14.81	455	4.26	89	16.3
	8/25/2011	6.70	34.50	830	0.70	-14.5	1.40
R	8/27/2009	4.21	22.35	154	0.08	90	1
	8/31/2010	4.96	26.08	143	0.62	169	0.3
	3/2/2011	4.64	17.77	162	0.79	306	1.4
	8/25/2011	4.84	25.38	148	3.54	87.0	0.22
S	8/28/2009	3.49	22.85	784	2.98	251	1.9
	8/31/2010	3.77	24.13	615	3.22	278	1.3
	3/1/2011	3.91	15.73	722	7.02	466	1.1
	8/25/2011	4.19	26.29	524	3.04	162.1	8.20
R	8/28/2009	4.05	21.08	142	0.61	141	1
	8/31/2010	4.63	32.32	130	0.55	201	0.2
	3/1/2011	4.71	18.98	139	1.02	377	1.6
	8/25/2011	4.89	20.83	124	0.83	110.2	4.75
S	8/28/2009	3.16	23.39	5447	0.18	454	1.0
	8/31/2010	3.55	25.55	5340	1.59	464	3.3
	3/2/2011	3.35	19.81	5413	0.93	432	3.3
	8/25/2011	3.23	25.47	3809	0.53	459.1	0.53
R	8/28/2009	4.37	22.85	180	0.22	86	24.7
	8/31/2010	4.98	24.07	160	0.50	174	0.8
	3/2/2011	4.77	18.43	168	1.03	283	32.1
	8/25/2011	4.74	22.66	167	0.51	285.0	1.12
S	8/28/2009	4.59	27.98	7891	0.88	161	21.8
	8/25/2010	5.27	29.83	3603	2.18	201	8.5
	2/23/2011	6.04	18.29	4489	2.26	188	2.9
	8/30/2011	5.88	31.33	8186	0.49	147.6	1.62
SR	8/27/2009	4.01	26.05	2367	0.12	198	15.7
	8/31/2010	5.82	27.49	1368	0.99	-60	94.6
	3/1/2011	6.11	15.49	968	2.00	23	113.0
	8/29/2011	4.09	29.65	2497	0.14	277.9	2.91
SR	8/26/2009	3.30	25.95	7905	0.12	273	8.7
	8/31/2010	3.45	26.26	7586	1.12	285	0.6
	3/1/2011	3.38	16.54	4577	0.78	329	1.9
	8/25/2011	3.48	30.20	6452	1.15	298.1	0.58
R	8/27/2009	4.30	22.88	245	0.09	115	6.0
	8/31/2010	5.14	24.01	194	0.47	169	0.9
	3/2/2011	4.91	21.05	203	0.28	220	4.7
	8/25/2011	5.00	23.69	201	4.91	119.9	2.53
SR	9/1/2009	2.98	26.10	3124	0.58	448	3.0
	9/1/2010	3.01	26.08	2708	1.65	411	130.0
	3/1/2011	3.87	16.07	2259	2.87	368	19.8
	8/29/2011	3.04	27.00	3592	1.34	368.3	51.2
R	8/26/2009	4.00	21.65	1041	0.10	114	1.8
	8/25/2010	10.70	23.75	442	2.70	109	1.3
	2/23/2011	4.04	20.74	1051	0.47	202	8.5
	8/23/2011	4.35	22.60	871	0.49	146.2	1.25

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 Former Farmers Favorite Fertilizer Facility  
 Moultrie, Georgia

L	Date	pH	Temperature	Conductivity	Dissolved Oxygen (O <sub>2</sub> )	Oxidation Reduction Potential (ORP)	Turbidity
	Units	(SUs)	(°C)	(μS/cm)	(mg/L)	(mV)	(NTUs)
□ □ □ □	8/31/2010	4.46	23.65	248	1.48	135	0.4
	3/1/2011	4.46	19.89	203	0.49	361	7.8
	8/25/2011	4.51	22.91	169	0.74	141.3	0.64
□ □ □ S R	8/26/2009	4.35	22.81	1331	0.13	124	1.2
	9/1/2010	4.32	22.51	1233	0.93	366	1.5
	3/1/2011	4.45	17.92	1274	0.38	246	1.6
	8/29/2011	4.53	25.37	1337	0.19	256.5	0.10
□ □ □ S R	8/27/2009	5.02	23.99	213	0.38	73	2.0
	8/31/2010	5.63	25.13	214	1.00	-16	2.6
	3/1/2011	6.04	14.94	214	0.89	100	1.7
	8/25/2011	4.91	26.31	164	0.34	181.2	0.51
□ □ □ □ □	8/27/2009	5.69	22.37	114	0.33	-31	4.8
	8/31/2010	6.11	23.57	105	0.27	-121	0.7
	3/1/2011	6.02	17.88	86	0.77	-29	4.0
	8/25/2011	6.00	24.48	91	3.68	79.1	3.00
□ □ □ S	8/27/2009	6.13	23.30	1338	0.60	-30	75.0
	8/31/2010	6.75	24.11	1135	2.26	-99	197.0
	3/1/2011	6.75	14.51	1206	7.22	-80	34.1
	8/24/2011	6.58	23.55	1133	0.48	78.7	55.1
□ □ □ S	8/25/2009	3.40	23.22	8086	0.13	200	15.8
	8/25/2010	3.08	23.07	2478	0.39	496	4.3
	2/23/2011	3.50	22.47	7482	0.69	307	1.2
	8/26/2011	3.54	23.88	8770	0.22	283.0	0.07
□ □ □ □ □	8/25/2009	4.05	24.11	431	0.22	112	1.1
	8/25/2010	4.11	24.27	417	0.90	394	13.6
	2/23/2011	4.38	22.36	396	0.60	165	5.5
	8/26/2011	3.83	22.33	362	1.25	220.3	1.49
□ □ □ S R	8/26/2009	5.84	22.09	588	0.12	108	5.4
	9/1/2010	6.03	22.60	484	0.21	48	1.0
	3/1/2011	5.84	18.62	418	0.35	100	2.4
	8/29/2011	5.62	25.14	453	0.10	146.1	0.83
□ □ □ □ □	8/25/2009	8.38	25.06	109	5.58	58	1.3
	8/24/2010	7.71	29.40	85	6.39	127	0.6
	2/22/2011	8.16	23.64	86	6.28	98	1.3
	8/23/2011	7.91	26.57	85	4.84	39.4	0.47
□ □ □ S	8/25/2009	3.64	21.53	1466	0.10	358	1.1
	8/25/2010	3.65	22.74	1331	1.25	355	0.4
	2/23/2011	3.67	19.59	1520	0.26	382	0.5
	8/24/2011	3.89	22.64	1338	0.13	297.8	0.05
□ □ □ S	8/31/2009	4.56	23.45	418	0.30	-42	1.5
	8/26/2010	4.59	23.17	537	0.36	203	2.1
	2/24/2011	4.91	16.05	703	0.59	235	1.4
	8/29/2011	5.45	24.42	503	0.12	44.2	0.45
□ □ □ S	8/31/2009	5.56	24.14	4958	0.94	85	0.9
	8/25/2010	4.71	25.22	4942	1.68	213	8.2
	2/23/2011	5.10	16.10	4567	2.11	210	6.3
	8/30/2011	4.92	25.42	4271	0.31	178.7	0.35

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Former Farmers Favorite Fertilizer Facility  
Moultrie, Georgia

L	Date	pH	Temperature	Conductivity	Dissolved Oxygen (O <sub>2</sub> )	Oxidation Reduction Potential (ORP)	Turbidity
	Units	(SUs)	(°C)	(μS/cm)	(mg/L)	(mV)	(NTUs)
S	8/28/2009	3.886.21	26.50	352	0.24	-17.7	0.2
	8/25/2010	6.41	27.66	288	0.89	-52	33.7
	2/23/2011	6.48	15.69	331	3.47	-79	1.9
	8/30/2011	6.40	27.47	345	0.13	-107.2	2.34
S	8/28/2009	5.89	22.49	6055	0.26	134	60.4
	8/24/2010	5.46	24.04	4892	1.31	175	8.4
	2/23/2011	6.39	19.52	4748	0.40	195	4.8
	8/26/2011	6.65	29.07	4228	0.29	145.6	1.05
S	8/31/2009	5.06	22.71	289	0.19	-58	9.5
	8/26/2010	5.71	24.84	376	0.32	34	1.7
	2/24/2011	6.47	16.81	750	0.47	-2	4.5
	8/30/2011	6.18	28.34	678	0.39	34.7	1.15
S	8/31/2009	4.49	22.50	175	2.22	188	1.2
	8/26/2010	4.51	25.91	150	2.10	305	0.8
	2/24/2011	4.89	22.01	180	6.45	272	1.5
	8/31/2011	4.59	23.76	153	2.29	160.2	0.40
S	9/1/2009	4.09	22.51	83	4.70	224	0.7
	8/27/2010	4.49	23.40	78	4.84	361	3.2
	2/28/2011	4.74	22.78	84	5.61	57	1.9
	8/26/2011	4.87	28.00	86	3.66	135.7	0.13
S	9/1/2009	4.92	25.28	156	0.92	-27	11.2
	8/25/2010	4.62	25.42	128	2.94	186	7.0
	2/28/2011	5.76	19.92	174	1.78	-29	5.5
	8/31/2011	5.97	27.52	245	0.15	-3.9	2.92
S	8/28/2009	3.88	25.12	99	1.69	124	7.7
	8/25/2010	4.12	24.54	92	3.25	321	6.3
	2/28/2011	4.63	21.83	101	3.43	113	1.5
	8/30/2011	4.42	24.80	87	0.71	104.1	0.31
S R	8/26/2009	5.99	23.70	518	0.25	-15	3.6
	9/1/2010	6.43	25.94	749	0.25	-97.5	5.2
	3/1/2011	6.26	17.11	1214	1.62	-45	5.1
	8/29/2011	6.19	27.01	749	0.21	-25.2	1.24
S	8/25/2009	5.77	26.85	1076	0.28	98	5.6
	8/24/2010	4.18	26.21	1647	0.50	246	2.1
	2/22/2011	4.43	22.72	1762	0.40	194	2.1
	8/23/2011	5.00	28.74	1630	0.50	72.4	4.45
S	8/25/2009	3.63	25.65	2366	0.43	158	0.4
	8/24/2010	3.30	26.53	2264	0.45	357	0.6
	2/22/2011	3.65	21.30	2470	0.45	378	0.2
	8/24/2011	3.75	23.08	2155	5.06	164.4	0.18
S	8/25/2009	3.90	23.29	662	1.13	112	2.4
	8/24/2010	3.70	23.88	613	1.50	268	1.1
	2/22/2011	4.23	22.63	614	1.80	199	0.2
	8/23/2011	4.36	25.87	457	1.17	107.7	0.18
S	8/25/2009	4.63	29.01	151	3.16	121	116.0
	8/24/2010	5.21	28.87	79	7.09	170	>1000
	2/22/2011	5.13	24.58	85	6.50	224	577
	8/24/2011	4.83	26.68	74	5.52	133.8	95.5

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SRFLFIELDREERSRENS

Former Farmers Favorite Fertilizer Facility  
Moultrie, Georgia

L	Date	pH	Temperature	Conductivity	Dissolved Oxygen (O <sub>2</sub> )	Oxidation Reduction Potential (ORP)	Turbidity
	Units	(SUs)	(°C)	(μS/cm)	(mg/L)	(mV)	(NTUs)
SR	8/24/2010	4.34	29.93	6539	1.40	189	1.2
	2/23/2011	5.37	19.10	9306	0.29	231	1.3
	8/26/2011	5.23	31.47	9700	0.21	227.0	1.52
SR	8/24/2010	4.06	28.92	3238	0.96	211	95.4
	2/22/2011	4.39	23.79	3581	0.68	259	8.3
	8/26/2011	4.38	27.79	3466	0.30	203.9	4.72
SR	9/1/2009	5.10	21.54	50	5.88	164	9.8
	8/30/2010	5.06	22.62	55	4.42	171	3.9
	2/28/2011	5.28	20.61	95	6.66	62	8.8
SR	8/31/2009	5.82	26.35	44634	2.36	176	4.8
	8/25/2010	6.51	27.37	36335	7.69	201	1.4
	2/23/2011	5.60	16.33	26898	0.62	226	3.6
	8/31/2011	4.21	25.97	33619	0.45	205.9	3.63
SR	8/25/2010	6.26	28.50	91	4.24	105	27.4
	2/23/2011	6.14	20.41	107	4.49	196	106
	8/30/2011	6.04	25.22	99	1.06	75.1	34.0
SR	8/25/2009	3.91	26.47	779	0.53	102	6.6
	8/24/2010	3.68	27.21	666	0.62	278	2.3
	2/22/2011	4.06	25.07	701	0.71	186	0.9
	8/23/2011	4.16	28.99	587	0.28	104.1	0.33
SR	8/26/2009	3.66	23.44	1239	0.16	311	2.9
	9/1/2010	3.78	24.21	1287	0.20	438	5.6
	3/1/2011	4.55	17.60	824	1.91	155	2.4
	8/29/2011	3.80	26.77	1470	0.15	384.1	0.11
SR	8/26/2009	6.70	22.14	959	0.08	-103	3.6
	9/1/2010	6.76	22.64	922	0.44	-126	3.3
	3/1/2011	6.82	18.33	963	0.31	-120	8.0
	8/29/2011	6.74	26.68	1033	0.08	-112.6	0.90
SR	8/26/2009	5.37	23.35	164	0.41	82	1.7
	9/1/2010	5.73	24.23	178	1.49	105	0.4
	3/1/2011	5.92	15.06	165	2.13	36	3.6
	8/24/2011	4.86	25.79	106	0.75	103.8	0.05
SR	8/27/2009	4.41	23.90	302	0.09	116	2.5
	8/31/2010	4.54	24.55	3	0.50	208	0.4
	3/2/2011	4.55	19.67	368	0.25	261	2.0
	8/25/2011	4.25	29.32	408	0.16	234.0	0.09
SR	8/24/2010	5.30	28.21	102	3.27	134	10.3
	2/22/2011	5.60	25.31	84	2.96	192	9.1
	8/29/2011	5.22	28.89	78	0.77	161.2	19.9
SR	8/24/2010	3.51	24.88	2833	0.28	347	0.9
	2/23/2011	3.71	21.41	3148	0.90	260	0.5
	8/29/2011	3.61	27.53	2578	0.07	268.8	0.21

S O U R C E S  
Former Farmers Favorite Fertilizer Facility  
Moultrie, Georgia

Location	Date	pH	Temperature	Conductivity	Dissolved Oxygen (O <sub>2</sub> )	Oxidation Reduction Potential (ORP)	Turbidity
	Units	(SUs)	(°C)	(μS/cm)	(mg/L)	(mV)	(NTUs)
S 1	8/26/2010	5.62	23.50	5380	0.39	43	29.6
	2/24/2011	5.94	15.81	6602	0.24	221	18.1
	8/30/2011	5.91	24.46	4764	0.09	166.4	109.8
S 2	8/26/2010	5.30	26.24	1818	0.40	191	1.4
	2/24/2011	5.61	15.07	1870	0.56	183	0.7
	8/30/2011	5.24	26.21	1705	0.13	146.3	0.40
S 3	8/26/2010	5.98	24.87	581	0.24	14	44.0
	2/24/2011	6.20	18.42	830	0.20	33	25.7
	8/30/2011	6.04	26.81	809	0.11	11.5	1.41
S 4	8/31/2011	6.70	26.45	9158	2.77	95.2	8.10
S 5	8/25/2010	3.87	28.88	432	0.76	306.1	2.6
	2/25/2011	4.04	18.45	496	0.70	261.4	2.2
	8/31/2011	4.30	30.10	413	0.13	115.7	1.23
S 6	9/1/2010	5.32	24.67	44	4.89	222	2.7
	2/24/2011	5.60	21.59	47	5.37	234	2.5
	8/31/2011	5.31	23.41	45	3.85	129.1	1.45
FFF 1	9/1/2009	6.43	22.04	452	5.92	6	49.6
	8/30/2011	6.19	27.64	546	0.61	35.3	1.07
FFF 2	9/1/2009	4.36	22.05	2041	0.15	199	19.0
	8/27/2010	3.95	21.44	3640	0.57	448	2.0
	2/28/2011	4.08	23.07	4462	0.72	235	0.7
	8/31/2011	4.13	22.22	1464	0.50	178.0	0.47
FFF 3	8/27/2010	6.58	22.39	283	2.16	362	1.1
	2/28/2011	6.45	23.29	245	5.34	128	5.1
	8/31/2011	5.94	22.23	214	3.43	113.8	1.87
FFF 4	8/31/2009	4.65	25.12	2207	0.60	92	12.9
	8/29/2011	5.69	27.81	2431	0.56	218.4	24.2
FFF 5	9/1/2009	4.98	21.05	56	2.54	178	>1000
	8/30/2011	5.77	23.80	10249	3.40	147.9	50.6
S 7	9/1/2009	4.20	21.54	254	3.06	176	1.8
	8/30/2010	4.55	25.22	225	4.38	181	0.3
	2/28/2011	4.60	20.41	203	3.56	130	0.8
	8/26/2011	4.68	21.74	183	3.59	155.7	4.70
S 8	9/1/2009	5.68	21.51	50	5.94	128	19.7
	8/30/2010	6.04	24.18	48	4.12	128	1.1
	2/28/2011	6.23	20.89	50	6.90	102	7.3
	8/26/2011	5.41	23.19	48	5.04	135.7	3.01
S 9	9/1/2009	4.81	23.27	369	0.33	81.5	11.7
	8/26/2010	4.81	24.69	398	1.82	287	6.6
	2/28/2011	5.42	17.30	480	0.83	79	5.0
	8/31/2011	5.10	25.02	414	0.19	88.4	3.05
S 10	9/1/2009	4.43	22.08	212	1.18	296	5.6
	8/26/2010	4.48	22.42	186	1.42	328	1.4
	2/28/2011	5.03	19.35	214	0.87	33	2.9
	8/31/2011	5.06	22.79	167	1.52	80.1	0.66

**SOLE**  
**SRFL FIELD REERESRENS**  
 Former Farmers Favorite Fertilizer Facility  
 Moultrie, Georgia

L	Date	pH	Temperature	Conductivity	Dissolved Oxygen (O <sub>2</sub> )	Oxidation Reduction Potential (ORP)	Turbidity
	Units	(SUs)	(°C)	(μS/cm)	(mg/L)	(mV)	(NTUs)
S	9/1/2009	4.18	22.00	107	3.78	194	7.9
	8/27/2010	4.28	22.08	101	4.45	357	5.4
	2/28/2011	4.80	22.33	110	4.64	100	1.6
	8/26/2011	4.49	24.98	110	3.38	164.3	0.24
S	8/31/2009	3.31	21.72	15532	0.20	381	2.2
	8/30/2010	3.85	23.10	16735	2.02	354	4.3
	2/24/2011	3.34	21.53	16894	0.45	354	1.3
	8/31/2011	3.33	24.15	15515	0.17	251.7	0.33
S	8/30/2010	6.12	24.49	298	1.28	118	103.0
	2/24/2011	6.10	22.60	78	6.84	142	51.4
	8/31/2011	5.76	25.61	70	1.76	128.4	46.5

**S**

**μS**

**L**

**N**

**N**

**NR**

**NR**

OR - Over Range

**J- Instrument data failed verification**

**LE**  
**SRR FGR ND ER C NCEN R NS F R C C**  
 Former Farmers Favorite Fertilizer  
 Moultrie, Georgia

D	D S					C	C	C	L		N	S	S				
S																	
SR	11/8/2006	<0.0026	<0.0038	0.03	0.0034	0.00068 V	0.0023 V	0.043 V		0.000044 I	0.044	<0.0043	<0.0006	<0.0010	0.0018 I	0.14 V	
	8/27/2009	0.00035 I	0.0085 U	0.032	0.00016 I	0.00032 U	0.001 V,I	0.0025 U	0.0013 U	0.000014 U	0.0015 I	0.0022 U	0.000059 U	0.000067 U	0.0029	0.017 V	
	3/2/2010	0.00021 I	0.0085 U	0.022	0.00013 U	0.00032 U	0.0011 I	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0044 U	0.00012 U	0.00013 U	0.0033	0.0088 I	
	8/31/2010	0.0015 U	0.0085 U	0.033	0.00013 U	0.00032 U	0.0013 I	0.0028 I	0.0013 U	0.000014 U	0.0011 U	0.0044 U	0.0012 U	0.0013 U	0.0014 I	0.0094 I	
	3/2/2011	0.00022 I	0.0085 U	0.027	0.00013 U	0.00032 U	0.0016 I	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.0029	0.019	
	8/25/2011	NA	0.0028	0.049	0.00025 U	0.000095 U	NA	0.0053	0.00028 J	NA	0.0034 J	0.0025 B	NA	0.00050 U	0.0038 U	0.0085 J	
R	11/8/2006	---	<0.0038	0.12	---	0.000097 I V	0.00074 I V	---	<0.0019	<0.00002	---	<0.0043	0.0011 I V	---	---	---	
	8/27/2009	0.00015 I	0.0085 U	0.14	0.00032	0.00032 U	0.00059 V,I	0.0025 U	0.0013 U	0.000019 I	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.00018 U	0.051 V	
	3/2/2010	0.00015 U	0.0085 U	0.15	0.00044	0.00032 U	0.00050 U	0.0025 U	0.0013 U	0.000021 I	0.0011 U	0.0044 U	0.00012 U	0.00013 U	0.00018 I	0.012	
	8/31/2010	0.0058 I	0.0085 U	0.15	0.00046	0.00032 U	0.00050 U	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.044 U	0.0012 U	0.0013 U	0.00029 I	0.0061 I	
	3/2/2011	0.00023 I	0.0085 U	0.14	0.00040	0.00032 U	0.00050 U	0.0025 U	0.0013 I	0.000049 I	0.0011 U	0.0022 U	0.000059 U	0.00014 I	0.00018 U	0.021	
	8/25/2011	NA	0.0013 U	0.150	0.00051	0.000095 U	NA	0.0011 U	0.0020	NA	0.0022 J	0.0010 U	NA	0.00050 U	0.0038 U	0.0083 U	
S	10/24/2006	<0.0026	<0.0038	0.044	0.00077	0.0037 V	0.001 I V	0.02 V	<0.0019	<0.00002	0.0052 I	<0.0043	<0.0006	<0.0010	0.00078 I	0.34	
	8/28/2009	0.000099 I	0.0085 U	0.043	0.00061	0.0031	0.00070 V,I	0.012	0.0013 U	0.000014 U	0.0057 I	0.0022 U	0.000059 U	0.000067 U	0.00028 I	0.29 V	
	3/2/2010	0.00015 U	0.0085 U	0.036	0.00057	0.003	0.00050 U	0.011	0.0013 U	0.000014 U	0.0061 I	0.0044 U	0.00012 U	0.00019 I	0.0030 I	0.31	
	8/31/2010	0.0015 U	0.01	0.045	0.00068	0.0024	0.0010 I	0.013	0.0013 U	0.000014 U	0.0027 I	0.0044 U	0.0012 U	0.0013 U	0.00023 I	0.26	
	3/1/2011	0.000077 I	0.0098 I	0.038	0.00059	0.0026	0.00064 I	0.011	0.0013 U	0.000014 U	0.0053 I	0.0022 U	0.000059 U	0.00021	0.00018 U	0.31	
	8/25/2011	NA	0.0015 J	0.040	0.00066	0.0019	NA	0.014	0.0039	NA	0.011	0.0041 B	NA	0.00050 U	0.0038 U	0.240	
	10/24/2006	<0.0026	<0.0038	0.17	0.00055	0.00018 I V	0.00092 IV	0.0047 V	0.0025	0.000026 I	<0.0016	<0.0043	0.00073 I	<0.0010	0.00086 I	0.013	
	8/28/2009	0.000073 U	0.0085 U	0.17	0.00041	0.00032 U	0.00054 V,I	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.00018 U	0.015 V	
	3/2/2010	0.00015 U	0.0085 U	0.16	0.00053	0.00032 U	0.00050 U	0.0025 U	0.0015 I	0.000014 U	0.0011 U	0.0044 U	0.00012 U	0.00014 I	0.00018 U	0.0096 I	
	8/31/2010	0.0015 U	0.0085 U	0.17	0.00055	0.00032 U	0.00050 U	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0044 U	0.0012 U	0.0013 U	0.00018 U	0.0065 I	
	3/1/2011	0.000073 U	0.0085 U	0.16	0.00041	0.00032 U	0.00050 U	0.0025 U	0.0018 I	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.00011 I	0.00018 U	0.017	
	8/25/2011	NA	0.0013 U	0.160	0.00051	0.000095 U	NA	0.0011 U	0.0020	NA	0.0022 J	0.0010 U	NA	0.00050 U	0.0038 U	0.0083 U	
S	10/24/2006			0.016						0.000047 I		<0.0086	<0.0012	<0.0010	0.0047		
	8/28/2009	0.00014 J4,I		0.013 J4			0.068 J4			0.000014 U		0.0022 J4,U	0.000099 J4,I	0.0014 J4	0.0021 J4		
	3/2/2010	0.00015 U		0.012			0.091			0.000094 I			0.00012 U	0.0014	0.0025		
	8/31/2010	0.00023 I		0.013			0.094			0.000065 I		0.0033 I	0.000081 I	0.0014	0.0023		
	3/2/2011	0.00013 I,J4		0.015			0.075			0.000014 U		0.0022 U,J4	0.000059 U,J4	0.0014 J4	0.00036 U		
	8/25/2011	NA		0.010		0.0043	NA	1.300		NA			NA	0.00050 U	0.015 U	0.780	
	10/24/2006	---	<0.0038	0.11	---	0.00022 V	0.00082 I V	---	0.0021 I	0.000046 I	---	<0.0043	<0.0006	---	---	---	
	8/28/2009	0.000073 U	0.0085 U	0.12	0.00046	0.00032 U	0.00058 V,I	0.0025 U	0.0013 U	0.000033 I	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.00018 U	0.020 V	
	3/2/2010	0.00015 U	0.0085 U	0.11	0.0006	0.00032 U	0.00050 U	0.0025 U	0.0017 I	0.000055 I	0.0011 U	0.0044 U	0.00012 U	0.00013 U	0.00037 I	0.013	
	8/31/2010	0.000073 U	0.0085 U	0.12	0.0005	0.00039 I	0.00054 I	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000097 I	0.00018 U	0.013	
	3/2/2011	0.00010 I	0.0085 U	0.13	0.00072	0.00052 I	0.0035 I	0.0034 I	0.0090	0.00019	0.0022 I	0.0022 U	0.000059 U	0.00015 I	0.0063	0.024	
	8/25/2011	NA	0.0013 U	0.110	0.00065	0.00012 J	NA	0.0024 J	0.0017	NA	0.0033 J	0.0025 B	NA	0.00050 U	0.0038 U	0.0086 J	

**SOLE**  
**SRFGRND ER CNENRNSFRRC**  
 Former Farmers Favorite Fertilizer  
 Moultrie, Georgia

D	D S					C	C	C	L		N	S	S			
S																
Dissolved	10/25/2006	---	<0.0038	0.028	---	0.0012 V	0.00036 I V	---	<0.0019	0.000098	---	<0.0043	<0.0006	---	---	---
	8/28/2009			0.060			0.0078 V	0.046	0.011	0.000063 I	0.083	0.0068 U	0.00079 I		0.019	2.0
	8/28/2009	0.00055 I	0.0085 U	---	0.00015 I		---	---	---	---	---	---	---		0.012	1.6
	2/24/2010	0.00026 I	0.0085 U	0.011	0.0022	0.0022	0.0016 V,I	0.011	0.0013 U	0.000014 U	0.032	0.0063	0.00014 I	0.00021	0.0067	1.60
	8/25/2010	0.00062		0.012	0.0018	0.0026	0.0055	0.033	0.0013 U	0.000017 I	0.038	0.0025 I	0.00013 I	0.0012	0.011 V	1.5
	2/23/2011	0.00076		0.0024	0.00013 U	0.00079	0.0023 I	0.016	0.0013 U	0.000022 I	0.026	0.0022 U	0.000059 U	0.00089	0.033	0.51
	8/30/2011	NA		0.0044 J	0.00025 U	0.0029	NA	0.037	0.00020 U	NA	0.062	0.0044 B	NA	0.0017	0.034	0.890
Dissolved	11/8/2006	---	<0.0038	0.14	---	0.00064 V	0.00082 I V	---	<0.0019	<0.00002	---	<0.0043	0.00098 I V	---	---	---
	8/27/2009	0.00017 I	0.0085 U	0.025		0.0013	0.0046 V	0.019		0.000014 U	0.067	0.0022 U	0.000059 U	0.00008 I	0.012	0.30 V
	3/3/2010	0.00040 I	0.0085 U	0.079	0.00019 I	0.00032 U	0.00069 I	0.0047	0.0013 U	0.000014 U	0.0046 I	0.0044 U	0.00012 U	0.00013 U	0.0021	0.039
	8/31/2010	0.0015 U		0.075	0.0053	0.00040 I	0.0048	0.02		0.000014 U	0.033	0.044 U	0.0012 U	0.0013 U	0.0055	0.17
		---		---	---	---	---	---	---	0.014	---	---	---	---	---	---
	3/1/2011	0.00096		0.088	0.00056	0.00032 U	0.0032 I	0.016	0.0013 U	0.000025 I	0.012	0.0022 U	0.000059 U	0.000067 U	0.0044	0.068
	8/29/2011	NA		0.018		0.0010 J	NA	0.047 J		NA	0.100		NA	0.00050 U	0.038 U	0.480
Dissolved	11/8/2006			0.025			0.033 V	0.29 V		0.000042 I		<0.0043	<0.0006		0.0029 V	
	8/26/2009	0.00073 U	0.0036 U	0.020			0.049	0.23		0.000068 I		0.590	0.0006 I	0.00067 U		
	3/2/2010	0.00015 U	0.0085 U	0.00028 U			0.0078	0.12	0.0013 U	0.000014 U		0.0044 U	0.00012 U	0.00022 I	0.0023	1.0
	8/31/2010	0.0015 U		0.0096			0.024	0.33		0.000031 I		0.044 U	0.0012 U	0.0017 I		1.9
	3/1/2011	0.00015 I,J4		0.0079			0.015	0.27	0.0019 I	0.000018 I		0.0022 U,J4	0.000059 U,J4	0.00058 J4	0.011	1.7
	8/25/2011	NA	0.0098	0.014			NA	0.300		NA		0.017 B	NA	0.0012	0.012	1.800
Dissolved	10/24/2006	---	<0.0038	0.049	---	0.00038 V	0.00073 I V	---	0.0057 I	0.000055 I	---	<0.0043	<0.0006	---	---	---
	8/27/2009	0.000073 U	0.0085 U	0.057	0.00099	0.00032 U	0.00072 V,I	0.0025 U	0.0057 V,I	0.000042 I	0.0027 I	0.0022 U	0.000059 U	0.000067 U	0.00025 I	0.022V
	3/1/2010	0.00015 U	0.0085 U	0.08	0.0011	0.00032 U	0.00050 U	0.0074	0.0031 I	0.000044 I	0.0014 I	0.0044 U	0.00012 U	0.00013 U	0.00035 I	0.028
	8/31/2010	0.000073 U	0.0085 U	0.085	0.00079	0.00032 U	0.00054 I	0.0051	0.0013 U	0.000022 I	0.0011 U	0.0022 U	0.000059 U	0.00015 I	0.00021 I	0.027
	3/2/2011	0.000073 U	0.0085 U	0.074	0.00082	0.00032 U	0.00050 U	0.0025 U	0.0031 I	0.000077 I	0.0012 I	0.0022 U	0.000059 U	0.00014 I	0.00033 I	0.037
	8/25/2011	NA	0.0013 U	0.085	0.0013	0.00011 J	NA	0.0028 J	0.0052	NA	0.0047 J	0.0010 U	NA	0.00050 U	0.0038 U	0.021
Dissolved	11/8/2006		<0.0038	0.0027			0.057 V	0.18 V	<0.0019	0.000021 I		<0.0043	0.002 I V	<0.0010		1.7 V
	9/1/2009	0.000087 I	0.0085 U	0.00028 U		0.0028	0.078	0.11	0.0013 U	0.000014 U		0.0022 U	0.000059 U	0.000074 I		1.1
	3/2/2010	0.00047 I	0.0085 U	0.019		0.0014	0.043	0.057	0.0013 U	0.000014 U	0.098	0.0044 U	0.00012 U	0.00015 I	0.015	0.66
	9/1/2010	0.00014 I		0.015		0.0016	0.081	0.079	0.0013 U	0.000015 I	0.10	0.0022 U	0.000059 U	0.000094 I		0.68
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	3/1/2011	0.00013 I,J4		0.042		0.0014	0.048	0.061	0.0013 U	0.000014 U		0.0022 U,J4	0.000059 U,J4	0.000067 U,J4		0.68
	---	---		---			---	---		---			---	---		---
	8/29/2011	NA	0.0076	0.0030 J		0.0035	NA	0.120	0.0013 J	NA		0.0020 J	NA	0.00050 U	0.084	1.200
8/29/2011	NA	0.0044	0.0030 J		0.0031	NA	0.094	0.0014 J	NA		0.0083 B	NA	0.00050 U	0.075	0.940	

**LE**  
**SRR FGR ND ER CNEN R NS F R C C**  
 Former Farmers Favorite Fertilizer  
 Moultrie, Georgia

D	D S					C	C	C	L		N	S	S				
S																	
D	10/25/2006	---	<0.0038	2.0	---	0.0008 V	0.0011 I V	---		0.00049	---	<0.0043	<0.0006	---	---	---	
	8/26/2009	0.000073 U	0.0085 U			0.00075	0.00053 I	0.016		0.00058	0.0095	0.0022 U	0.000059 U	0.000087 I	0.00049 I	0.13	
	2/23/2010	0.00011 I	0.0085 U	0.36	0.00044	0.00032 U	0.0015 V,I	0.0025 U	0.0013 I	0.0016	0.0014 I	0.0022 U	0.00010 I	0.000067 U	0.0011 I	0.026	
	8/25/2010	0.00016 I	0.0085 U	0.13	0.00013 U	0.00032 U	0.00050 U	0.0041	0.0013 U	0.00014	0.0011	0.0022 U	0.000059 U	0.000067 U	0.0023 V	0.0020 U	
	2/23/2011	0.000073 U,J4				0.00034 I	0.00085 I	0.017		0.00066	0.0012	0.0022 U,J4	0.000059 U,J4	0.00039 J4	0.00054 I	0.13	
	8/23/2011	NA	0.0085			0.00078	NA	0.016		NA	0.015	0.016	NA	0.0005 U	0.0038 U	0.120	
D	3/2/2010	0.00015 U	0.0085 U	0.15	0.00081	0.00032 U	0.00050 U	0.0057	0.0034 I	0.000014 U	0.0033 I	0.0044 U	0.00012 U	0.00019 I	0.00059 I	0.042	
	8/31/2010	0.00022 I	0.0085 U	0.15	0.0011	0.00032 U	0.00070 I	0.0064	0.011	0.000014 U	0.0014 I	0.0022 U	0.000059 U	0.00022	0.00022 I	0.16	
	3/1/2011	0.000074 I	0.0085 U	0.085	0.00046	0.00032 U	0.00074 I	0.0025 U	0.0060 I	0.000066 I	0.0011 U	0.0022 U	0.000059 U	0.00016 I	0.0010 I	0.032	
	8/25/2011	NA	0.0013 U	0.086	0.00057	0.000095 U	NA	0.0022 J	0.0060	NA	0.0034 J	0.0032 B	NA	0.00050 U	0.0038 U	0.018 J	
S R	11/8/2006	---	<0.0038	0.025	---		0.0068 V	---	0.0059 I	<0.00002	---	<0.0043	0.00092 I V	---	---	---	
	8/26/2009	0.000095 I		0.019	0.0040	0.0017	0.00050 U	0.0038 I		0.000014 U	0.026	0.0030 I	0.000059 U	0.000098 I	0.00049 I	1.4	
	3/2/2010	0.00072 I		0.015		0.0011	0.00050 U	0.0035 I		0.000014 U	0.02	0.033	0.00012 U	0.00041	0.00018 U	0.97	
	9/1/2010	0.00013 I		0.018	0.0035	0.0007	0.0012 I	0.0048		0.000014 U	0.014	0.0036 I	0.000059 U	0.00031	0.00050 I	0.86	
	3/1/2011	0.000087 I,J4		0.016	0.0032	0.00056 I	0.00050 U	0.0025 U		0.000014 U	0.013	0.0022 U,J4	0.000059 U,J4	0.00040 J4	0.00020 I	0.73	
	8/29/2011	NA		0.017	0.0038	0.00080 J	NA	0.0049 J		NA	0.017		NA	0.00050 U	0.0076 U	0.560	
S R	11/8/2006	---	<0.0038	0.21	---	0.00015 I V	0.0015 V	---	<0.0019	<0.00002	---	<0.0043	0.001 I V	---	---	---	
	8/27/2009	0.000099 I	0.0085 U	0.19	0.00037	0.00032 U	0.00073 V,I	0.0025 U	0.0013 U	0.000014 U	0.0014 I	0.0022 U	0.000059 U	0.000067 U	0.00031 I	0.0091 V,I	
	3/3/2010	0.00018 I	0.0085 U	0.23	0.00038	0.00032 U	0.00050 U	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0044 U	0.00012 U	0.00013 U	0.00080 I	0.0088 I	
	8/31/2010	0.00036 I	0.0085 U	0.16	0.00034	0.00032 U	0.00099 I	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000093 I	0.0013 I	0.0072 I	
	3/1/2011	0.00012 I	0.0085 U	0.19	0.00037	0.00032 U	0.00050 U	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.00043 I	0.015	
	8/25/2011	NA	0.0013 U	0.160	0.00052	0.000095 U	NA	0.0011 U	0.00055 J	NA	0.0024 J	0.0010 U	NA	0.00050 U	0.0038 U	0.0083 U	
D	11/8/2006	---	<0.0038	0.073	---	<0.000051	0.0006 I V	---	<0.0019	<0.00002	---	<0.0043	0.0013 I V	---	---	---	
	8/27/2009	0.000073 U	0.0085 U	0.090	0.00013 U	0.00032 U	0.00078 V,I	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.00031 I	0.008 V,I	
	3/3/2010	0.00034 I	0.0085 U	0.085	0.00013 U	0.00032 U	0.00050 U	0.0025 U	0.013	0.000014 U	0.0011 U	0.0044 U	0.00012 U	0.00013 U	0.00069 I	0.0072 I	
	8/31/2010	0.000073 U	0.0085 U	0.11	0.00013 U	0.00032 U	0.00050 U	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.00031 I	0.01	
	3/1/2011	0.000087 I	0.0085 U	0.083	0.00013 U	0.00032 U	0.00072 I	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.00076 I	0.015	
	8/25/2011	NA	0.0013 U	0.091	0.00025 U	0.000095 U	NA	0.0011 U	0.00020 U	NA	0.0020 U	0.0010 U	NA	0.00050 U	0.0038 U	0.0083 U	
S	10/24/2006	<0.0026	<0.0038	0.16	<0.000017	0.00034 V	0.00047 I V	0.0036 I V	<0.0019	<0.00002	0.0079	<0.0043	<0.0006	<0.0010	0.0019 I	0.0039 I	
	8/27/2009	0.0014	0.0085 U	0.40	0.00013 U	0.00032 U	0.0005 U	0.0025 U	0.0013 U	0.000014 U	0.0038 I	0.0022 U	0.000059 U	0.000067 U	0.0096	0.0020 U	
	3/3/2010	0.0039	0.0085 U	0.068	0.00013 U	0.00032 U	0.00050 U	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0044 U	0.00012 U	0.00013 U	0.0041	0.022	
	8/31/2010	0.00079		0.22	0.00013 U	0.00032 U	0.0010 I	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.0034	0.0020 U	
	---	---	0.0085 U	---	---	---	---	---	---	---	---	---	---	---	---	---	
	3/1/2011	0.0012	0.010	0.16	0.00013 U	0.00032 U	0.00050 U	0.0025 U	0.0013 U	0.000014 U	0.0012 I	0.0022 U	0.000059 U	0.000067 U	0.0012 I	0.0042 I	
	8/25/2011	NA	0.0029	0.390	0.00025 U	0.000095 U	NA	0.0011 U	0.00020 U	NA	0.0020 U	0.0010 U	NA	0.00050 U	0.0038 U	0.0083 U	
	8/25/2011	NA	0.0094			0.0010	NA	0.026		NA	0.020	0.0015 J	NA	0.0012	0.0038 U	0.130	

**LE**  
**SRRFIGRND ER CNENRNSFRRC**  
 Former Farmers Favorite Fertilizer  
 Moultrie, Georgia

D	D S					C	C	C	L		N	S	S				
<b>S</b>																	
Dissolved	10/24/2006	<0.0026	<0.0038	0.38	0.0012	0.00027 V	0.00094 I V	0.0068 V	0.004 I	0.00048	0.002 I	<0.0043	<0.0006	<0.0010	0.00064 I	0.032	
	8/25/2009	0.00024 I	0.00036 U				0.0016 I	0.34					0.00018 I	0.00022	0.0017 U	1.3	
	---	---					---	---		0.00003 I		---	---	---	---	---	
	Dissolved	2/23/2010	0.00011 I					0.00050 U	0.35		0.0017			0.00029 I		0.0036	1.50
		---	---	0.22	0.79		0.0039	---	---		---		0.014	---		---	---
		8/25/2010	0.00017 I		0.76		0.0031	0.00076 I	0.21		0.0018		0.022	0.00018 I		0.00018 U	0.76
		2/23/2011	0.0011 I,J4		1.8 J4		0.0036	0.00099 U	0.40				0.022 U,J4	0.00059 U J4		0.00068 I	1.3
8/26/2011	NA		0.590		0.0037 J	NA	0.200		NA			NA		0.076 U	0.760		
	10/24/2006	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	8/25/2009	0.000079 I	0.0085 U	0.55	0.0018	0.00032 U	0.00051 I	0.0072	0.0019 I	0.00081	0.0088	0.0022 U	0.000059 U	0.000067 U	0.00024 I	0.048	
	2/23/2010	0.00010 I	0.0085 U	0.050	0.0015	0.00032 U	0.0014 V,I	0.0087	0.0027 I	0.0011	0.0095	0.0022 U	0.000059 U	0.0002	0.0016	0.082	
	8/25/2010	0.000073 U	0.0085 U	0.59	0.0018	0.00032 U	0.00050 U	0.007	0.0063 I	0.00086	0.0062 I	0.0022 U	0.000059 U	0.00026	0.0021 V	0.046	
	2/23/2011	0.000073 U	0.0085 U	0.59	0.0017	0.00032 U	0.00057 I	0.0065	0.0035 I	0.00088	0.0056 I	0.0022 U	0.000059 U	0.00028	0.00030 I	0.050	
	8/26/2011	NA	0.0013 U	0.550	0.0020	0.000095 U	NA	0.0052	0.0062	NA	0.0075	0.0010 U	NA	0.00050 U	0.0038 U	0.037	
S R	11/8/2006	---	<0.0038	0.46	---	<0.000051 V	0.0045 V	---	<0.0019	<0.00002	---	<0.0043	0.0016 I V	---	---	---	
	8/26/2009	0.00034 I	0.0085 U	0.066	0.00013 U	0.00032 U	0.0005 U	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000093 I	0.0003 I	0.011 V	
	3/2/2010	0.00022 I	0.0085 U	0.19	0.00013 U	0.00032 U	0.00050 U	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0044 U	0.00012 U	0.00013 U	0.00052 I	0.0033 I	
	9/1/2010	0.000073 U	0.0085 U	0.07	0.00013 U	0.00032 U	0.00066 I	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.00016 I	0.00040 I	0.0075 I	
	3/1/2011	0.00039 I	0.0085 U	0.037	0.00013 U	0.00032 U	0.00050 U	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.00036	0.00018 U	0.017	
	8/29/2011	NA	0.0013 U	0.036	0.00025 U	0.00014 J	NA	0.0011 U	0.00020 U	NA	0.0026 J	0.0022 J	NA	0.00050 U	0.0038 U	0.0083 U	
	10/25/2006	---	<0.0038	0.064	---	0.000088 I V	0.0084 V	---	<0.0019	<0.00002	---	<0.0043	<0.0006	---	---	---	
	8/25/2009	0.00014 I	0.0085 U	0.061	0.00013 U	0.00032 U	0.0053	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.0068	0.012	
	2/23/2010	0.00020 I	0.0085 U	0.11	0.00013 U	0.00032 U	0.0044 V	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.0067	0.0075 I	
	8/24/2010	0.00012 I	0.0085 U	0.039	0.00013 U	0.00032 U	0.0046	0.0028 I	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 I	0.000067 U	0.010 V	0.011	
	2/22/2011	0.00017 I	0.0085 U	0.071	0.00013 U	0.00032 U	0.0044	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.0085	0.016	
	8/23/2011	NA	0.0013 U	0.088	0.00025 U	0.000095 U	NA	0.0011 U	0.00020 U	NA	0.0020 U	0.0010 U	NA	0.00050 U	0.0085 J	0.0083 U	
S	10/25/2006	<0.0026		0.10	0.0039	0.0014 V	0.001 I V	0.043 V		0.00018	0.027	<0.0043	<0.0006	<0.0010	0.0028	0.35	
	8/25/2009	0.00010 I		0.073		0.0012	0.00072 I	0.041		0.00017	0.029	0.0022 U	0.000059 U	0.00016 I	0.00092 I	0.37	
	2/23/2010	0.000096 I		0.059		0.00120	0.00097 V,I	0.042		0.00041	0.0340	0.025	0.000059 U	0.0004	0.00018 U	0.38	
	8/25/2010	0.00028 I		0.069	0.004	0.0012	0.00078 I	0.039		0.00023	0.027	0.0037 I	0.000059 U	0.00043	0.0025 V	0.39	
	2/23/2011	0.000073 U,J4		0.058 J4	0.0039	0.00078	0.00070 I	0.038		0.00016	0.030	0.0022 U,J4	0.000059 U,J4	0.00044 J4	0.00018 U	0.37	
	8/24/2011	NA		0.063		0.0011	NA	0.030		NA	0.032		NA	0.00050 U	0.0076 U	0.330	
S	10/25/2006	---	<0.0038	0.65	---	0.00047 V	0.0021 V	---	0.0028 I	0.00024	---	<0.0043	<0.0006	---	---	---	
	8/31/2009	0.00047 I	0.0085 U	0.31	0.0012	0.00032 U	0.0013 I	0.0033 I	0.0013 U	0.000039 I	0.0038 I	0.0022 U	0.000059 U	0.00022	0.0018	0.084	
	2/25/2010	0.00023 I	0.0085 U	0.24	0.00095	0.00074	0.0020 V,I	0.0031 I	0.0013 U	0.00014	0.0083	0.0022 U	0.000059 U	0.0003	0.0016	0.49	
	8/26/2010	0.00012 I	0.0085 U	0.11	0.00067	0.00032 U	0.00053 I	0.0031 I	0.0013 U	0.000049 I	0.0037 I	0.0022 U	0.000059 U	0.00018 I	0.0034	0.38	
	2/24/2011	0.00055 I	0.0085 U	0.24	0.00083	0.00062	0.0011 I	0.0026 I	0.0013 U	0.00015	0.0067	0.0022 U	0.000059 U	0.00019 I	0.0018	0.35	
	8/29/2011	NA	0.0015 J	0.032	0.00025 U	0.000095 U	NA	0.0011 U	0.00020 U	NA	0.0033 J	0.0012 J,B	NA	0.00050 U	0.0038 U	0.024	

**LE**  
**SRRFIGRND ER CNENRNSFRCC**  
 Former Farmers Favorite Fertilizer  
 Moultrie, Georgia

D	D S					C	C	C	L		N	S	S			
S																
Dissolved	10/25/2006	0.0031 I	0.0089 I	0.013	0.0011		<0.0003 V	0.24 V	<0.0019	0.00003 I	0.082	<0.0043	0.003	<0.0010		
	---	---	---	---	---		---	0.25 V	---	---	0.085	---	---	---		
	8/31/2009	0.0014	0.0085 U	0.0031	0.00013 U		0.0014 I	0.13	0.0013 U	0.000014 U	0.058	0.0044 I	0.00035	0.0012		
	2/24/2010	0.0012	0.0085 U	0.015	0.00039		0.0094 V	0.19	0.0013 U	0.000014 U	0.078	0.0042 I	0.00084	0.00075		
	8/25/2010	0.00062		0.015	0.00032		0.0034 I	0.13	0.0013 U	0.000014 U	0.06	0.0056	0.00027 I	0.0014	0.015 V	
	2/23/2011	0.00080		0.0069	0.00025 I		0.0025 I	0.15	0.0013 U	0.000014 U	0.062	0.0022 U	0.00019 I	0.00078	0.014	
	8/30/2011	NA		0.0042 J	0.00036 J		NA	0.170	0.00020 J	NA	0.068	0.0023 J, B	NA	0.00080 J	0.019	
Dissolved	11/7/2006	---	<0.0038	0.26	---	0.00017 I V	0.00092 I V	---	<0.0019	<0.00002	---	<0.0043	0.0011 I V	---	---	---
	---	---	<0.0038	0.25	---	0.00013 I V	0.0003	---	<0.0019	<0.00002	---	<0.0043	0.0012 I V	---	---	---
	8/28/2009	0.0001 I	0.0085 U	0.24	0.00013 U	0.00032 U	0.00058 V, I	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.0011 I	0.0020 U
	2/25/2010	0.000074 I	0.0085 U	0.23	0.00013 U	0.00032 U	0.00057 V, I	0.0025 U	0.0013 U	0.000014 U	0.0017 I	0.0022 U	0.000059 U	0.000067 U	0.00028 I	0.0020 U
	8/25/2010	0.00072	0.0085 U	0.20	0.00013 U	0.00032 U	0.0021 I	0.0028 I	0.0014 I	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.007	0.0020 U
	2/28/2011	0.00023 I	0.0085 U	0.23	0.00013 U	0.00032 U	0.00050 U	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.00047 I	0.0044 I
	8/30/2011	NA	0.0013 U	0.210	0.00025 U	0.000095 U	NA	0.0067	0.00036 J	NA	0.0037 J	0.0015 J, B	NA	0.00050 U	0.0038 U	0.021
Dissolved	10/25/2006	---	<0.0038	0.18	---		0.0013 V	---	<0.0019	<0.00002	---	<0.0043	<0.0006	---	---	---
	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---
	8/28/2009		0.0085 U	0.065			0.0011 V, I	0.013	0.0013 U	0.000014 U	0.055	0.0068 U	0.00080 I	0.00024	0.0051	1.1
	---	0.00065	---	---	0.0022		---	---	---	---	---	---	---	---	---	---
	2/24/2010	0.00081	0.0085 U	0.07			0.0032 V, I	0.011	0.0013 U	0.000014 U	0.052	0.013	0.000059 U	0.00042	0.0067	1.20
	---	---	---	---	0.0022		---	---	---	---	---	---	---	---	---	---
	8/24/2010	0.00086		0.058	0.0022	0.0046	0.00085 I	0.010	0.0013 U	0.000014 U	0.046	0.0053	0.000059 U	0.00041	0.0059 V	0.86
2/23/2011	0.00065		0.044	0.00088	0.0022	0.00050 U	0.0079	0.0013 U	0.000014 U	0.027	0.0022 U	0.000059 U	0.00024	0.0023	0.47	
8/26/2011	NA	0.0017 J	0.035	0.00025 U	0.00074	NA	0.0095	0.00020 U	NA	0.0094	0.0019 J	NA	0.00050 U	0.0038 U	0.120	
Dissolved	10/27/2006	<0.0034	<0.0038	0.15 V	0.00033	<0.000051	0.00057 I V	<0.00096	<0.0019	<0.00002	0.0058 I V	<0.0043	0.0011 I V	<0.0010	0.00093 I	0.026 V
	8/31/2009	0.000084 I	0.0085 U	0.11	0.00018 I	0.00032 U	0.0005 U	0.0025 U	0.0013 U	0.000014 U	0.0036 I	0.0022 U	0.000059 U	0.000067 U	0.00079 I	0.037
	2/25/2010	0.00034 I	0.0085 U	0.11	0.00013 U	0.00032 U	0.00070 V, I	0.0025 U	0.0013 U	0.000014 U	0.0048 I	0.0022 U	0.000059 U	0.000079 I	0.00066 I	0.016
	8/26/2010	0.000094 I	0.0085 U	0.097	0.00013 U	0.00032 U	0.00050 U	0.0025 U	0.0013 U	0.000014 U	0.0044 I	0.0022 U	0.000059 U	0.000067 U	0.0018	0.011
	2/24/2011	0.00038 I	0.0085 U	0.150	0.00013 U	0.00032 U	0.00050 U	0.0025 U	0.0013 U	0.000014 U	0.0025 I	0.0022 U	0.000059 U	0.000067 U	0.0017	0.018
	8/30/2011	NA	0.0013 U	0.150	0.00025 U	0.000095 U	NA	0.0011 U	0.00020 U	NA	0.0039 J	0.0022 J	NA	0.00050 U	0.0038 U	0.0083 U
Dissolved	10/27/2006	<0.0034	<0.0038	0.37 V	0.0022	0.00015 I V	0.00097 I V	0.0044	0.0053 I V	<0.00002	0.0072 V	<0.0043	0.00082 I	<0.0010	<0.00055	0.042 V
	8/31/2009	0.000073 U	0.0085 U	0.34	0.0020	0.00032 U	0.0012 I	0.0052	0.0044 I	0.000014 U	0.0034 I	0.0022 U	0.000059 U	0.00018 I	0.00020 I	0.030
	3/1/2010	0.00015 U	0.0085 U	0.32	0.0022	0.00032 U	0.0011 I	0.0057	0.0045 I	0.000014 U	0.0031 I	0.0044 U	0.00012 U	0.00017 I	0.00071 I	0.029
	8/26/2010	0.000073 U	0.0085 U	0.31	0.0017	0.00032 U	0.00050 U	0.0066	0.0050 I	0.000015 I	0.0025 I	0.0022 U	0.000059 U	0.00015 I	0.0011 I	0.023
	2/24/2011	0.000073 U	0.0085 U	0.33	0.0022	0.00032 U	0.00072 I	0.0037 I	0.0028 I	0.000014 U	0.0053 I	0.0022 U	0.000059 U	0.00014 I	0.00018 U	0.035
	8/31/2011	NA	0.0013 U	0.330	0.0017	0.00011 J	NA	0.0049 J	0.0045	NA	0.0062	0.0018 J	NA	0.00050 U	0.0038 U	0.022

LE  
 SRR FIGR ND ER CNEN RNSFRCC  
 Former Farmers Favorite Fertilizer  
 Moultrie, Georgia

D	D S					C	C	C	L		N	S	S				
S																	
S	10/26/2006	---	<0.0038	0.14	---	0.00014 I V	0.0027 V	---	0.0044 I	<0.00002	---	<0.0043	<0.0006	---	---	---	
	9/1/2009	0.000073 U	0.0085 U	0.15	0.00066	0.00032 U	0.0026 I	0.0025 I	0.0019 I	0.000014 U	0.0019 I	0.0022 U	0.000059 U	0.000067 U	0.00018 U	0.017	
	2/26/2010	0.000073 U	0.0085 U	0.19	0.00078	0.00032 U	0.0024 V,I	0.0030 I	0.0041 I	0.000014 U	0.0026 I	0.0022 U	0.000059 U	0.000088 I	0.00018 U	0.021	
	8/27/2010	0.000081 I	0.0085 U	0.14	0.00055	0.00032 U	0.0019 I	0.0045	0.0039 I	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.0013 I	0.023	
	2/28/2011	0.000095 I	0.0085 U	0.13	0.00063	0.00032 U	0.0026 I	0.0025 U	0.0022 I	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000092 I	0.00038 I	0.025	
	8/26/2011	NA	0.0013 U	0.130	0.00071	0.000095 U	NA	0.0026 J	0.0030	NA	0.0052	0.0020 J	NA	0.00050 U	0.0038 U	0.014 J	
S	10/27/2006	<0.0034	<0.0038	0.15 V	0.00094	<0.000051	0.0011 I V	<0.00096	<0.0019	0.000022 I	0.006 I V	<0.0043	<0.0006	<0.0010 J4	0.0012 I	0.022 V	
	8/31/2009	0.000073 U	0.0085 U	0.10	0.00078	0.00032 U	0.00093 I	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000091 I	0.0018	0.013	
	2/25/2010	0.000073 U	0.0085 U	0.19	0.00082	0.00032 U	0.00084 V,I	0.0025 U	0.0013 U	0.000014 U	0.0019 I	0.0022 U	0.000059 U	0.000067 U	0.00018 U	0.029	
	8/25/2010	0.000073 U	0.0085 U	0.093	0.00073	0.00032 U	0.0013 I	0.0029 I	0.0031 I	0.000020 I	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.0048	0.019	
	2/28/2011	0.000093 I	0.0085 U	0.130	0.00055	0.00032 U	0.0027 I	0.0025 U	0.0023 I	0.000029 I	0.0011 U	0.0022 U	0.000059 U	0.00021	0.0018	0.015	
	8/31/2011	NA	0.0022 J	0.160	0.0011	0.000095 U	NA	0.0032 J		NA	0.0030 J	0.0021 J	NA	0.00050 U	0.0079 J	0.034	
S	11/7/2006	<0.0026	<0.0038	0.15	0.00023	0.000096	0.00032 I V	0.0055 V	0.0044 I V	<0.00002	<0.0016	<0.0043	0.0011 I V	0.0013 I	<0.00055	0.017 V	
	8/28/2009	0.000073 U	0.0085 U	0.10	0.00013 I	0.00032 U	0.00082 V,I	0.0025 U	0.0034 I	0.000018 I	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.00028 I	0.012	
	2/25/2010	0.000074 I	0.0085 U	0.098	0.00013 U	0.00032 U	0.00074 V,I	0.0025 U	0.0021 I	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.00018 U	0.0077 I	
	8/25/2010	0.00035 I	0.0085 U	0.098	0.00013 U	0.00032 U	0.00050 U	0.0032 I	0.0051 I	0.000047 I	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.0013 I	0.0064 I	
	2/28/2011	0.00042 I	0.0085 U	0.11	0.00013 U	0.00032 U	0.00050 I	0.0025 U	0.0025 I	0.000055 I	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.00034 I	0.016	
	8/30/2011	NA	0.0013 U	0.092	0.00025 U	0.000095 U	NA	0.0015 J	0.0038	NA	0.0023 J	0.0015 J, B	NA	0.00050 U	0.0038 U	0.0083 U	
SR	11/8/2006	---	<0.0038	0.09	---	0.00011 I V	0.00082 I V	---	<0.0019	<0.00002	---	<0.0043	0.0013 I V	---	---	---	
	8/26/2009	0.00037 I	0.0085 U	0.16	0.00013 U	0.00032 U	0.0005 U	0.0025 U	0.0013 U	0.000014 U	0.0017 I	0.0022 U	0.000059 U	0.000067 U	0.0014 I	0.002 U	
	3/3/2010	0.00072 I	0.0085 U	0.084	0.00013 U	0.00032 U	0.00050 U	0.0025 U	0.0013 U	0.000014 U	0.0020 I	0.0044 U	0.00012 U	0.00013 U	0.0010 U	0.0037 I	
	9/1/2010	0.00042 I	0.0085 U	0.14	0.00018 I	0.00032 U	0.00098 I	0.0034 I	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.0013 I	0.0020 U	
	3/1/2011	0.00		0.11	0.00014 I	0.00032 U	0.00050 U	0.0030 I	0.0013 U	0.000014 U	0.022	0.0022 U	0.000070 I	0.000067 U	0.00071 I	0.23	
	8/29/2011	NA	0.0014 J	0.150	0.00025 U	0.000095 U	NA	0.0011 U	0.00020 U	NA	0.0032 J	0.0013 J	NA	0.00050 U	0.0038 U	0.0083 U	
S	8/25/2009	0.00082	0.0085 U	0.043	0.00036	0.00041 I	0.00050 U	0.014	0.0013 U	0.000014 U	0.0019 I	0.0065	0.000059 U	0.000067 U		0.11	
	3/8/2010	0.0015	0.0085 U	1.5	0.0047	0.00080 U	0.00050 U	0.02	0.0013 U	0.000055 I	0.015	0.032 J4	0.00012 U	0.00040 I	0.0075	0.19	
	8/24/2010	0.00049 I	0.0085 U	1.0		0.00091	0.00050 U	0.024	0.0013 U	0.000052 I	0.016	0.0030 I	0.000059 U	0.00061	0.0095 V	0.24	
	2/22/2011	0.00020 I	0.010			0.00043 I	0.00050 U	0.023	0.0013 U	0.00014	0.020	0.0022 U	0.000059 U	0.00062	0.0051	0.20	
	8/23/2011	NA	0.0021 J	0.210	0.0039	0.00070	NA	0.018	0.00038 J	NA	0.016	0.020	NA	0.00058 J	0.0095 J	0.110	
S	10/25/2006	<0.0026	<0.0038			0.0013 V	0.00032 I V	0.041 V		0.00071	0.013	<0.0043	<0.0006	<0.0010	0.0008 I	0.23	
	5/25/2009	0.00016 I	0.0085 U	2.0		0.00078	0.00050 U	0.026		0.00073	0.0080	0.0022 U	0.000059 U	0.00096	0.00027 I	0.12	
	2/22/2010	0.00028 I	0.0085 U	1.60		0.00061	0.00057 V,I	0.02		0.00110	0.0089	0.0022 U	0.000064 I	0.00110	0.00018 U	0.099	
	8/24/2010	0.000073 U				0.00076	0.00050 U	0.027		0.00089	0.010	0.0022 U	0.000059 U	0.0013	0.00098 I,V	0.12	
	2/22/2011	0.000099 I,J4				0.00055 I	0.00050 U	0.026		0.00081	0.014	0.0022 U,J4	0.000059 U,J4	0.0012 J4	0.00018 U	0.13	
	8/24/2011	NA	0.0079			0.00089	NA	0.024		NA	0.018	0.017	NA	0.0013	0.0038 U	0.120	

**LE**  
**SRRFIGRND ERICNCENRNSFRRC**  
 Former Farmers Favorite Fertilizer  
 Moultrie, Georgia

D	D S					C	C	C	L		N	S	S			
S																
S	10/25/2006	---	<0.0038		---	0.00054 V	0.00062 I V	---		0.00037	---	<0.0043	<0.0006	---	---	---
	8/25/2009	0.00023 I	0.0085 U			0.00037 I	0.0005 U	0.0096	0.0060 I	0.00026	0.0086	0.0022 U	0.000059 U	0.000067 U	0.00047 I	0.050
	2/23/2010	0.00017 I	0.0085 U			0.00072	0.00054 V,I	0.0094	0.0084	0.00039	0.013	0.0022 U	0.000059 U	0.00025	0.00018 U	0.051
	8/24/2010	0.000073 U	0.0085 U			0.00034 I	0.00050 U	0.0096	0.012	0.00026	0.0083	0.0022 U	0.000059 U	0.00034	0.0012 I,V	0.043
	2/22/2011	0.00043 I	0.0085 U		0.0035	0.00032 U	0.00050 U	0.0250	0.0083	0.00027	0.0085	0.0022 U	0.000059 U	0.00025	0.00020 I	0.047
	8/23/2011	NA	0.0013 U	1.900	0.0034	0.00020 J	NA	0.0061	0.012	NA	0.0098	0.0010 U	NA	0.00050 U	0.0038 U	0.030
S Dissolved	11/7/2006	---	<0.0038	0.17	---	0.00017 I V	0.0033 V	---	0.004 I V	<0.00002	---	<0.0043	0.00077 I V	---	---	---
	---	---	<0.0038	0.13	---	0.00018 I V	0.002 V	---	<0.0019	<0.00002	---	<0.0043	0.00075 I V	---	---	---
	8/25/2009	0.00011 I	0.0085 U	0.16	0.00077	0.00032 U	0.0060	0.0046	0.0028 I	0.000014 U	0.0026 I	0.0022 U	0.000059 U	0.000067 U	0.0068	0.023
	2/23/2010	0.00030 I		0.23	0.0016	0.00032 U	0.038 V	0.017		0.000014 U	0.017	0.0022 U	0.000059 U	0.00014 I		0.05
	---	---	0.0085 U	---	---	---	---	---	0.0013 U	---	---	---	---	---	0.0047	---
	8/24/2010	0.00029 I	0.0085 U	0.13	0.0012	0.00032 U	0.046	0.018		0.000014 U	0.018	0.0022 U	0.000059 U	0.00023		0.051
	---	---	---	---	---	---	---	---	0.0025 I	---	---	---	---	---	0.0038	---
	2/22/2011	0.00010 I,J4	0.0085 U	0.19 J4	0.003	0.00032 U		0.044		0.000078 I		0.0022 U,J4	0.000059 U,J4	0.00037 J4		0.11
---		---	---	---	---	0.0021 I	---	0.0013 U	---	0.0056 I	---	---	---	---	---	
8/24/2011	NA	0.0013 U	0.130	0.00072	0.000095 U	NA	0.0020 J	0.0035	NA	0.0027 J	0.0010 U	NA	0.00050 U	0.0038 U	0.0091 J	
8/24/2011	NA	0.0013 U		0.0034	0.00029 J	NA	0.0067		NA	0.011	0.0010 U	NA	0.00050 U	0.0038 U	0.029	
S Dissolved S R	10/25/2006	<0.0026	<0.0038	0.011	0.00044		0.0021 V	0.048 V	<0.0019	0.000038 I	0.06	<0.0043	0.0017 I	<0.0010	0.0071	
	---	---	---	---	---		---	0.043 V	---	---	0.063	---	---	---	---	
	2/23/2010	0.00068	0.0085 U	0.01	0.00013 U	0.0041	0.00084 V,I	0.018	0.0013 U	0.000014 U	0.032	0.013	0.000059 U	0.00079	0.0024	0.67
	8/24/2010	0.00013 I	0.0085 U	0.021	0.00013 U	0.005	0.00050 U	0.026	0.0013 U	0.000014 U	0.026	0.0085	0.000059 U	0.00079	0.0041 V	0.87
	2/23/2011	0.00067		0.0064	0.00013 U	0.0025	0.00087 I	0.016	0.0013 U	0.000022 I	0.021	0.0053	0.000059 U	0.00076	0.0036	0.37
	8/26/2011	NA	0.0035	0.018	0.00025 U	0.0039	NA	0.017	0.00075 J	NA	0.030	0.0054 B	NA	0.00091 J	0.0038 U	0.520
Dissolved	2/23/2010	0.00024 I	0.0085 U	0.23	0.0022	0.0012	0.050 V	0.052	0.0013 U	0.000020 I	0.032	0.0096	0.000059 U	0.00097	0.00077 I	0.062
	8/24/2010	0.000076 I		0.22			0.0046	0.087	0.093	0.00021	0.098	0.0095	0.00013 I	0.0017	0.0010 I,V	0.38
	---	---		---			---	---		---	---	---	---	---	---	---
	2/22/2011	0.000073 U,J4		0.13 J4		0.0050	0.00050 U	0.087		0.00029	0.10	0.0022 U,J4	0.00014 I,J4	0.0017 J4	0.00018 U	0.38
	8/26/2011	NA		0.110			NA	0.110		NA			NA	0.0015	0.038 U	0.480
S	9/1/2009	0.00029 I	0.0085 U	0.028	0.00013 U	0.00032 U	0.0024 I	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.0014 I	0.0096 I
	2/26/2010	0.000087 I	0.0085 U	0.02	0.00031	0.00032 U	0.0017 V,I	0.0025 U	0.0013 U	0.000014 U	0.0023 I	0.0022 U	0.000059 U	0.000070 I	0.00052 I	0.16
	8/30/2010	0.000073 U	0.0085 U	0.032	0.00016 I	0.00032 U	0.0019 I	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.0012 I	0.011
	2/28/2011	0.00035 I	0.0085 U	0.028	0.00015 I	0.00032 U	0.0022 I	0.0025 U	0.0013 U	0.000020 I	0.0011 U	0.0022 U	0.000059 U	0.000076 I	0.0018 I	0.056
S Dissolved	11/7/2006	---	<0.038	0.049	---		<0.003	---	<0.019	<0.00002	---	<0.043	0.019 I V	---	---	
	---	---	<0.038	0.048	---		<0.003	---	<0.019	<0.00002	---	<0.043	0.016 I V	---	---	
	8/31/2009	0.0024	0.0085 U	0.030	0.00013 U		0.00050 U	0.14	0.0013 U	0.000014 U		0.022	0.00079	0.0017		
	2/24/2010	0.002	0.0085 U	0.013	0.00013 U		0.0005 U	0.058	0.0013 U	0.000014 U	0.073	0.02	0.00010 I	0.00098		
	8/25/2010	0.004		0.32	0.0034		0.034	0.42		0.00051	0.068	0.023 I	0.0025	0.0013		
	---	---		---	---		---	---	0.0013 U	---	---	---	---	---	1.8	
	2/23/2011	0.0013 J4		0.02 J4	0.00013 I		0.00050 U	0.12	0.0013 U	0.000016 I	0.120	0.010 J4	0.00025 I,J4	0.00089 J4	0.016	
8/31/2011	NA	0.0080	0.065	0.00059		NA	0.310		NA		0.0033	NA	0.0013	0.028		

**LE**  
**SRFG RND ER CNEN RNSFRRC**  
 Former Farmers Favorite Fertilizer  
 Moultrie, Georgia

D	D S					C	C	C	L		N	S	S				
S																	
	2/24/2010	0.00071 J4	0.0085 U	0.13	0.0017	0.00032 U	0.010 V	0.0046	0.0036 I	0.000014 U	0.01	0.0022 U	0.00026 I	0.00020 I		0.027	
	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0053	---	
	8/25/2010	0.000073 U	0.0085 U	0.084	0.00021 I	0.00032 U	0.0016 I	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.0058 V	0.0071 I	
	2/23/2011	0.00013 I	0.0085 U	0.083	0.0016	0.00032 U	0.013	0.0046	0.0050 I	0.000014 U	0.011	0.0022 U	0.000059 U	0.00019 I		0.037	
	8/30/2011	NA	0.0013 U	0.084	0.00041 J	0.000095 U	NA	0.0011 U	0.0010 J	NA	0.0027 J	0.0015 J, B	NA	0.00050 U	0.0038 U	0.0083 U	
	11/7/2006	<0.0026	<0.0038		0.0035	0.0012 V	<0.0003	0.01 V	0.0093 V	0.00019	0.0088	<0.0043	0.0012 I V	<0.0010	0.00077 I V	0.05 V	
	8/25/2009	0.0002 I	0.0085 U			0.00045 I	0.00050 U	0.011		0.00023	0.010	0.0022 U	0.000059 U	0.00015 I	0.00076 I	0.051	
	2/22/2010	0.00046 I	0.0085 U			0.00045 I	0.00052 V,I	0.01		0.00062	0.0130	0.0022 U	0.000059 U	0.00036	0.00030 I	0.050	
	8/24/2010	0.00014 I	0.0085 U			0.00035 I	0.00050 U	0.01		0.00027	0.0074	0.0022 U	0.000059 U	0.00029	0.0013 I,V	0.041	
	2/22/2011	0.00019 I	0.0085 U			0.00032 U	0.00050 U	0.0074		0.00036	0.0087	0.0022 U	0.000059 U	0.00030	0.00018 U	0.048	
	8/23/2011	NA	0.0013 U	2.000	0.0039	0.00031 J	NA	0.0065		NA	0.012	0.0010 U	NA	0.00050 U	0.0038 U	0.031	
	11/8/2006	<0.0026		0.019		0.001 V	<0.0003	0.02 V		0.000027 I	0.024	<0.0043	0.0006	<0.0010	0.0014 I	0.27 V	
	8/26/2009	0.00019 I		0.016		0.00081	0.0014 V,I	0.013		0.000082 I	0.027	0.0022 U	0.000059 U	0.00087	0.0005 I	0.21 V	
	3/2/2010	0.00041 I		0.05		0.00034 I	0.00050 U	0.0025 U		0.000098 I	0.013	0.016	0.00012 U	0.00033 I	0.00062 I	0.084	
	---	---		---	---	---	---	---		---	---	---	---	---	0.00042 I	---	
	9/1/2010	0.00016 I		0.018		0.0015	0.0051	0.02		0.00064	0.03	0.0037 I	0.000059 U	0.0011	0.0053	0.23	
	3/1/2011	0.00030 I J4		0.031	0.0028	0.00032 U	0.00050 U	0.0025 U		0.00056	0.012	0.0022 U,J4	0.000059 U,J4	0.00048 J4	0.00030 I	0.14	
	8/29/2011	NA		0.015	0.0099	0.0011 J	NA	0.020		NA	0.044		NA	0.0012	0.015 U	0.270	
	11/8/2006	---	<0.0038	1.1	---	0.00016 I V	<0.0003 V	---	<0.0019	<0.00002	---	<0.0043	0.0022 I V	---	---	---	
	8/26/2009	0.0002 I	0.0085 U	1.1	0.00013 U	0.00032 U	0.0005 U	0.0025 U	0.0013 U	0.000014 U	0.0027 I	0.0022 U	0.000059 U	0.000067 U	0.00077 I	0.002 U	
	3/3/2010	0.00068 I	0.0085 U	1.1	0.00013 U	0.00032 U	0.00050 U	0.0025 U	0.0013 U	0.000014 U	0.0028 I	0.0044 U	0.00012 U	0.00013 U	0.00070 I	0.0020 U	
	9/1/2010	0.00014 I	0.0085 U	1.2	0.00013 U	0.00032 U	0.00051 I	0.0025 U	0.0013 U	0.000014 U	0.0017 I	0.0022 U	0.000059 U	0.000067 U	0.0010 I	0.0020 U	
	3/1/2011	0.000073 U	0.0085 U	1.1	0.00013 U	0.00032 U	0.00050 U	0.0025 U	0.0013 U	0.000014 U	0.0039 I	0.0022 U	0.000059 U	0.000067 U	0.00032 I	0.0020 U	
	8/29/2011	NA	0.0023 J	1.100	0.00025 U	0.000095 U	NA	0.0011 U	0.00020 U	NA	0.0020 U	0.0013 J	NA	0.00050 U	0.0038 U	0.0083 U	
	11/8/2006	---	<0.0038	0.054	---	0.000086 I V	0.00079 I V	---	<0.0019	<0.00002	---	<0.0043	0.0014 I V	---	---	---	
	8/26/2009	0.00012 I	0.0085 U	0.059	0.00013 U	0.00032 U	0.00067 I,V	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.00018 U	0.0091 V,I	
	3/3/2010	0.00015 U	0.0085 U	0.068	0.00013 U	0.00032 U	0.00050 U	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0044 U	0.00012 U	0.00013 U	0.00040 I	0.0069 I	
	9/1/2010	0.000073 U	0.0085 U	0.049	0.00013 U	0.00032 U	0.00090 I	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.00018 U	0.0077 I	
	3/1/2011	0.000073 U	0.0085 U	0.052	0.00013 U	0.00032 U	0.00050 U	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.00023 I	0.013	
	8/24/2011	NA	0.0013 U	0.077	0.00028 J	0.000095 U	NA	0.0011 U	0.00040 J	NA	0.0020 J	0.0010 U	NA	0.00050 U	0.0038 U	0.0083 U	
	11/8/2006	---	<0.0038	0.26	---	0.000096 I V	0.0011 I V	---	<0.0019	0.000056 I	---	<0.0043	0.0011 I V	---	---	---	
	8/27/2009	0.000073 U	0.0085 U	0.13	0.00069	0.00032 U	0.0021 V,I	0.0025 U	0.0015 V,I	0.00025	0.0036 I	0.0022 U	0.00059 U	0.000067 U	0.00018 U	0.027 V	
	3/1/2010	0.00015 U	0.0085 U	0.13	0.00097	0.00032 U	0.0018 I	0.0036 I	0.0013 U	0.00031	0.0042 I	0.0044 U	0.00012 U	0.00015 I	0.00034 I	0.032	
	8/31/2010	0.000073 U	0.0089 I	0.11	0.0011	0.00032 U	0.0023 I	0.005	0.0020 I	0.00014 I	0.0021 I	0.0022 U	0.000059 U	0.0002 I	0.00069 I	0.094	
	3/2/2011	0.000073 U	0.0085 U	0.098	0.00097	0.00032 U	0.0022 I	0.0025 U	0.0016 I	0.00022	0.0050 I	0.0022 U	0.000059 U	0.00017 I	0.00018 U	0.054	
	8/25/2011	NA	0.0035	0.080	0.0017	0.00018 J	NA	0.0049 J	0.0053	NA	0.011	0.0078	NA	0.00050 U	0.0038 U	0.042	



**LE**  
**SR FGR ND ER C NCEN R NS F R C C**  
 Former Farmers Favorite Fertilizer  
 Moultrie, Georgia

D	D S					C	C	C	L		N	S	S				
<b>S</b>																	
FFF Dissolved FFF Dissolved	10/26/2006	0.0059 I					<0.0006	0.19		0.00059		<0.0086	<0.0012		0.0041 I V	1.1 V	
	10/26/2006	---					---	0.23 V		<0.00002		---	---		---	---	
	11/7/2006	<0.0026	<0.0038			0.0035 V	<0.0003	0.059 V		0.00091	0.084	<0.0043	<0.0006	0.0018 I	0.0013 I	0.22 V	
	9/1/2009	0.000073 U	0.0085 U			0.0026	0.00074 I	0.045		0.0015	0.072	0.0068 U	0.00044 U	0.0014	0.0013 I	0.19	
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	3/1/2010	0.00029 I				0.0038	0.00050 U	0.075		0.00035		0.022	0.00068		0.00025 I	0.28	
	8/27/2010	0.00014 I				0.0032	0.00050 U	0.056		0.00022	0.090	0.0026 I	0.00038	0.0019	0.0018	0.24	
	2/28/2011	0.00012 I				0.0028	0.00050 U	0.054		0.00120	0.088	0.0022 U	0.00042	0.0020	0.00038 I	0.21	
8/31/2011	NA	0.0048	2.000		0.0015	NA	0.021		NA	0.048	0.0084	NA	0.00092 J	0.0038 U	0.095		
FFF Dissolved	3/1/2010	0.00054 I	0.0085 U	0.46	0.00072	0.00032 U	0.0053	0.0047	0.0013 U	0.000014 U	0.0034 I	0.0044 U	0.00012 U	0.00013 U	0.0096	0.023	
	8/27/2010	0.00015 I	0.0085 U	0.31	0.00013 U	0.00032 U	0.00064 I	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.0033	0.0069 I	
	2/28/2011	0.00015 I	0.0085 U	0.32	0.00035	0.00032 U	0.00098 I	0.0025 U	0.0013 U	0.000014 U	0.0018 I	0.0022 U	0.000059 U	0.00013 I	0.0020	0.020	
	8/31/2011	NA	0.0013 U	0.230	0.00064	0.00036 J	NA	0.0011 U	0.00020 U	NA	0.0054	0.0016 J, B	NA	0.00050 U	0.0038 U	0.0083 U	
FFF Dissolved FFF Dissolved	11/7/2006	---		0.02	---		<0.0003	---	0.0033 I V	0.000027 I	---	<0.0043	0.0007 I V	---	---	---	
	11/7/2006	---		0.0033	---		<0.0003	---	<0.0019	<0.00002	---	<0.0043	0.0018 I V	---	---	---	
	8/31/2009	0.00064	0.0085 U	0.0061	0.00017 I	0.0044	0.0023 I	0.06	0.0013 U	0.000014 U	0.037	0.0022 U	0.000087 I	0.00014 I	0.0094	1.6	
	8/29/2011	NA		0.0026 J	0.00025 U	0.00066	NA	0.0031 J	0.00045 J	NA	0.035	0.0017 J	NA	0.00050 U	0.0062 J	0.050	
	8/29/2011	NA		0.0027 J	0.00025 U	0.00066	NA	0.0038 J	0.00020 U	NA	0.039 B	0.0011 J	NA	0.00050 U	0.0081 J	0.060	
FFF Dissolved FFF Dissolved	10/26/2006	---	<0.0038	0.35	---	0.000061 I V	0.0064 V	---		0.00008 I	---	<0.0043	<0.0006	---	---	---	
	10/26/2006	---	---	---	---	---	---	---	<0.0019	---	---	---	---	---	---	---	
	9/1/2009	0.00016 I	0.0085 U	0.25		0.00032 U	0.033	0.021		0.000024 I	0.025	0.0022 U	0.000059 U	0.00049		0.071	
	8/30/2011	NA		0.830		0.0027	NA	0.022		NA		0.033 B	NA	0.0020	0.0076 U	0.350	
	8/30/2011	NA	0.0092	0.420		0.0035	NA	0.022		NA		0.0040	NA	0.0021	0.0038 U	0.440	
S	10/26/2006	---	<0.0038	0.21	---	0.00035 V	0.0019 V	---	0.0096	<0.00002	---	<0.0043	<0.0006	---	---	---	
	9/1/2009	0.000073 U	0.0085 U	0.28	0.0024	0.00032 U	0.0015 I	0.0011	0.0061 I	0.000014 U	0.0095	0.0022 U	0.000059 U	0.00013 I	0.00027 I	0.055	
	2/26/2010	0.00012 I	0.0085 U	0.32	0.0023	0.00032 U	0.0016 V, I	0.0091	0.0076	0.000014 U	0.011	0.0022 U	0.000059 U	0.00015 I	0.00026 I	0.051	
	8/30/2010	0.000073 U	0.0085 U	0.27	0.0020	0.00032 U	0.0019 I	0.0098	0.0068 I	0.000014 U	0.0062 I	0.0022 U	0.000059 U	0.00033	0.00026 I	0.046	
	2/28/2011	0.000073 U	0.0085 U	0.26	0.0017	0.00032 U	0.0014 I	0.0062	0.0066 I	0.000014 U	0.0057 I	0.0022 U	0.000059 U	0.00015 I	0.00026 I	0.048	
	8/26/2011	NA	0.0013 U	0.280	0.0017	0.00013 J	NA	0.0073	0.0084	NA	0.0010	0.0021 J	NA	0.00050 U	0.0038 U	0.035	
S	10/26/2006	---	<0.0038	0.046	---	<0.000051	0.0014 V	---	<0.0019	<0.00002	---	<0.0043	<0.0006	---	---	---	
	9/1/2009	0.000073 U	0.0085 U	0.052	0.00029 I	0.00032 U	0.0021 I	0.0025 U	0.0013 U	0.000014 U	0.0012 I	0.0022 U	0.000059 U	0.000067 U	0.0066	0.0088 I	
	2/26/2010	0.00016 I	0.0085 U	0.043	0.00013 U	0.00032 U	0.0014 V, I	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.0056	0.0068 I	
	8/30/2010	0.000073 U	0.0085 U	0.042	0.00017 I	0.00032 U	0.00069 I	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.0052	0.0057 I	
	2/28/2011	0.000073 U	0.0085 U	0.046	0.00013 U	0.00032 U	0.0016 I	0.0025 U	0.0013 U	0.000014 U	0.0011 U	0.0022 U	0.000059 U	0.000067 U	0.0064	0.017	
	8/26/2011	NA	0.0013 U	0.040	0.00025 U	0.000095 U	NA	0.0011 U	0.00020 U	NA	0.0022 J	0.0010 U	NA	0.00050 U	0.0051 J	0.0083 U	

**SOLE**  
**SRFG RND ER CNEN RNSFRRC**  
 Former Farmers Favorite Fertilizer  
 Moultrie, Georgia

D	D S					C	C	C	L		N	S	S			
S																
Dissolved	10/26/2006	<0.0026	<0.0038	0.33		0.0004 V	0.001 I V	0.0055	0.0074 I	<0.00002	0.0074	<0.0043	<0.0006	<0.0010	0.0024	0.035 V
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	9/1/2009	0.00032 I	0.0085 U	0.14		0.00032 U	0.0013 I	0.0050	0.0013 U	0.000014 U	0.0066	0.0022 U	0.000059 U	0.0001 I	0.0032	0.051
	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---
	2/26/2010	0.0015	0.0085 U	0.033	0.0012	0.00032 U	0.0028 V,I	0.0065	0.0013 U	0.000014 U	0.0049 I	0.0022 U	0.000059 U	0.000071 I	0.0095	0.067
	8/26/2010	0.00040 I	0.0085 U	0.160		0.00032 U	0.00092 I	0.0065	0.0036 I	0.000014 U	0.0070	0.0022 U	0.000059 U	0.00014 I	0.0049	0.050
	2/28/2011	0.0010	0.0085 U	0.052	0.0013	0.00032 U	0.0018 I	0.0032 I	0.0013 U	0.000019 I	0.0012 I	0.0022 U	0.000059 U	0.00013 I	0.0065	0.11
	8/31/2011	NA	0.0013 U	0.110		0.00035 J	NA	0.005	0.002	NA	0.010	0.0031	NA	0.00050 U	0.0038 U	0.051
Dissolved	10/26/2006	---	<0.0038	0.29	---	0.00017 I V	0.0021 V	---	<0.0019	<0.00002	---	<0.0043	<0.0006	---	---	---
	9/1/2009	0.000073 U	0.0085 U	0.24	0.0015	0.00032 U	0.0017 I	0.0025 U	0.0013 U	0.000018 I	0.0023 I	0.0022 U	0.000059 U	0.000067 U	0.0011 I	0.016
	2/25/2010	0.000073 U	0.0085 U	0.24	0.0013	0.00032 U	0.0024 V,I	0.0025 U	0.0013 U	0.000068 I	0.0035 I	0.0022 U	0.000059 U	0.000078 I	0.00018 U	0.016
	8/26/2010	0.00034 I	0.0085 U	0.21	0.0013	0.00032 U	0.0010 I	0.0025 U	0.0014 I	0.000046 I	0.0016 I	0.0022 U	0.000059 U	0.000071 I	0.0015	0.0042 I
	2/28/2011	0.000087 I	0.0085 U	0.21	0.0018	0.00032 U	0.0011 I	0.0025 U	0.0013 U	0.000022 I	0.0017 I	0.0022 U	0.000059 U	0.0003	0.00072 I	0.027
	8/31/2011	NA	0.0013 U	0.180	0.0015	0.00011 J	NA	0.0011 U	0.00078 J	NA	0.0041 J	0.0019 J	NA	0.00050 U	0.0038 U	0.0087 J
Dissolved	10/26/2006	---	<0.0038	0.19	---	0.00022 V	0.0017 V	---	0.005 I	<0.00002	---	<0.0043	<0.0006	---	---	---
	9/1/2009	0.00038 I	0.0085 U	0.20	0.00066	0.00032 U	0.0013 I	0.0033 I	0.0039 I	0.000014 U	0.0023 I	0.0022 U	0.000059 U	0.000072 I	0.00048 I	0.024
	2/26/2010	0.000075 I	0.0085 U	0.19	0.00055	0.00032 U	0.0016 V,I	0.0030 I	0.0038 I	0.000017 I	0.0023 I	0.0022 U	0.000059 U	0.000089 I	0.00018 U	0.019
	8/27/2010	0.000073 U	0.0085 U	0.19	0.00051	0.00032 U	0.00050 U	0.0060	0.0045 I	0.000014 U	0.0011 I	0.0022 U	0.000059 U	0.000067 U	0.0014 I	0.02
	2/28/2011	0.000092 I	0.0085 U	0.18	0.00058	0.00032 U	0.0013 I	0.0025 U	0.0033 I	0.000014 U	0.0014 I	0.0022 U	0.000059 U	0.000098 I	0.00028 I	0.027
	8/26/2011	NA	0.0013 U	0.190	0.00062	0.000095 U	NA	0.0037 J	0.0042	NA	0.0049 J	0.0016 J	NA	0.00050 U	0.0038 U	0.017 J
Dissolved	10/26/2006						<0.0003	0.032		<0.00002		<0.0043	<0.0006		0.032	0.98 V
	8/31/2009	0.00026 I					0.00050 U	0.13		0.000022 I		0.0068 U	0.00044 U		0.014	1.0
	3/1/2010	0.00053 I					0.00050 U	0.19		0.000014 U			0.00030 I		0.015	1.6
	8/30/2010	0.0015 U					0.0012 I	0.19		0.000014 U		0.044 U	0.0012 U		0.012	1.2
	2/24/2011	0.00045 I,J4					0.00099 U	0.40		0.000014 U		0.0022 U,J4	0.00022 I,J4		0.015	1.9
	8/31/2011	NA					NA	0.310		NA			NA		0.038 U	
Dissolved	3/1/2010	0.00033 I	0.0099 I	0.36		0.00032 U	0.039	0.024	0.011	0.000014 U	0.036	0.0044 U	0.00012 U	0.00054		0.090
	---	---	---	---		---	---	---	---	---	---	---	---	---		---
	8/30/2010	0.00045 I	0.0085 U	0.15	0.0014	0.00032 U	0.0091	0.0056	0.0013 U	0.000014 U	0.0066	0.0022 U	0.000059 U	0.00015 I	0.014	0.025
	2/24/2011	0.000093 I	0.0085 U	0.096	0.00067	0.00032 U	0.0060	0.0025 U	0.0014 I	0.000014 U	0.0057 I	0.0022 U	0.000059 U	0.000067 U	0.010	0.027
	8/31/2011	NA	0.0021 J	0.085	0.00065	0.000095 U	NA	0.0011 J	0.00085 J	NA	0.0040 J	0.0032	NA	0.00050 U	0.0041 J	0.0083 U

Notes:

All units in milligrams per liter (mg/L), except as noted.

I - The reported value is between the laboratory method detection limit and practical quantitation limit.

V or B - Analyte was detected in both the sample and associate method blank.

U - Analyte not detected.

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

J4 - the sample matrix interfered with the ability to make an accurate determination.

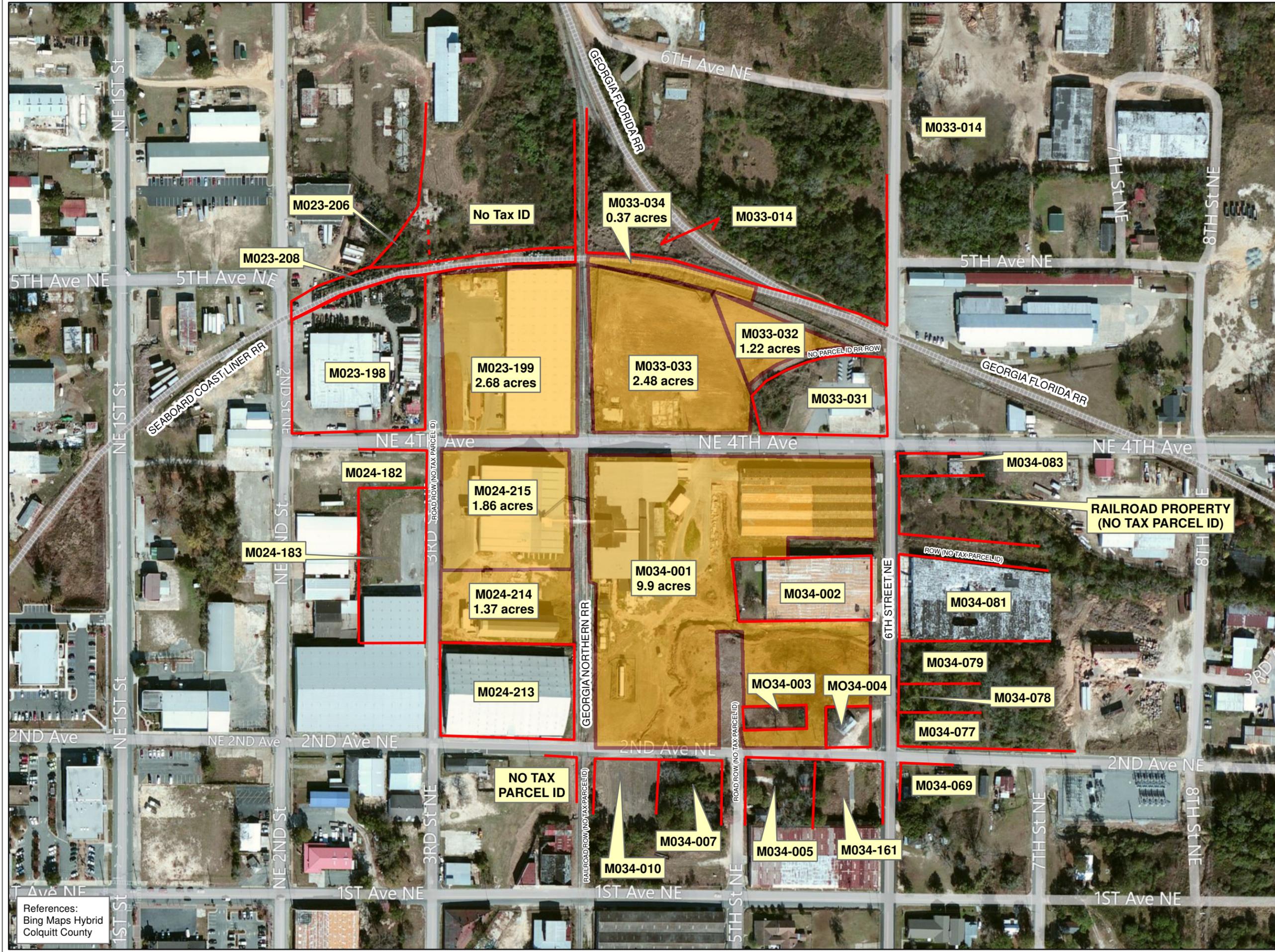
NA - Not analyzed.

- Concentration exceeds the RRS.

Yttrium is present as matrix interference for some samples.

# **FIGURES**

**FORMER FARMERS  
FAVORITE FERTILIZER  
315 4TH AVENUE NE  
MOULTRIE, GA**



- Qualifying Properties
- Adjacent Parcel Boundaries
- Boundaries
- M033-014 Parcel Identification Number

Coordinate System:  
NAD 1983 Stateplane Georgia West, Feet  
A. Mitchell - 11/10/2011  
G:\PCS\_JointVent\_LTD\Moultrie\_FFF\Deliverables\  
MXDs\FIG01\_MOULTRIE.mxd

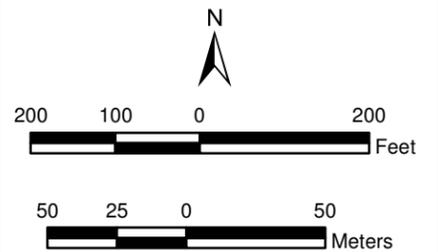


Figure 1  
**LOCATIONS OF  
QUALIFYING PROPERTY  
AND ADJACENT PARCELS**

References:  
Bing Maps Hybrid  
Colquitt County



References: USGS Earth Explorer, 1973



500 250 0 500 Feet

Coordinate System: Georgia Albers, HPGN, Meters

**FORMER FARMERS  
FAVORITE FERTILIZER  
315 4TH AVENUE NE  
MOULTRIE, GA**

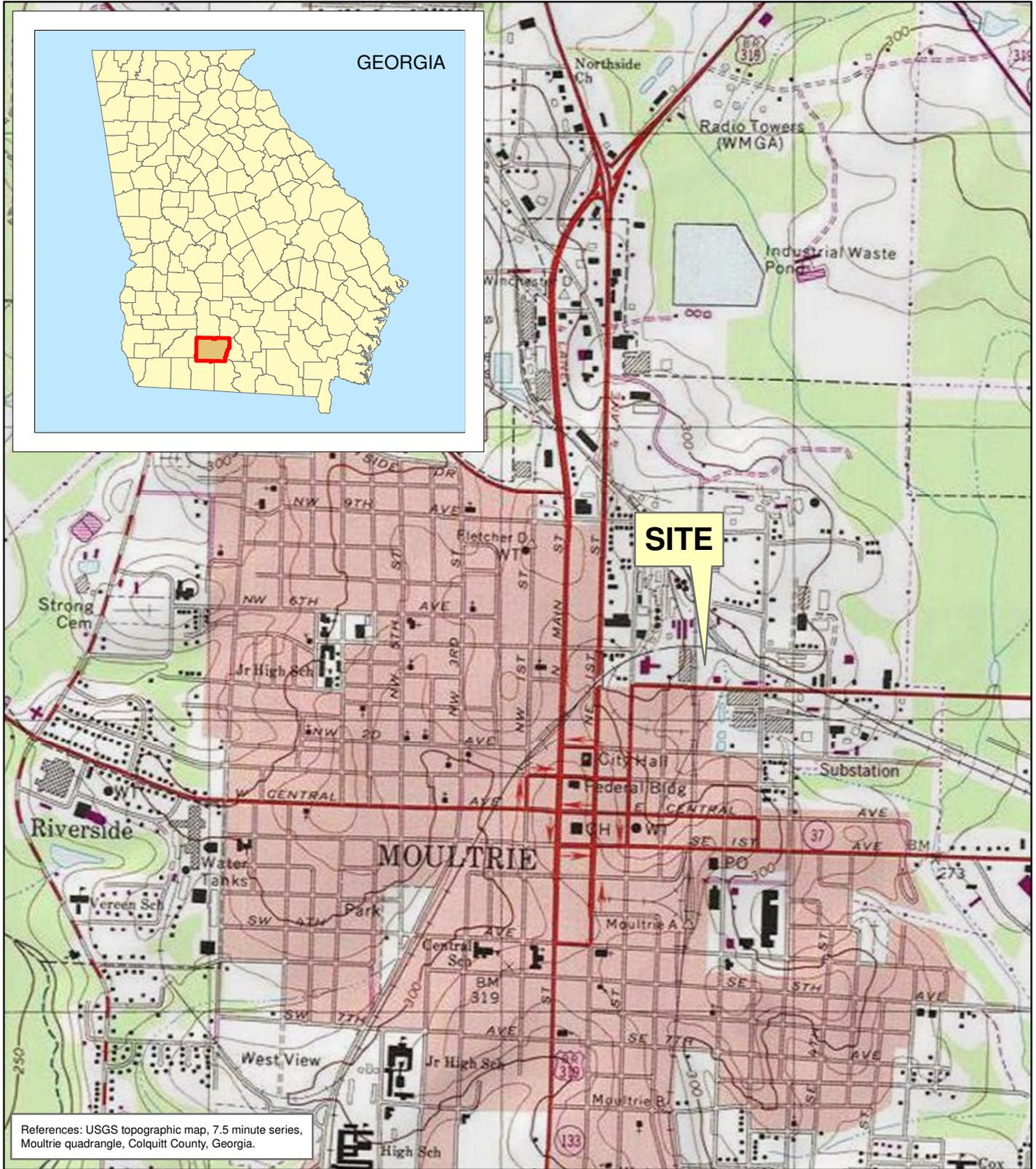
**URS**

Tallahassee, Florida

A. Mitchell - 11/10/2011  
G:\PCS\_JointVent\_LTD\Moultrie\_FFF\Deliverables\MXDs\  
WASTE\_WATER.mxd

**LOCATIONS OF FORMER  
WASTE WATER PONDS  
(1972-1973)**

Figure  
2



Coordinate System: Georgia Albers, HPGN, Meters

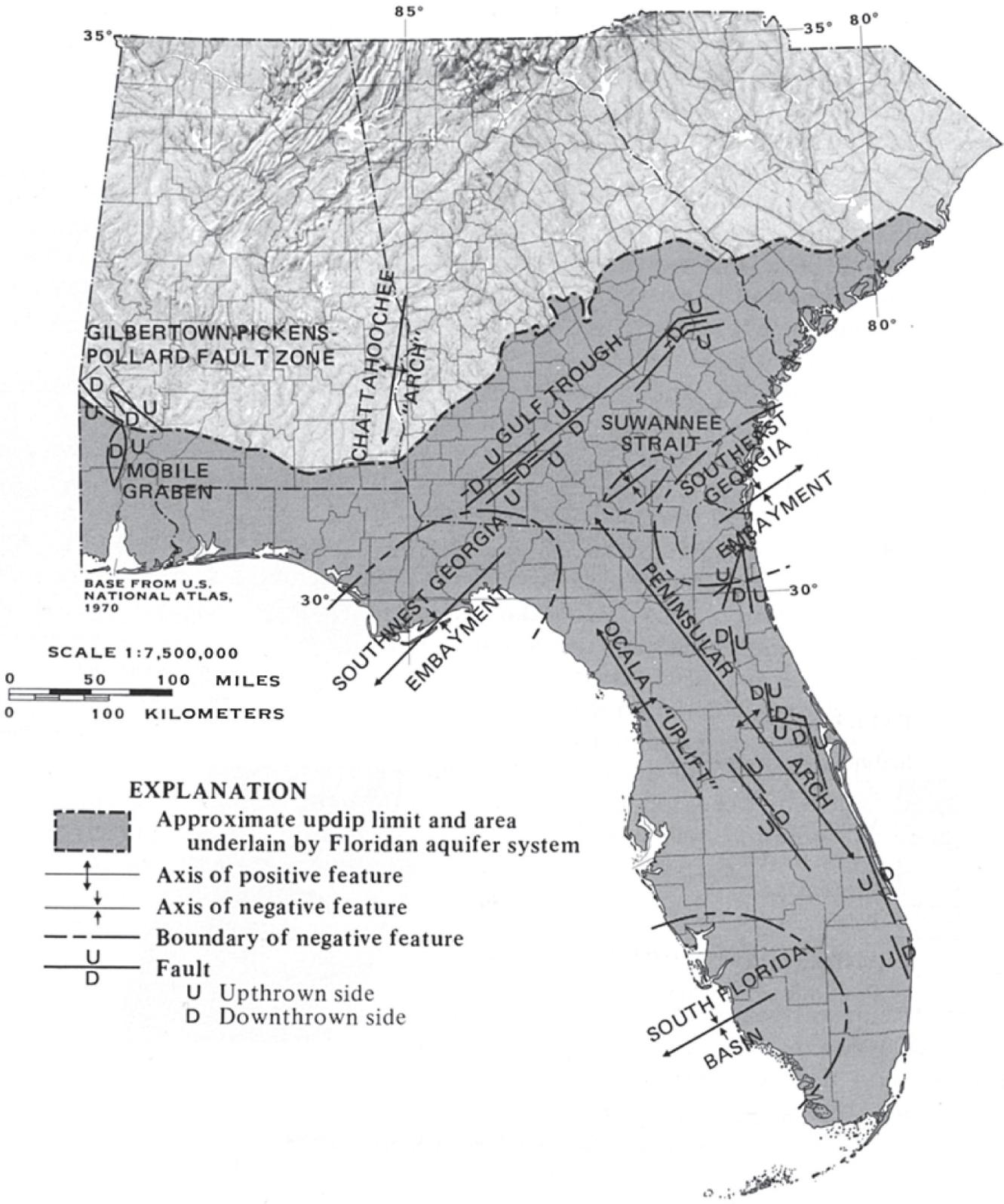
**FORMER FARMERS  
FAVORITE FERTILIZER  
315 4TH AVENUE NE  
MOULTRIE, GA**

**URS**  
Tallahassee, Florida

A. Mitchell - 11/10/2011  
G:\PCS\_JointVent\_LTD\Moultrie\_FFF\Deliverables\  
MXDs\FIG01\_MOULTRIE.mxd

**SITE LOCATION**

Figure  
3



References: USGS, Scientific Investigations Report 2010 - 5072

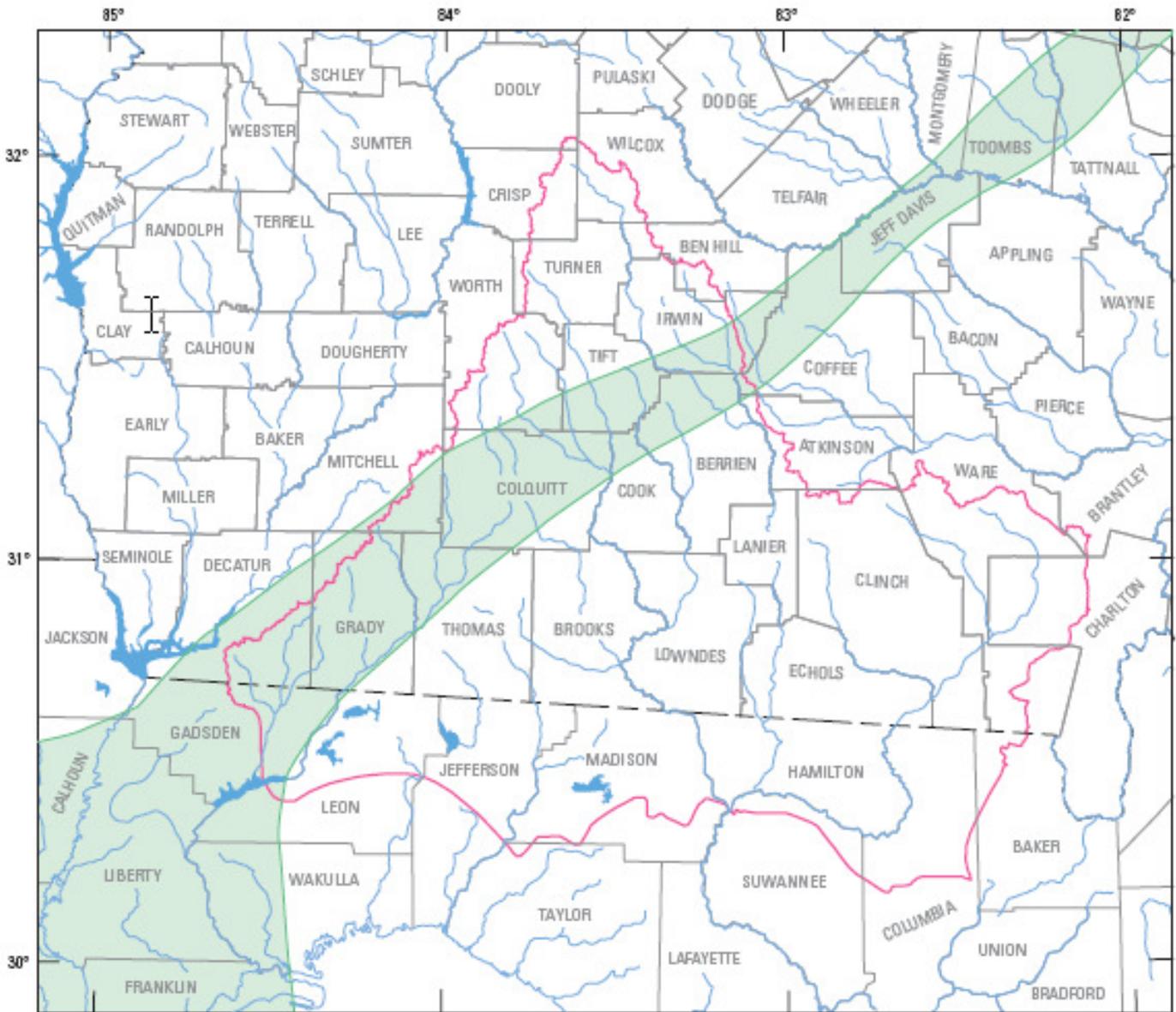
**FORMER FARMERS  
FAVORITE FERTILIZER  
315 4TH AVENUE NE  
MOULTRIE, GA**

**URS**  
Tallahassee, Florida

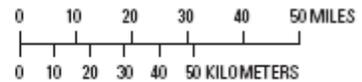
A. Mitchell - 11/10/2011  
G:\PCS\_JointVent\_LTD\Moultrie\_FFF\Deliverables\  
MXDs\FIG01\_MOULTRIE.mxd

**GEOLOGIC STRUCTURAL  
FEATURES**

Figure  
4



Base from U.S. Geological Survey  
1:100,000-scale digital data



**EXPLANATION**

- Approximate location of the Gulf Trough-Apalachicola Embayment
- Study area

References: USGS, Scientific Investigations Report 2010 - 5072

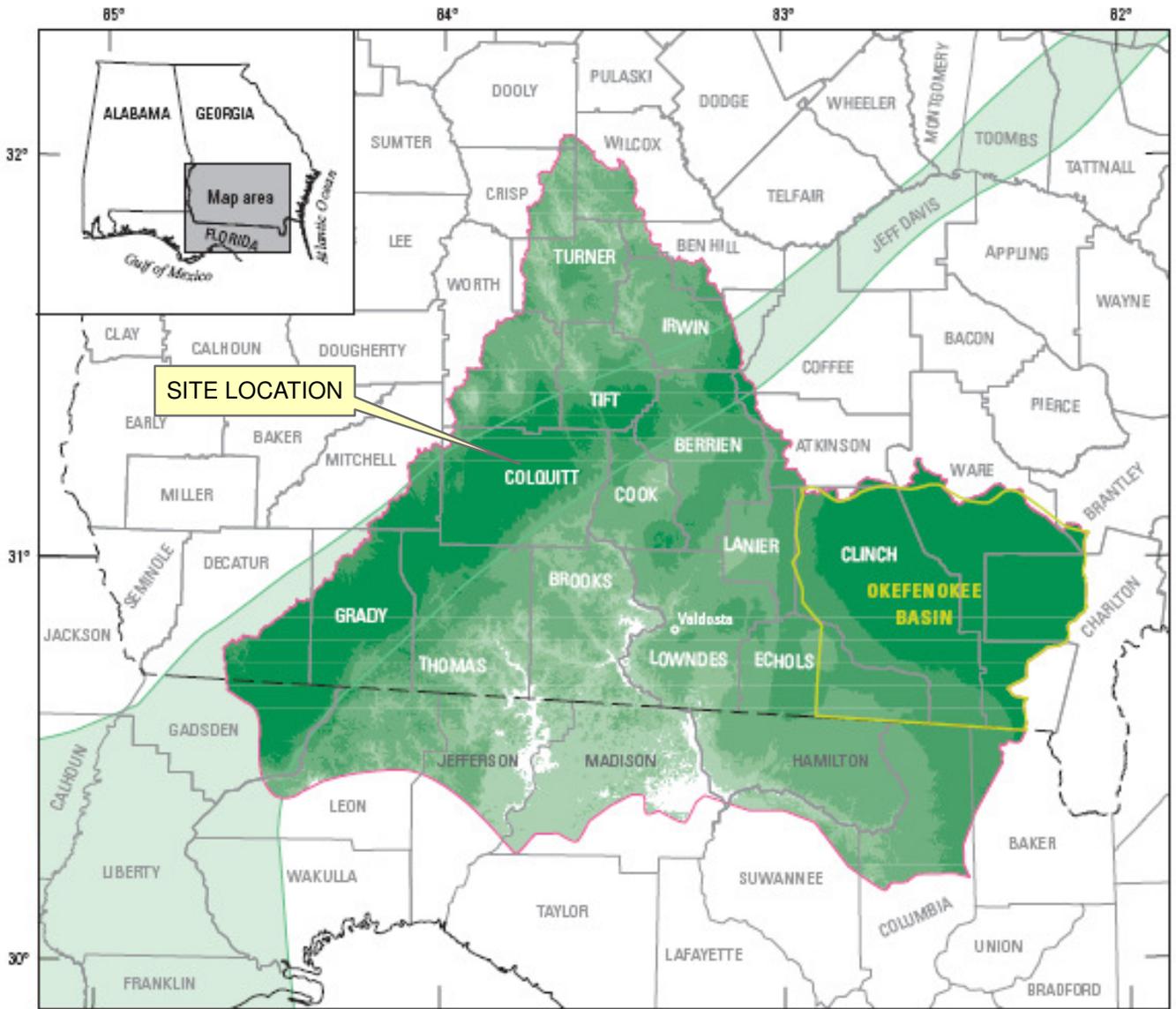
**FORMER FARMERS  
FAVORITE FERTILIZER  
315 4TH AVENUE NE  
MOULTRIE, GA**

**URS**  
Tallahassee, Florida

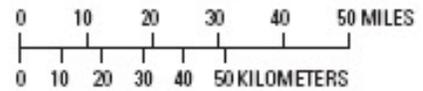
A. Mitchell - 11/10/2011  
G:\PCS\_JointVent\_LTD\Moultrie\_FFF\Deliverables\  
MXDs\FIG01\_MOULTRIE.mxd

**GULF TROUGH LOCATION  
IN RELATIONSHIP TO  
MOULTRIE, COLQUITT COUNTY**

Figure  
5



Base from U.S. Geological Survey  
1:100,000-scale digital data



**EXPLANATION**

Overburden thickness, in feet*	Potential	
	Vertical leakage	Water exchange
Absent	N/A	High
Less than 50	High	High
50 to 100	Moderate	Moderate
100 to 200	Low	Low
200 to 300	Extremely low	Extremely low
Greater than 300	None	None

- Approximate location of Gulf Trough–Apalachicola Embayment
- Study area boundary

\*Contains up to 50 feet of surficial aquifer system overlying upper semiconfining unit

N/A—Not applicable; direct recharge to Upper Floridan aquifer  
None—No vertical leakage or water exchange

References: USGS, Scientific Investigations Report 2010 - 5072

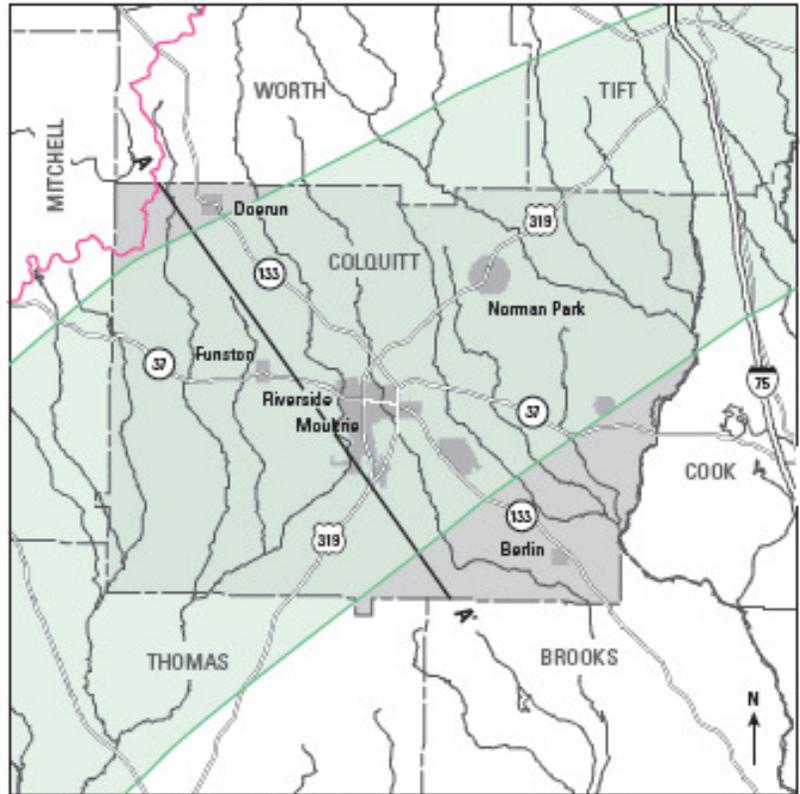
**FORMER FARMERS  
FAVORITE FERTILIZER  
315 4TH AVENUE NE  
MOULTRIE, GA**

**URS**  
Tallahassee, Florida

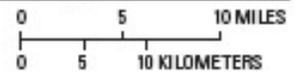
A. Mitchell - 11/10/2011  
G:\PCS\_JointVent\_LTD\Moultrie\_FFF\Deliverables\  
MXDs\FIG01\_MOULTRIE.mxd

**UPPER CONFINING UNIT  
THICKNESS MAP**

Figure  
6



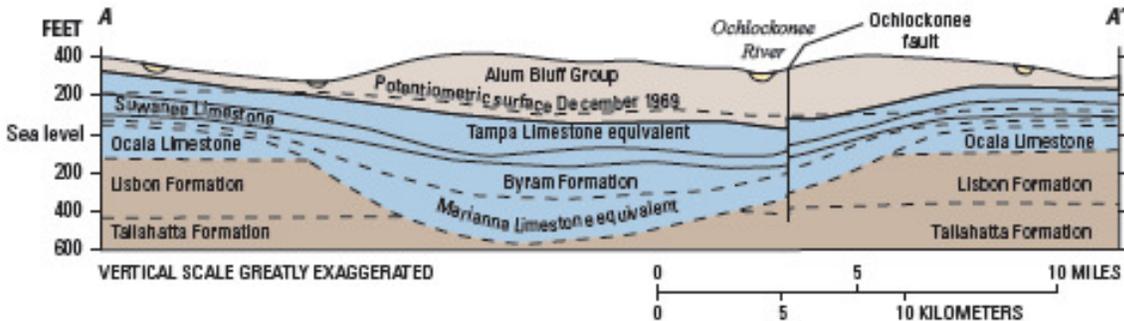
Base modified from U.S. Geological Survey  
1:100,000-scale digital files



**EXPLANATION**

- MAP**
- Approximate location of Gulf Trough–Apalachicola Embayment
  - Study area boundary
  - A — A'** Line of section

- CROSS SECTION**
- Hydrologic unit**
- Surficial aquifer system
  - Upper semiconfining unit
  - Upper Floridan aquifer
  - Lower confining unit
- Geologic contact**—  
Dashed where inferred



References: USGS, Scientific Investigations Report 2010 - 5072  
Note: Potentiometric surface shown is for the Floridan Aquifer

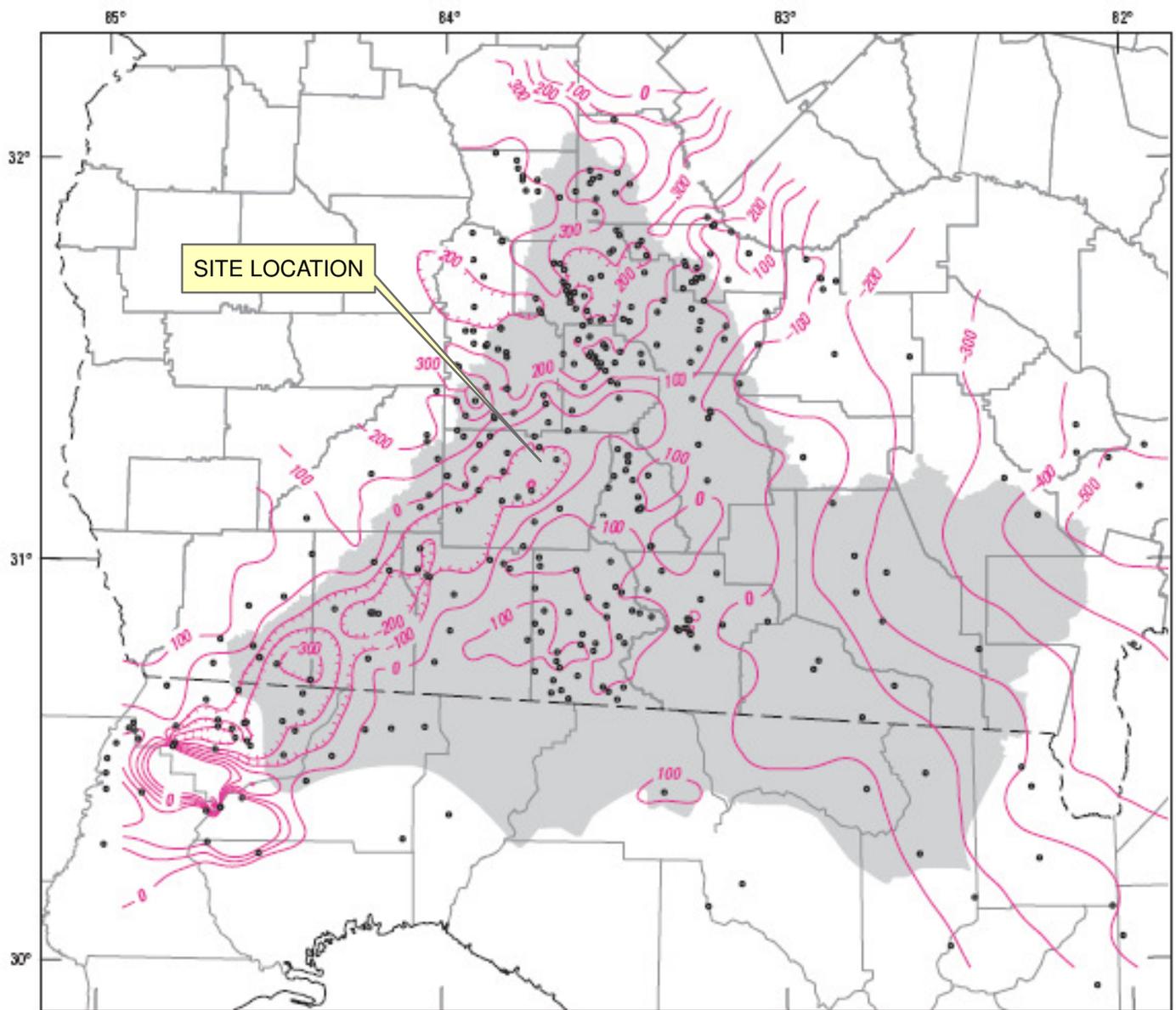
**FORMER FARMERS  
FAVORITE FERTILIZER  
315 4TH AVENUE NE  
MOULTRIE, GA**

**URS**  
Tallahassee, Florida

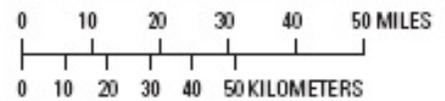
A. Mitchell - 11/10/2011  
G:\PCS\_JointVent\_LTD\Moultrie\_FFF\Deliverables\  
MXDs\FIG01\_MOULTRIE.mxd

**GEOLOGIC SECTION ACROSS  
COLQUITT COUNTY  
(MODIFIED FROM USGS, 2010)**

Figure  
7



Base from U.S. Geological Survey  
1:100,000-scale digital data



#### EXPLANATION

- Study area
- 500 Structure contour—Shows altitude of the top of the Upper Floridan aquifer. Hachures indicate depression. Interval 100 feet. Datum is NGVD 29
- Data point

References: USGS, Scientific Investigations Report 2010 - 5072

**FORMER FARMERS  
FAVORITE FERTILIZER  
315 4TH AVENUE NE  
MOULTRIE, GA**

**URS**  
Tallahassee, Florida

A. Mitchell - 11/10/2011  
G:\PCS\_JointVent\_LTD\Moultrie\_FFF\Deliverables\  
MXDs\FIG01\_MOULTRIE.mxd

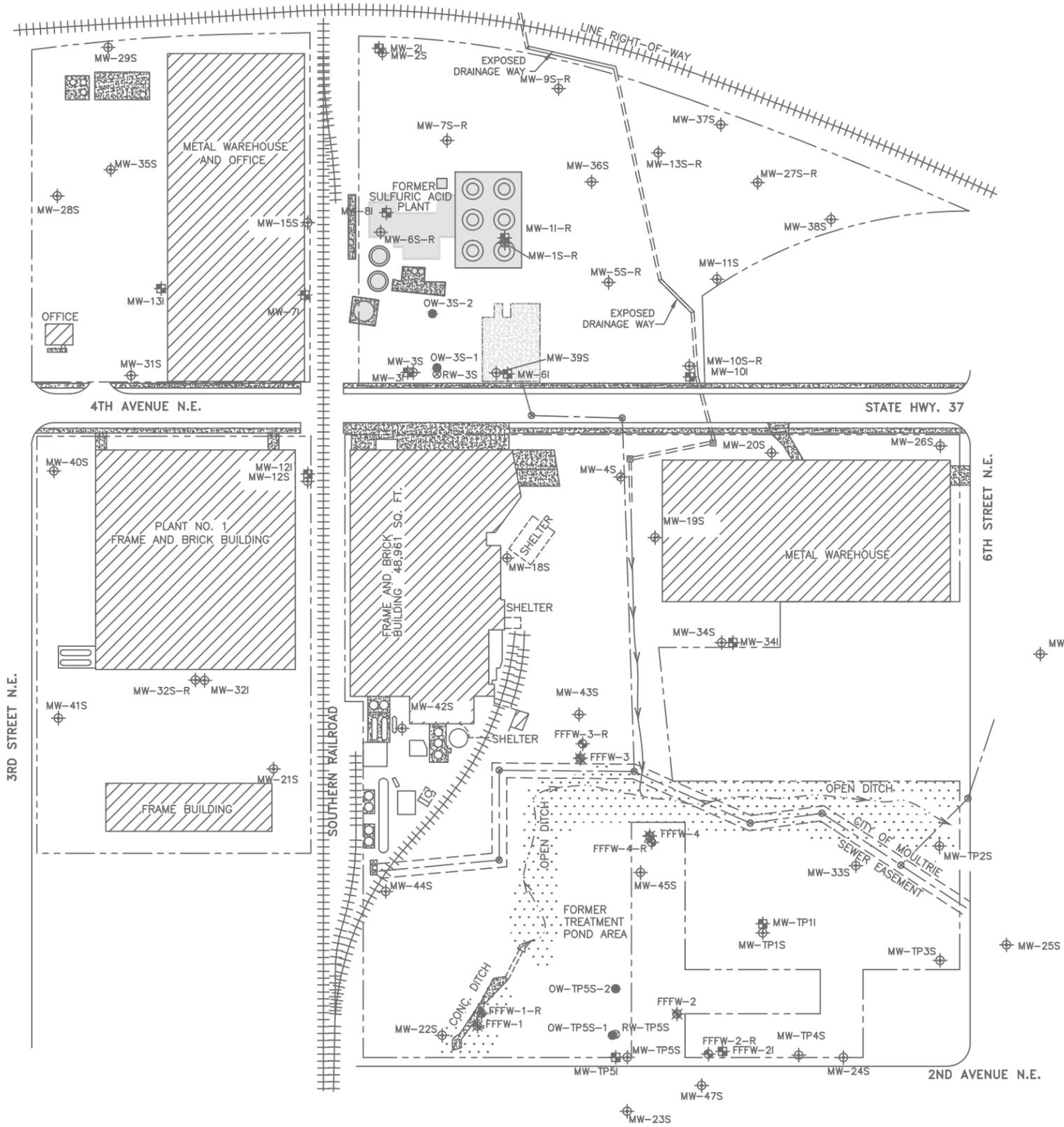
**TOP OF THE  
FLORIDAN AQUIFER**

Figure  
8

PROPOSED MW LOCATION

MW-30S

PROPOSED MW LOCATION



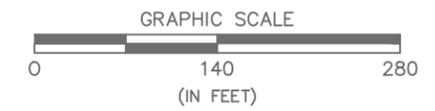
### LEGEND

- MW-1 INTERMEDIATE MONITORING WELL LOCATION
- MW-46S SHALLOW ZONE MONITORING WELL LOCATION
- FFFW-1 EPA MONITORING WELL LOCATION
- OW-3S-2 OBSERVATION WELL LOCATION
- RW-3S RECOVERY WELL LOCATION
- FFFW-1 ABANDONED MONITORING WELL LOCATION
- PROPOSED NEW MW LOCATION

- PIPE
- PROPERTY BOUNDARY
- SOUTHERN RAILROAD TRACKS
- DITCH
- SEWERLINE
- SEWAGE EASEMENT
- ROAD CURBLINE
- OPEN DITCH
- VEGETATED AREA
- BUILDING
- FORMER STRUCTURE
- CONCRETE

### REFERENCES

1. TOPOGRAPHIC SURVEY PERFORMED BY H. J. GRIFFIN & ASSOCIATES LAND SURVEYORS.



REV	DESCRIPTION OF REVISION	BY	DATE

**FORMER FARMERS FAVORITE FERTILIZER**  
**315 4TH AVENUE NE**  
**MOULTRIE, GEORGIA**

**URS**  
Tallahassee, Florida

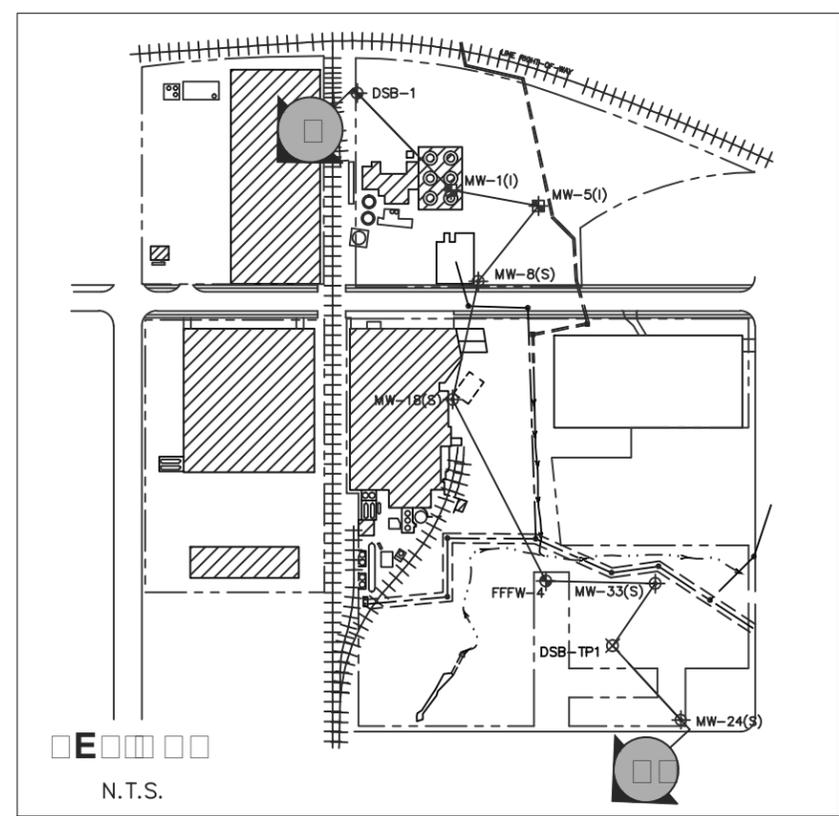
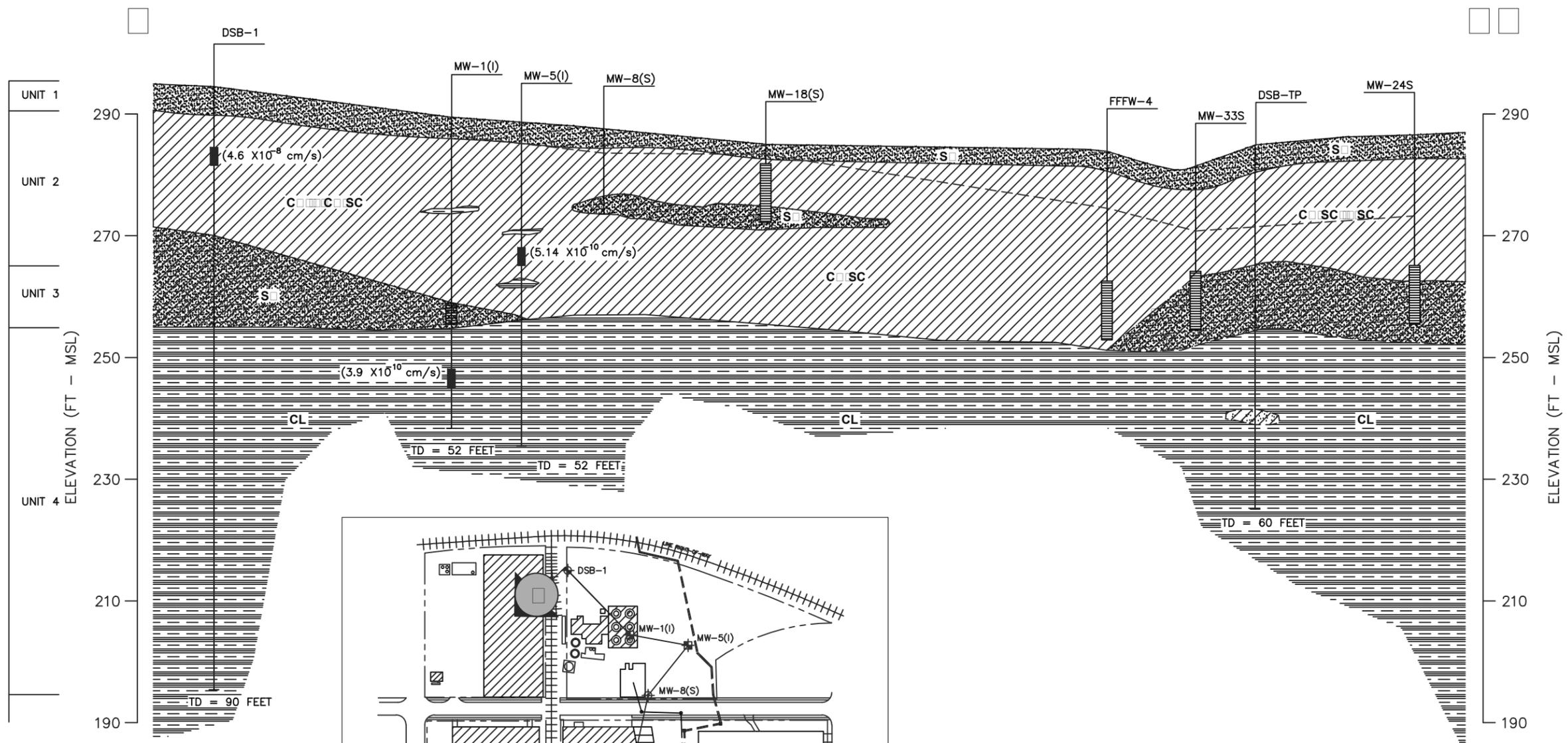
SCALE 1" = 60'	DRAWN BY: AM CHECKED BY: JMC	DATE: 11/11
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K: \ACAD\DWGS\PCS\Moultrie\SITELAYOUT\_NOV11\_SH\_VRP.dwg

**LOCATIONS OF EXISTING AND PROPOSED  
GROUNDWATER MONITORING WELLS**

PROJECT NUMBER  
**12806099**

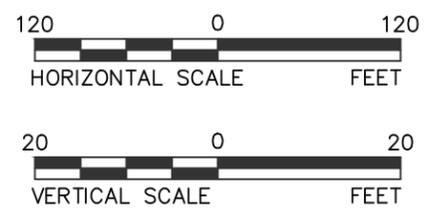
FIGURE NUMBER  
**9**



- NOTES**
- 1.) TD = TOTAL DEPTH BELOW GROUND SURFACE.
  - 2.) UNITS 1-4 REFER TO LITHOLOGIC INTERVALS.

**LEGEND**

- FINE TO MEDIUM SAND (SP)
- CLAY TO SANDY CLAY/CLAYEY SAND (CH to CH-SC to SC)
- VERY COARSE TO MEDIUM SAND (SP)
- VERY STIFF TO HARD SANDY CLAY (CL)
- SHELBY TUBE SAMPLE WITH VERTICAL PERMEABILITY RESULTS
- SCREEN
- GROUNDWATER ELEVATION



SOURCE: GOLDER ASSOCIATES

REV	DESCRIPTION OF REVISION	BY	DATE

**FORMER FARMERS FAVORITE FERTILIZER**  
**315 4TH AVENUE NE**  
**MOULTRIE, GEORGIA**

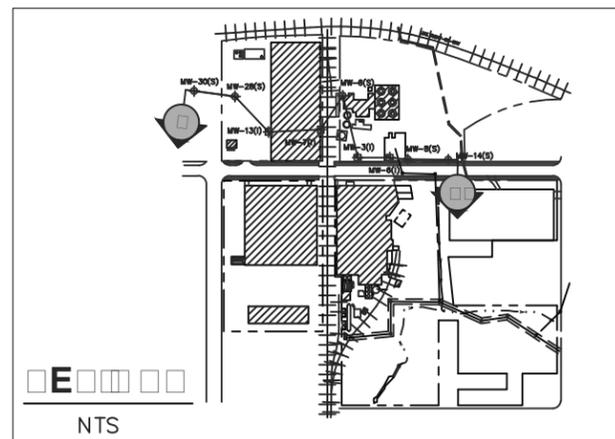
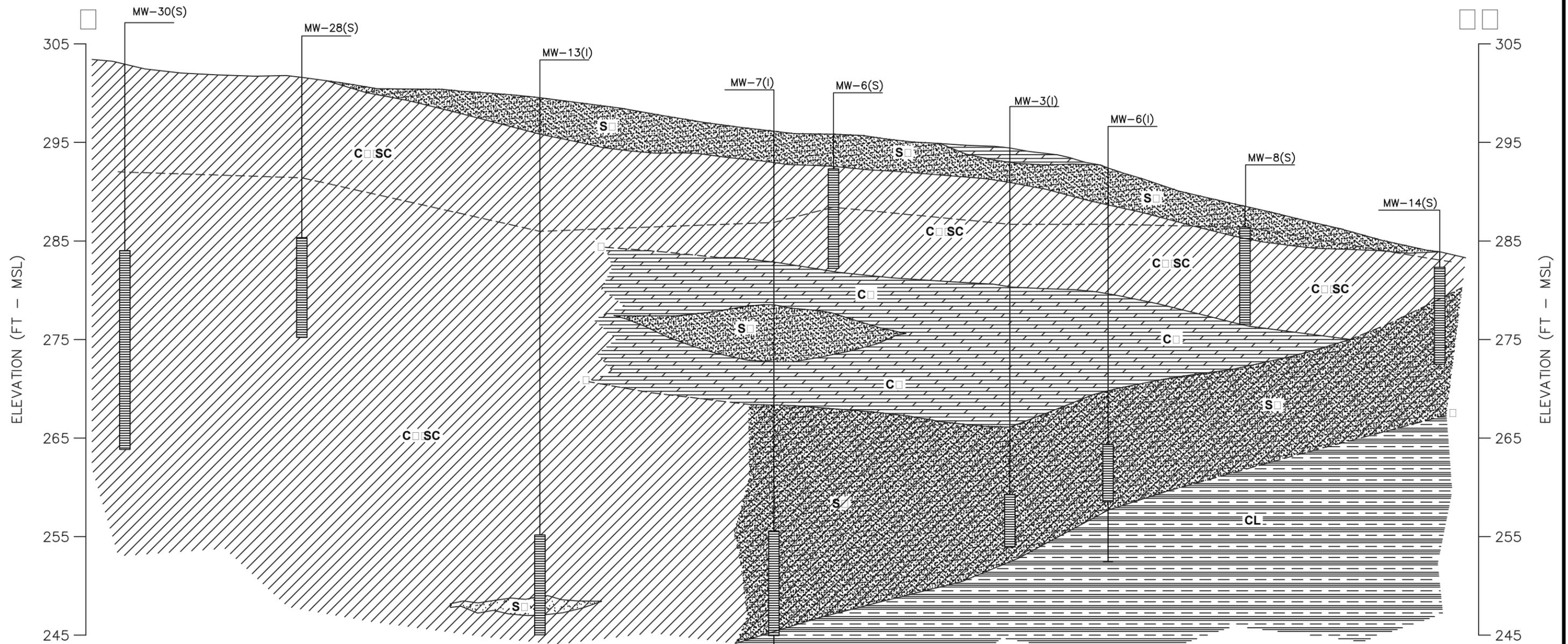
**URS**  
Tallahassee, Florida

SCALE 1" = 120'	DRAWN BY: AM	DATE: 11/11
	CHECKED BY: JMC	

K:\ACAD\DWGS\FCS\Moultrie\GEO\_CS\_AA.dwg

**GEOLOGIC CROSS SECTION A-A'**

PROJECT NUMBER <b>12806099</b>
FIGURE NUMBER <b>10</b>

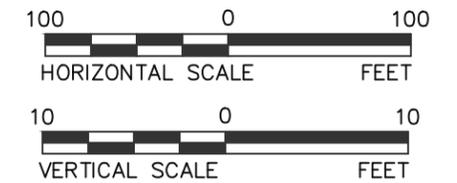


**LEGEND**

- FINE TO MEDIUM SAND (SP)
- CLAY TO SANDY CLAY/CLAYEY SAND (CH to CH-SC to SC)
- VERY COARSE TO MEDIUM SAND (SP)
- VERY STIFF TO HARD SANDY CLAY (CL)
- SCREEN
- GROUNDWATER ELEVATION

**NOTES**

- 1.) TD = TOTAL DEPTH BELOW GROUND SURFACE.
- 2.) UNITS 1-4 REFER TO LITHOLOGIC INTERVALS.



SOURCE: GOLDER ASSOCIATES

△			
△			
△			
△			
△			
REV	DESCRIPTION OF REVISION	BY	DATE

**FORMER FARMERS FAVORITE FERTILIZER**  
**315 4TH AVENUE NE**  
**MOULTRIE, GEORGIA**

**URS**  
Tallahassee, Florida

SCALE 1" = 120'	DRAWN BY: AM CHECKED BY: JMC	DATE: 11/11
--------------------	---------------------------------	-------------

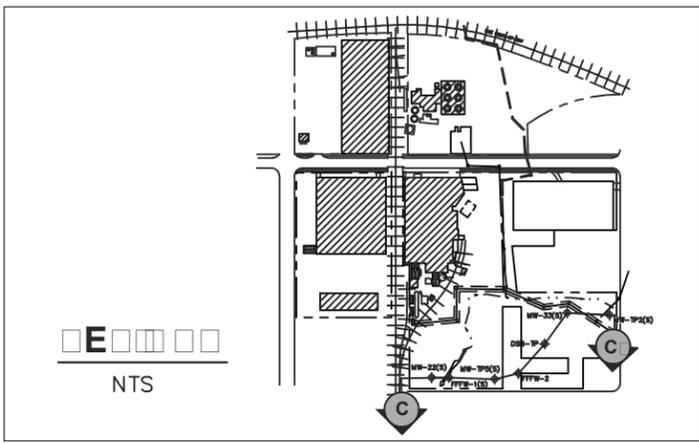
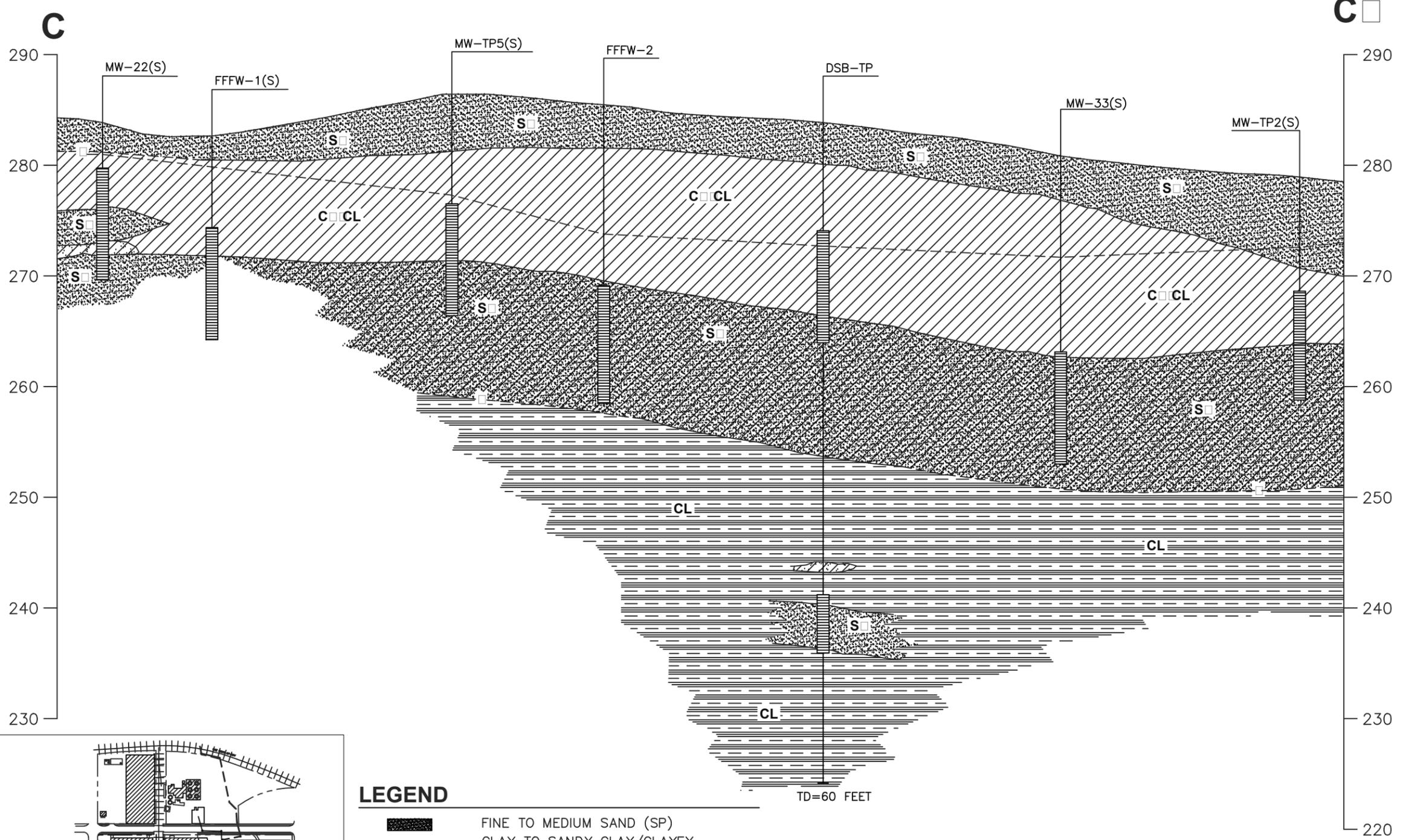
K:\ACAD\DWGS\PCS\Moultrie\GEO\_CS\_BB.dwg

**GEOLOGIC CROSS SECTION B-B'**

PROJECT NUMBER <b>12806099</b>
FIGURE NUMBER <b>11</b>

ELEVATION (FT - MSL)

ELEVATION (FT - MSL)

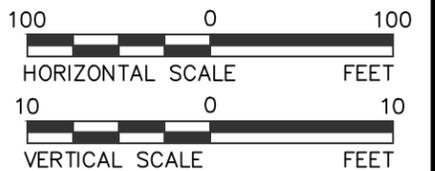


**LEGEND**

- FINE TO MEDIUM SAND (SP)
- CLAY TO SANDY CLAY/CLAYEY SAND (CH to CH-SC to SC)
- VERY COARSE TO MEDIUM SAND (SP)
- VERY STIFF TO HARD SANDY CLAY (CL)
- CLAY (CH)
- SCREEN
- GROUNDWATER ELEVATION

**NOTES**

- 1.) TD = TOTAL DEPTH BELOW GROUND SURFACE.
- 2.) UNITS 1-4 REFER TO LITHOLOGIC INTERVALS.



SOURCE: GOLDER ASSOCIATES

REV	DESCRIPTION OF REVISION	BY	DATE

**FORMER FARMERS FAVORITE FERTILIZER**  
 315 4TH AVENUE NE  
 MOULTRIE, GEORGIA

**URS**  
 Tallahassee, Florida

SCALE 1" = 120'	DRAWN BY: AM CHECKED BY: JMC	DATE: 11/11
--------------------	---------------------------------	-------------

K:\ACAD\DWG\PCS\Moultrie\GEO\_CS\_CC.dwg

**GEOLOGIC CROSS SECTION C-C'**

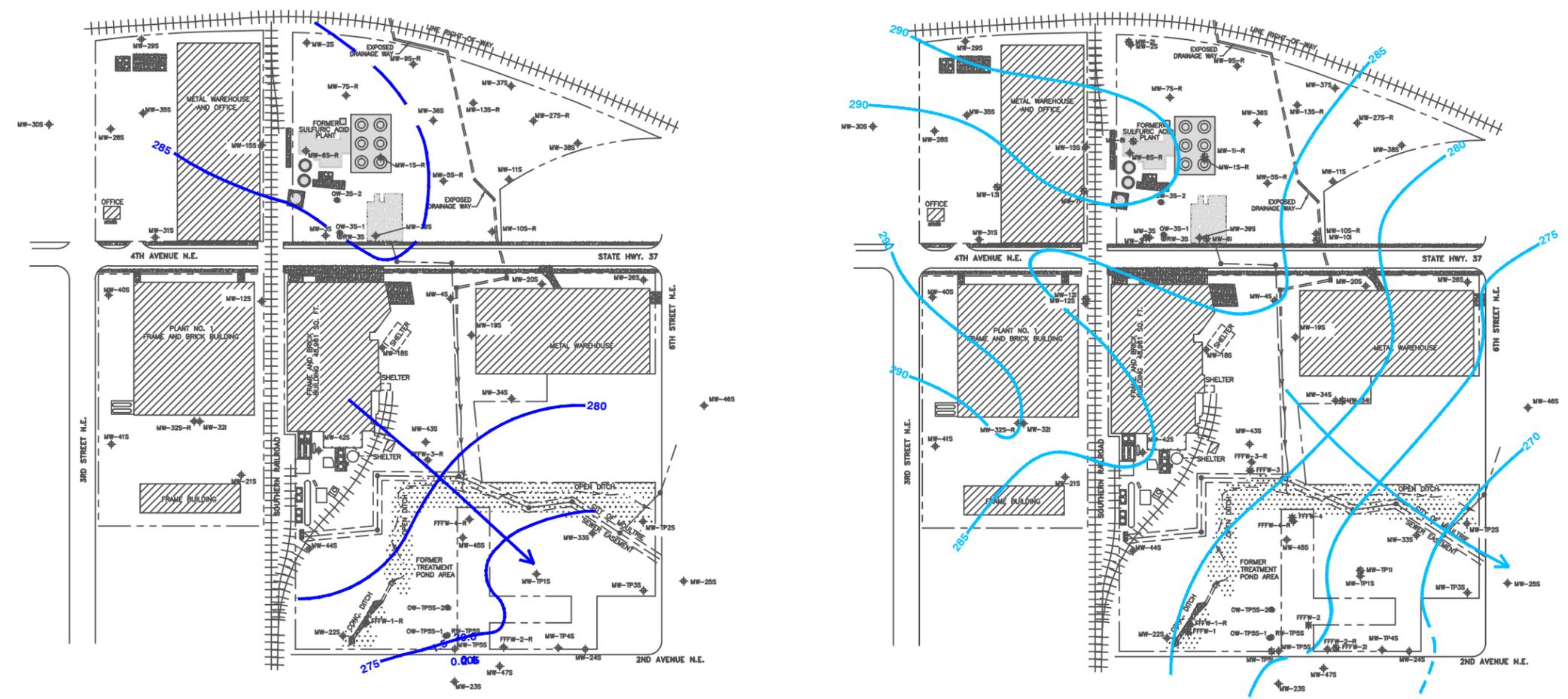
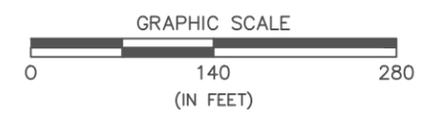
PROJECT NUMBER <b>12806099</b>
FIGURE NUMBER <b>12</b>

### LEGEND

- MW-46S  SHALLOW ZONE MONITORING WELL LOCATION
- FFW-2-R  EPA MONITORING WELL LOCATION
- OW-3S-2  OBSERVATION WELL LOCATION
- RW-3S  RECOVERY WELL LOCATION
-  280 SHALLOW ZONE GROUNDWATER ELEVATION CONTOUR (FEET, DASHED DENOTES INFERRED)
-  270 INTERMEDIATE ZONE GROUNDWATER ELEVATION CONTOUR (FEET, DASHED DENOTES INFERRED)
-  APPROXIMATE GROUNDWATER FLOW DIRECTION
-  PIPE
-  PROPERTY BOUNDARY
-  SOUTHERN RAILROAD TRACKS
-  DITCH
-  SEWERLINE
-  SEWAGE EASEMENT
-  ROAD CURBLINE
-  OPEN DITCH
-  VEGETATED AREA
-  BUILDING
-  FORMER STRUCTURE
-  CONCRETE

### REFERENCES

1. TOPOGRAPHIC SURVEY PERFORMED BY H. J. GRIFFIN & ASSOCIATES LAND SURVEYORS.



REV	DESCRIPTION OF REVISION	BY	DATE

**FORMER FARMERS FAVORITE FERTILIZER**  
315 4TH AVENUE NE  
MOULTRIE, GEORGIA



**URS**  
Tallahassee, Florida

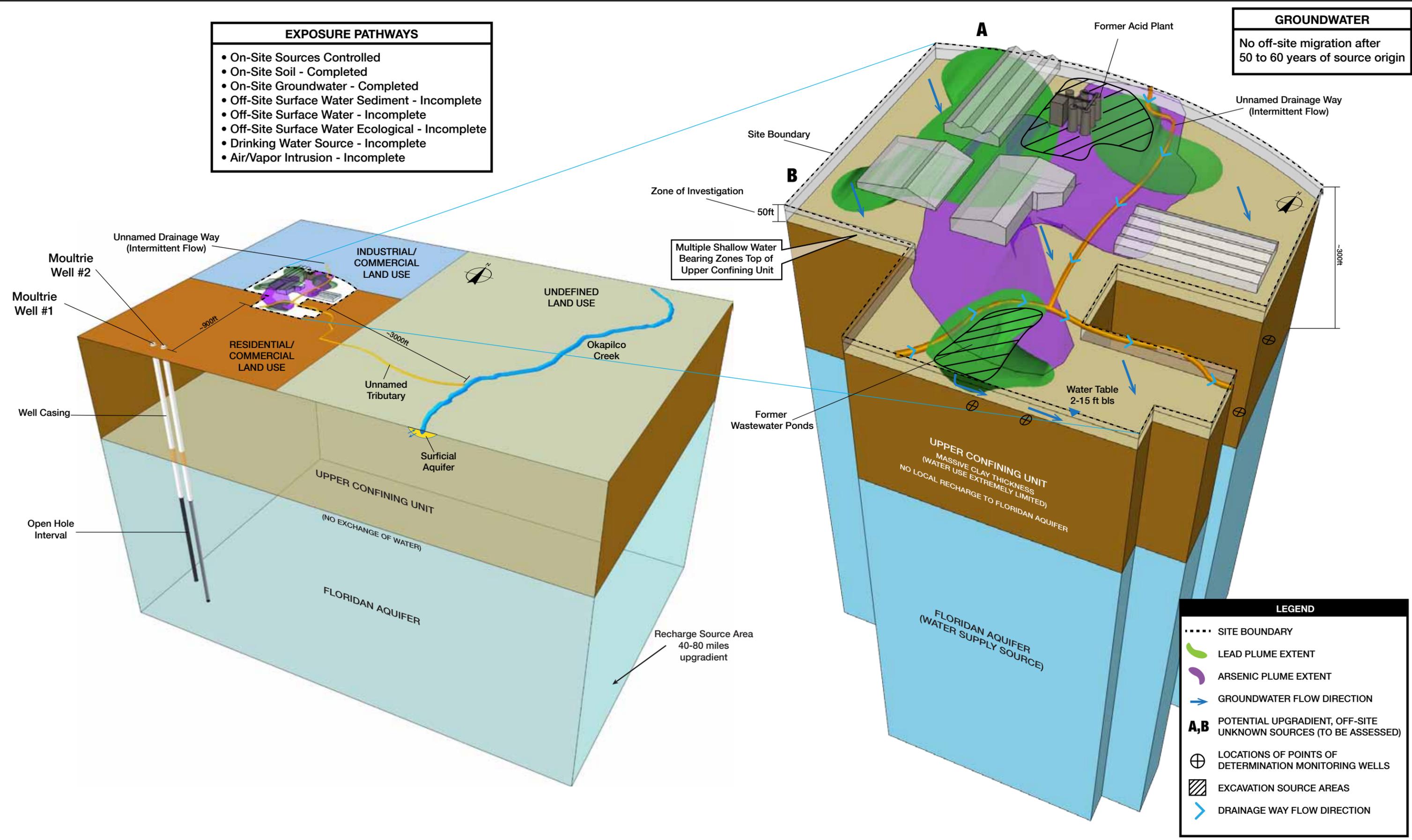
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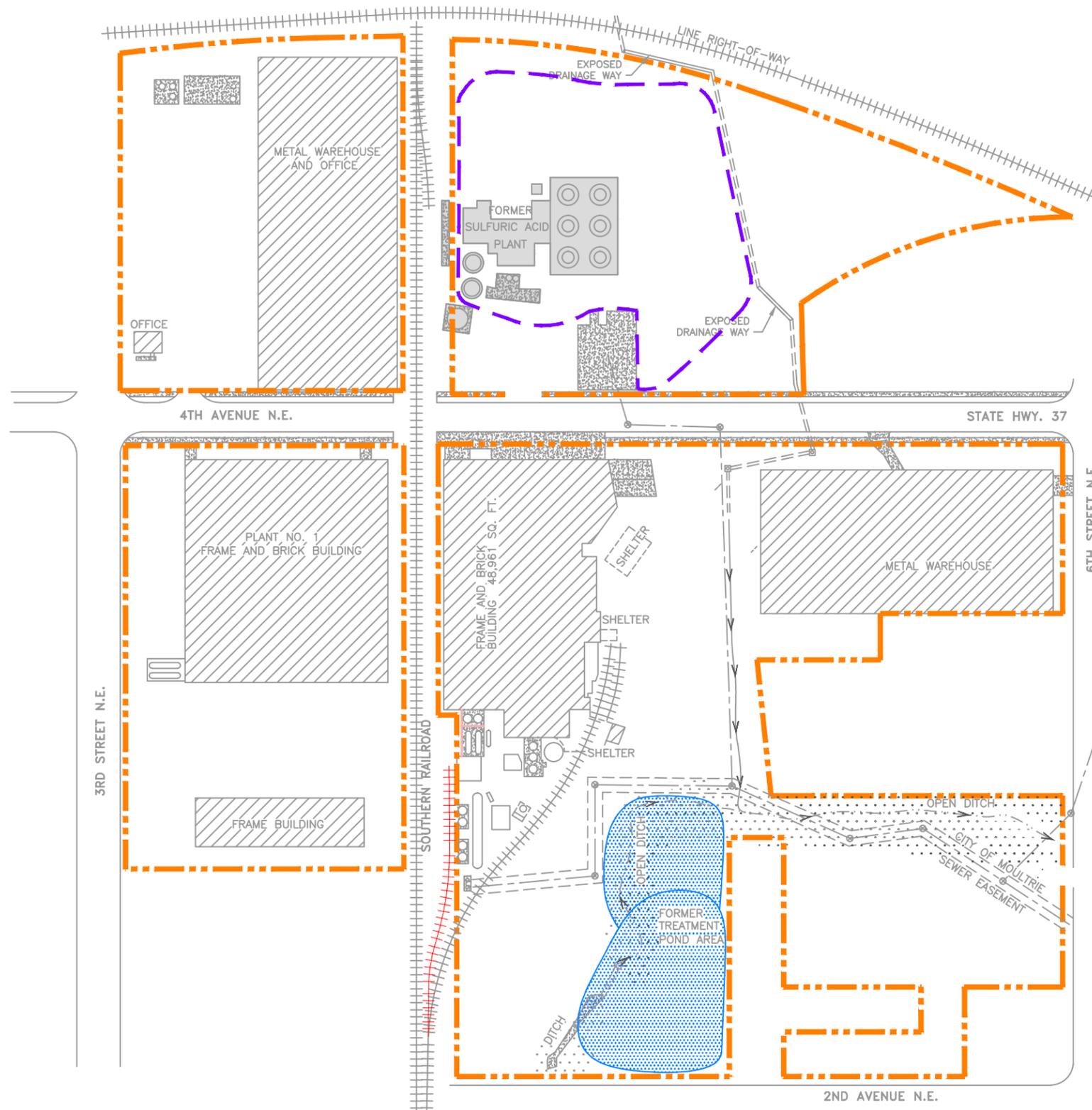
K:\ACAD\DWGS\PCS\Moultrie\SITELAYOUT\_NOV11\_SH\_VRP.dwg

**POTENTIOMETRIC SURFACES  
FOR UPPER WATER BEARING ZONES**

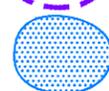
PROJECT NUMBER  
**12806099**

FIGURE NUMBER  
**13**



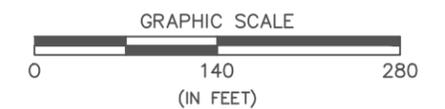


### LEGEND

-  IMPACTED SOILS EXCAVATION AREA
-  FORMER WASTEWATER PONDS LOCATION – SLUDGE EXCAVATION WITHIN POND AREA
-  SITE BOUNDARY
-  SOUTHERN RAILROAD TRACKS
-  DITCH
-  VEGETATED AREA
-  BUILDING
-  FORMER STRUCTURE
-  CONCRETE

### REFERENCES

- 1.) TOPOGRAPHIC SURVEY COMPLETED WITH H. J. GRIFFIN & ASSOCIATES LAND SURVEYORS.



REV	DESCRIPTION OF REVISION	BY	DATE

**FORMER FARMERS FAVORITE FERTILIZER  
MOULTRIE, GEORGIA**



SCALE 1" = 140'  
 DRAWN BY: AM  
 CHECKED BY: JMC  
 DATE: 11/11  
 K:\ACAD\DWGS\PCS\Moultrie\SITELAYOUT\_SEPT11.dwg

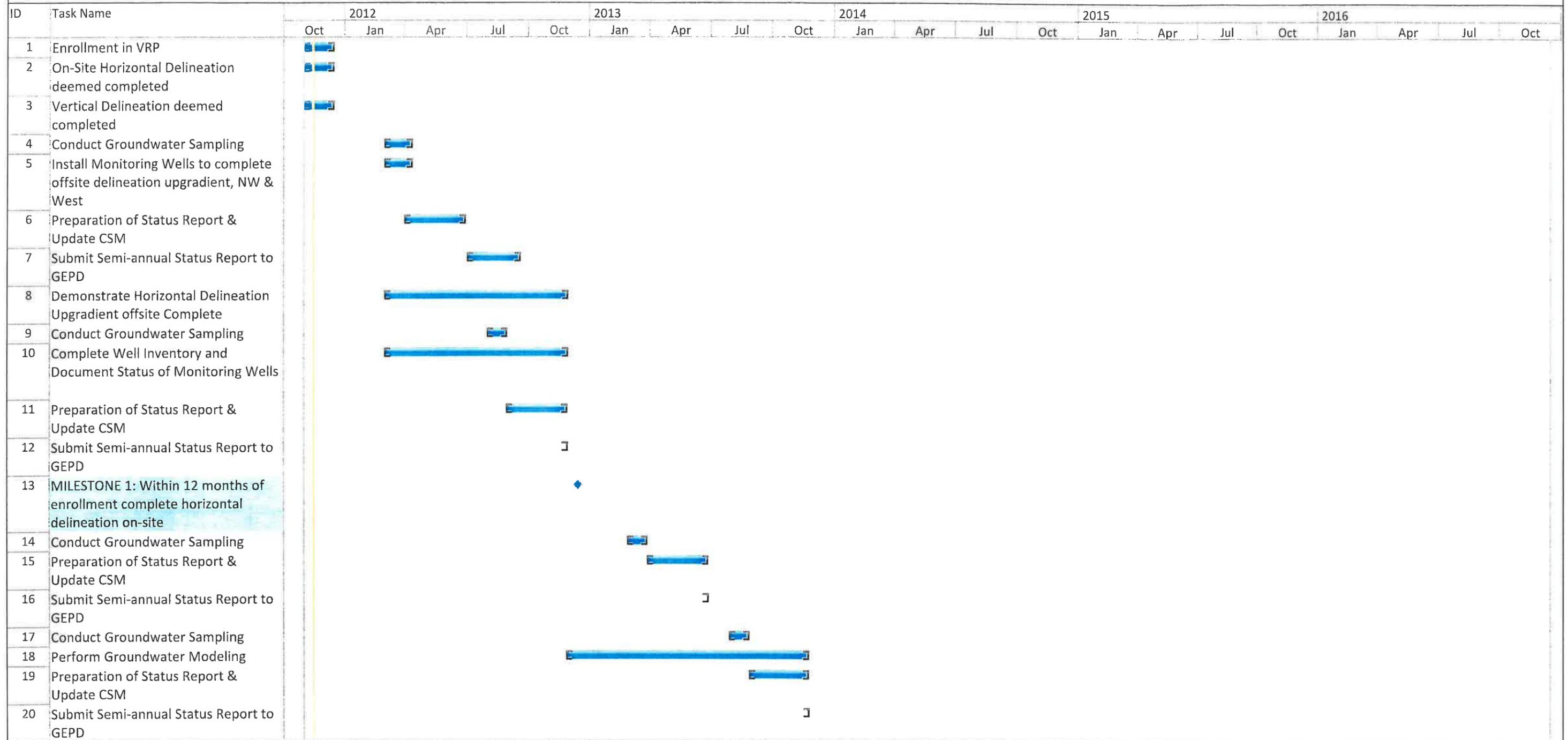
**APPROXIMATE LOCATIONS OF SITE SOURCE AREAS**

PROJECT NUMBER  
12806099

FIGURE NUMBER  
**15**



**Figure 17**  
**Voluntary Investigation & Remediation Plan (VIRP)**  
**Schedule**



Project: Fig 17_VIRP Schedule Date: Wed 11/16/11	Task		Project Summary		Inactive Milestone		Manual Summary Rollup		Deadline	
	Split		External Tasks		Inactive Summary		Manual Summary		Progress	
	Milestone		External Milestone		Manual Task		Start-only			
	Summary		Inactive Task		Duration-only		Finish-only			





# **APPENDIX A**

## Appendix A-1

### Warranty Deed for Griffin Parcels

<b>Colquitt County Tax Map ID</b>	<b>Warranty Deed Parcel #</b>
M034-001	#1, #2, #6, #6A, and #7
M023-199	#3
M024-215	#8
M024-214	#9

## Appendix A-2

### Warranty Deeds for PCS Joint Venture, Ltd. Parcels

<b>Colquitt County Tax Map ID</b>	<b>Warranty Deed/ Parcel #</b>
M033-032	1/15/92 Deed/ Parcel #4
M033-033	1/15/92 Deed/ Parcel #5
M033-034	7/14/99 Deed

SHORT & FOWLER  
F.O. BOX 1237  
MOLTRIE, GEORGIA 31776  
912/968-3856

BOOK PAGE  
656 412

FILED CLERK SUPERIOR COURT  
COLQUITT COUNTY, GA.

99 JUL 14 AM 11:50

SHIRLEY T. ASBELL, CLERK

GEORGIA, COLQUITT COUNTY  
CLERK'S OFFICE, SUPERIOR COURT  
FILED FOR RECORD AT 11:50A M. ON  
14th DAY OF July 19 99 AND  
RECORDED IN BOOK 656 PLAT 412-413  
ON 14th DAY OF July 19 99  
Marge Adams DEPUTY CLERK

COLQUITT COUNTY GEORGIA  
Real Estate Transfer Tax  
Paid 6.50  
Date 7-14-99  
Shirley T. Asbell  
Clerk of Superior Court

LIMITED WARRANTY DEED

GEORGIA, Colquitt County

THIS INDENTURE, made and entered into the 14th day of July, 1999, between DAN GAY of the First Part and PCS JOINT VENTURE, LTD., of the Second Part.

W I T N E S S E T H

That the Party of the First Part, for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable considerations in hand paid, receipt whereof is hereby acknowledged, hath granted, bargained, sold and conveyed unto the said PCS JOINT VENTURE, LTD., Party of the Second Part, heirs, successors and assigns, all that tract or parcel of land situate, lying and being in Colquitt County, Georgia, and described as follows:

All that certain piece, parcel or tract of land situate, lying and being in the 8th Land District of Colquitt County, Georgia, and being 0.38 acre, more or less, of Land Lot No. 262 in the City of Moultrie as shown on a plat of survey thereof prepared by Jerry S. Lindsey, Surveyor, of date of June 14, 1999, and recorded in Plat Book 33, Page 104, in the Office of the Clerk of the Superior Court of Colquitt County,

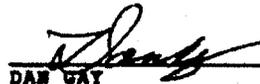
LAW OFFICE OF  
Jack Short  
P.O. BOX 1007  
MOLTRIE, GEORGIA 31776  
(912) 968-3856  
FAX (912) 968-3856

Georgia, which said plat and the record thereof are by reference incorporated herein.

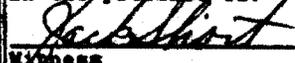
This being Tract 3 of the property conveyed to the grantor herein by Deed dated July 8, 1993, and recorded in Deed Book 483, Page 489, Colquitt County Records.

Which said parcel or tract of land the said Party of the First Part will well and truly warrant and defend against the claim of all persons holding by, through or under it, unto the said Party of the Second Part, heirs, successors and assigns, forever in fee simple.

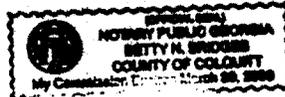
Witness the hand and seal of the Party of the First Part the day and year first above written.

 (SEAL)  
DAN GAY

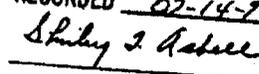
Signed, sealed & delivered in the presence of:



Witness  
  
Betty D. Bridges  
Notary Public



LAW OFFICE OF  
Jack Short  
P.O. BOX 1007  
MOUNTAIN VIEW, GEORGIA 31770  
(404) 835-2300  
FAX (404) 835-1001

RECORDED 02-14-99  
 CLERK

BOOK PAGE  
0960 0450

FILED  
CLERK OF SUPERIOR COURT  
COLQUITT COUNTY, GA

2007 MAY -2 PM 1:19

PT-161 035-2007-000807  
RETURN TO AFTER RECORDING:

Cottingham & Porter, P.C.  
319 E. Ashley Street  
Douglas, Georgia 31533  
Attn: Robert L. Porter, Jr.  
01-RE-052

GEORGIA, COLQUITT COUNTY  
CLERK'S OFFICE, SUPERIOR COURT  
RECORDED IN BOOK 960 FOLIO 450-457 CAROLYN M. BRAZEL, CLERK  
ON 2nd DAY OF May, 2007  
*Carolyn M. Brazel* DEPUTY CLERK

COLQUITT COUNTY, GEORGIA  
Real Estate Transfer Tax  
Paid 453.10  
Date 05-02-2007  
*Carolyn M. Brazel*  
Clerk of Superior Court

PREPARED BY:

Robert L. Porter, Jr.  
Cottingham & Porter, P.C.  
319 E. Ashley Street  
Douglas, Georgia 31533

SPACE ABOVE THIS LINE FOR RECORDER'S USE

STATE OF GEORGIA  
COUNTY OF COLQUITT

LIMITED  
WARRANTY DEED

THIS INDENTURE, made this the 27th day of April, 2007, between  
**PCS JOINT VENTURE, LTD.**, a Florid Limited Partnership, (the "Grantor"), and **R.W.  
GRIFFIN TERMINAL SERVICES, LLC**, a Georgia limited liability company (the  
"Grantee");

WITNESSETH:

That the Grantor, for and in consideration of the sum of TEN AND NO/100 DOLLARS  
(\$10.00) and other good and valuable considerations in hand paid at and before the sealing and  
delivery of these presents, the receipt of which is hereby acknowledged, has granted, bargained,  
sold and conveyed and by these presents does grant, bargain, sell and convey unto the Grantee,  
the Grantee's heirs and assigns, the following described property, to wit:

See Exhibit A attached hereto and incorporated herein by reference.

TO HAVE AND TO HOLD the said bargained premises, together with all and singular  
the rights, members and appurtenances thereof, to the same being, belonging or in anywise  
appertaining, to the only proper use, benefit and behoof of the Grantee, the Grantee's heirs and  
assigns, forever, in FEE SIMPLE. This Deed is subject to those certain permitted exceptions set  
forth in Exhibit B attached hereto and incorporated herein by this reference.

And the Grantor will warrant and forever defend the right and title to the above described  
property unto the Grantee against the lawful claims of all persons owning, holding or claiming  
by, through or under Grantor.

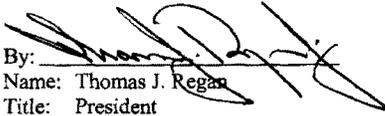
(SIGNATURES FOLLOW ON NEXT PAGE)

BOOK PAGE  
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IN WITNESS WHEREOF, the Grantor has hereunto signed and sealed this indenture,  
this the day and year first above written.

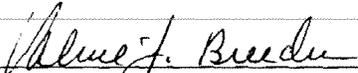
PCS Joint Venture, Ltd.  
A Florida limited partnership

By: Potash Corporation of Saskatchewan (Florida) Inc.,  
a Florida Corporation  
Its General Partner

By:   
Name: Thomas J. Regan  
Title: President

Signed, sealed and delivered on the  
27<sup>th</sup> day of August, 2007  
in the presence of:

  
Witness

  
Notary Public; My Commission  
Expires: 9/30/10

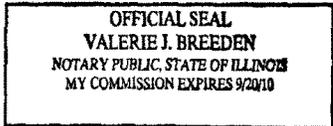


EXHIBIT "A"

Property Description

PARCEL #1:

1.501 acres of land lying and being in the City of Moultrie, Colquitt County, Georgia, and more particularly described as BEGINNING at a concrete monument at the Southwest intersection of Fourth Avenue Northeast and Sixth Street Northeast, and from said point of beginning run South 0°4' East along the West margin of Sixth Street Northeast 184.77 feet, thence run south 89°49'20" West 352.88 feet to a point, thence run North 0°3' East 185.51 feet to a point on the South margin of Fourth Avenue Northeast, thence run North 89°57' East along the South margin of Fourth Avenue Northeast a distance of 352.5 feet to a concrete monument and the point of beginning; all as more particularly shown on a plat of survey made by Patchen, Mingledorff and Associates, Consulting Engineers, on November 18, 1966, which plat is recorded in Plat Book 5, page 8, Colquitt County Records.

PARCEL #2:

1.323 acres of land lying and being in the City of Moultrie, Colquitt County, Georgia, and more particularly described as BEGINNING at a concrete monument in the intersection of the East margin of the Georgia Northern Railroad right-of-way with the North margin of Second Avenue Northeast in said city, thence run North 0°17' West along the East margin of said railroad right-of-way 213.5 feet to a point, thence run North 45°25'55" East 137.52 feet to a point, thence run North 89°43' East 101.5 feet to a point, thence run South 0°17' East 314 feet to a point in the North margin of Second Avenue Northeast, thence run North 89° West along the North margin of Second Avenue North 200 feet to a concrete monument and the point or place of beginning; all as more particularly shown on a plat of survey made by Patchen, Mingledorff and Associates, Consulting Engineers, on November 18, 1966, which plat is recorded in Plat Book 5, page 8, Colquitt County Records.

PARCEL #3:

2.68 acres of land lying and being in the City of Moultrie, Colquitt County, Georgia, and more particularly described as beginning at a concrete monument at the northeast intersection of Fourth Avenue, Northeast and Third Street, Northeast, thence run North 0°24' West along the East margin of Third Street, Northeast 360.54 feet to a concrete monument in the South margin of the right-of-way of the Atlantic Coastline Railroad, thence run in an Easterly direction along an arc on the South margin of the right-of-way of the Atlantic Coast Railroad, which arc has a radius of 1407.69 feet, a distance of 282.75 feet to a concrete monument, thence run North 89°51'40" East along the South margin of said railroad right-of-way 19.76 feet to a concrete monument in the West margin of the Georgia Northern Railroad right-of-way, thence run South 0°17' East along the West margin of said Georgia Northern Railroad right-of-way 385.63 feet to a concrete monument in the North margin of Fourth Avenue, Northeast, thence run South 89°57' West along the North margin of Fourth Avenue, Northeast 300.29 feet to a concrete monument and to the point or place of beginning; all as more particularly shown on a plat of survey made by Patchen, Mingledorff and Associates, Consulting Engineers on November 30, 1966, which plat is recorded in Plat Book 5, Page 6, Colquitt County, Records.

PARCEL #6:

A tract of land lying and being in the City of Moultrie, Colquitt County, Georgia, and more particularly described as beginning at a concrete monument in the South margin of Fourth Avenue, Northeast 668.14 feet South 89°57' West from the Southwest intersection of Fourth Avenue Northeast and Sixth Street, Northeast, thence run South 0°17' East along the East margin of said railroad right-of-way 472.14 feet to a point, which is Parcel #2 above described, thence run North 45°25'55" East along the margin of said Parcel #2 a distance of 137.52 feet to a point, thence run North 89°43' East along said Parcel #2 101.5 feet to a point, thence run South 0°17' East along said Parcel #2 a distance of 314 feet to a point in the North margin of Second Avenue, Northeast, thence run South 89° East along the North margin of Second Avenue, Northeast 100.65 feet to a concrete monument in the West margin of Fifth Street, Northeast, thence run North 0°04' West along the West margin of Fifth Street, Northeast 277 feet to a point, thence run South 89° East 60.01 feet to a point in the East margin of Fifth Street, Northeast, thence run South 0°04' East along the East margin of Fifth Street, Northeast 177 feet to a concrete monument in the North margin of lands of Ella Evans, thence run South 89° East along the North margin of lands of Ella Evans 150 feet to a concrete monument, thence run South 0°04' East along the East margin of lands of Ella Evans 50 feet to a concrete monument, thence run North 89° West along the South margin of lands of Ella Evans 75 feet to a point in the East margin of Parcel # 7, hereinafter described, thence run South 0°04' East along the East margin of said Parcel #7 50 feet to a point in the North margin of Second Avenue, Northeast, thence run South 89° East along the North margin of Second Avenue, Northeast 120 feet to a concrete monument in the West margin of lands of J.A. Windom Estate, thence run North 0°4' West along the West margin of lands of said Windom Estate 100 feet to a concrete monument, thence run South 89° East along the North margin of said Windom Estate 110 feet to a concrete monument in the West margin of Sixth Street, Northeast, thence N 0°4' W, 213.06 feet to lands sold by the Grantor to Jenkins Gin Company, thence run South 89°49'20" West along lands of Jenkins Gin Company 322 feet, thence run North 9°04' West 152 feet, thence run North 89°42'20" East 132.02 feet to the right of way of the Georgia & Florida Railroad, thence run North 0°03' East 50 feet to Parcel #1, above described, thence run South 89°49'20" West along the South margin of said Parcel #1 150 feet to a point, thence run North 0°03' East 185.51 feet to a point in the South margin of Fourth Avenue, Northeast, thence run South 89°57' West along the South margin of Fourth Avenue, Northeast 315.64 feet to a concrete monument and the point or place of beginning.

PARCEL #6A:

0.123 acres of land lying and being in the City of Moultrie, Colquitt County, Georgia, more particularly described as beginning at a concrete monument in the South margin of Fourth Avenue, Northeast, which point is the Northwest corner of Parcel #6 herein above described, and from said point run South 89°57' West a distance of 17.67 feet to lands of the Georgia Northern Railroad, thence run South 0°17' East along lands of Georgia Northern Railroad 302 feet, thence run North 89°57' East along lands of said Railroad 17.67 feet to the West margin of said Parcel #6, thence run North 0°17' West along the West margin of said Parcel #6 302 feet to a concrete monument and the point or place of beginning; all as more particularly shown on a plat of survey made by Patchen, Mingledorff and Associates, Consulting Engineers, on November 18, 1966, which plat is recorded in Plat Book 5, Page 8, Colquitt County Records.

PARCEL #8:

CHI-1585499v2

1.859 acres of land lying and being in the City of Moultrie, Colquitt County, Georgia, and more particularly described as beginning at a concrete monument in the Southeast intersection of Third Street, Northeast and Fourth Avenue, Northeast, thence run North 89°57' East along the South margin of Fourth Avenue, Northeast 300.16 feet to a concrete monument in the West margin of the right-of-way of the Georgia Northern Railroad, thence run South 0°17' East along the West margin of the Georgia Northern Railroad right-of-way 270 feet to a concrete monument in the North margin of lands of Cotton Producers Association, thence run South 89°57' West along the North margin of lands of Cotton Producers Association 299.61 feet to a concrete monument in the East margin of Third Street, Northeast, thence run North 0°24' West along the East margin of Third Street, Northeast 270 feet to a concrete monument and the point or place of beginning; all as more particularly shown of a plat of survey made by Patchen, Mingledorff and Associates, Consulting Engineers, on December 1, 1966, which plat is recorded in Plat Book 5, Page 9, Colquitt County Records.

PARCEL # 9:

All that tract or parcel of land lying, being and situated in the City of Moultrie, Colquitt County, Georgia, and being more particularly described as follows:

Beginning at a point on the east margin of Third Street Northeast at the intersection of said margin of said street with the north margin of the right-of-way of the spur or sidetrack or the A. B. & C. Railroad, known as the Coleman Spur, said point being 180 feet north, more or less, from the Northeast corner of the intersection of said Third Street Northeast and Second Avenue Northeast; thence from said point of beginning run North along the east margin of said Third Street Northeast a distance of 210 feet and to the property of C.O. Smith Guano Company; thence run East along the South line of the C.O. Smith Guano Company property a distance of 288 feet, more or less, and to the west margin of the right-of-way of the main line of the Georgia Northern Railway Company; thence run South along the said west margin of said right-of-way a distance of 210 feet, more or less, and to the north margin of the right-of-way of the spur or sidetrack of the A.B. & C. Railroad, known as the Coleman Spur; thence run West along said North margin of said right-of-way a distance of 288 feet, more or less, and to the point or place of beginning; all of said tract being in original Land Lot No. 262 of the 8<sup>th</sup> Land District of Colquitt County, Georgia. This being the same property conveyed to Georgia Peanut Company by J.R. Hackett in Deed recorded in Deed Book 76, Page 598 in the records of the office of the Clerk of Superior Court, Colquitt County, Georgia; by J.R. Hackett in Deed recorded in Deed Book 76, Page 600, said records; by Colquitt County Tobacco Warehouse Company, Inc. in Deed recorded in Deed Book 85 Page 450, said records; by C.O. Smith in Deed recorded in Deed Book 101, Page 581, said records.

The above parcel numbers 1, 2, 3, 6, 6A, 8 & 9 are a portion of the property obtained by PCS Joint Venture, Ltd from Florida Favorite Fertilizer, Inc. and Farmers Favorite Fertilizer of Moultrie, Inc., by deed dated January 15, 1992, and recorded in Deed Book 458, Pages 576-584, Public Records, Colquitt County, Georgia.

PARCEL #7:

3750 square feet of land lying and being in the City of Moultrie, Colquitt County, Georgia, and more particularly described as beginning at a concrete monument in the Northeast intersection of

Fifth Street, Northeast and Second Avenue, Northeast, thence run North 0°04' West 50 feet to a concrete monument in the South margin of lands of Ella Evans, thence run South 89° East along the south margin of lands of Ella Evans 75 feet to a point in the West margin of Parcel #6 herein above described, thence run South 0°04' East along the West margin of said Parcel #6 a distance of 50 feet to a point in the North margin of Second Avenue, Northeast, thence run North 89° West along the North margin of Second Avenue, Northeast 75 feet to a concrete monument and the point or place of beginning; all as more particularly shown on a plat of survey made by Patchen, Mingledorff and Associates, Consulting Engineers, on November 18, 1966, which plat is recorded in Plat Book 5, Page 8, Colquitt County Records.

The above parcel # 7 is all of that property obtained by PCS Joint Venture, Ltd. from Farmers Favorite Fertilizer of Moultrie, Inc. by quitclaim deed dated January 15, 1992, and recorded in Deed Book 458, Page 585-586, Public Records, Colquitt County, Georgia.

PARCEL #12:

All that tract or parcel of land in Land Lot 261 in the Eight (8<sup>th</sup>) Land District of Colquitt County, Georgia, being part of Block 20 and 29 according to the Arthur Survey of the City of Moultrie, Georgia, and being 1.81 acres, more or less, according to a plat by Hurley J. Griffin, Georgia Registered Surveyor, dated April 3, 1972, which plat is recorded in Plat Book 6, Page 130, in the office of the Clerk of Superior Court of Colquitt County, Georgia, and being more particularly described as follows:

Commence at a point on the Easterly margin of 6<sup>th</sup> Street, Northeast, which point is located 223 feet North of the intersection of the Easterly margin of 6<sup>th</sup> Street Northeast with the northerly margin of Northeast 2<sup>nd</sup> Avenue; run thence South 85 degrees 30 minutes East 282 feet to a point; run thence North 4 degrees 30 minutes East 32.3 feet to a point; run thence North 85 degrees 30 minutes West 40 feet to a point; run thence North 4 degrees 30 minutes East 5 feet to a point; run thence South 85 degrees 30 minutes East 101 feet to a point; run thence South 4 degrees 30 minutes West 8.5 feet to a point; run thence South 85 degrees 30 minutes East 12 feet to a point; run thence North 4 degrees 30 minutes East 157 feet to a point; run thence North 78 degrees 58 minutes West 12.07 feet to a point; run thence North 4 degrees 30 minutes East 5.03 feet to a point; run thence North 78 degrees 58 minutes West 345.2 feet to a point on the Easterly margin of 6<sup>th</sup> Street, Northeast; run thence South 4 degrees 30 minutes West 230.6 feet to the point of place and beginning.

The above is all of that property obtained by PCS Joint Venture, Ltd from Taylor Trusts Farms, a General Partnership by deed dated January 22, 2002, and recorded in Deed Book 742, Pages 651-652, Public Records, Colquitt County, Georgia.

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0960      0456

EXHIBIT "B"

Permitted Exceptions

1. All taxes for the year 2007 are liens not yet due and payable and any additional taxes which may result from a reassessment of caption property.
2. Such state of facts as would be disclosed by an accurate survey and inspection of the premises.
3. Matters shown on that the following plats of survey: (1) plat of survey for PCS Joint Venture, Ltd., by Southland Surveying Company, dated February 1, 1989, and revised February 12, 2007; (2) plat of survey by H.J. Gurley dated April 3, 1972, recorded in Plat Book 6, Page 130, Public Records, Colquitt County, Georgia; (3) plat of survey recorded in Plat Book 5, Page 8, Public Records, Colquitt County, Georgia.
4. Agreement and Right of Way Deed between the Moultrie Compress Company and S.L. Shoonmaker and H.M. Atkinson, Receivers for the Atlanta Birmingham & Atlantic Railroad Company, dated July 3, 1912, and recorded in Deed Book GG, Page 156, Public Records, Colquitt County, Georgia. (Parcel 6)
5. Right of Way Deed from E. Reynolds to Highway Board of Georgia dated December 14, 1939, and recorded in Deed Book 108, Page 155-156, Public Records, Colquitt County, Georgia. (Parcel 6)
6. Right of Way Deed from Moultrie Compress Company to Highway Board of Georgia dated December 14, 1939, and recorded in Deed Book 108, Page 156, Public Records, Colquitt County, Georgia. (Parcel 1)
7. Right of Way Deed from John R. Hall to Highway Board of Georgia dated December 14, 1939, and recorded in Deed Book 108, Pages 156-157, Public Records, Colquitt County, Georgia.
8. Right of Way Deed from E. Reynolds to Highway Board of Georgia dated December 14, 1939, and recorded in Deed Book 108, Page 157, Public Records, Colquitt County, Georgia.
9. Easement Rights from C.O. Smith to Georgia & Florida Railroad, dated May 1, 1951, and recorded in Deed Book 142, Pages 513-515, Public Records, Colquitt County, Georgia. (Parcel 6)
10. Agreement between Georgia Peanut Company and Atlantic Coastline Railroad, dated November 17, 1954 and recorded in Deed Book 167, Page 3, Public Records, Colquitt County, Georgia. (Parcel 9)
11. Restrictive Covenant (right of reverter) in that certain deed from Georgia Northern Railway Company to C.O. Smith Guano Company, dated December 11, 1964, and recorded in Deed Book 234, Page 140, Public Records, Colquitt County, Georgia, as amended by deed between

BOOK PAGE  
0960 0457

Georgia Northern Railway Company and Columbia Nitrogen Corporation, dated April 21, 1967 and recorded in Deed Book 249, Page 208, Public Records, Colquitt County, Georgia. (Parcel 6A)

13. Right of Way and Easement Deed between Columbia Nitrogen Corporation and Georgia Northern Railway Company, dated December 21, 1967, and recorded in Deed Book 254, Pages 52-54, Public Records, Colquitt County, Georgia. (Parcels 2, 6 and 8)

14. Sanitary Sewer Easement from Farmers Favorite Fertilizer to City of Moultrie, Georgia, dated January 23, 1983, recorded in Deed Book 372, Page 54, Public Records, Colquitt County, Georgia. (Parcel 2, and 6)

15. Any environmental lien related to subject property and which is related to matters which are identified in the listing for Site No. 10259 in the Georgia Environmental Protection Division Hazardous Site Inventory as of date hereof.

16. Potential claim of adjoining landowner as to six foot strip of land on southern boundary line of southeast corner of Parcel 6.

17. Potential claim of adjoining landowner as to portion of property in southeastern corner of Parcel 12.

18. Claim of ownership interest of heirs of Laura Duckworth as to Parcel 7.

WARRANTY DEED

G4

THIS INDENTURE, made as of the 15th day of January, 1992, between FLORIDA FAVORITE FERTILIZER, INC., a Florida corporation, d/b/a "FARMERS FAVORITE FERTILIZER OF MOULTRIE" [as to Tract I described on Exhibit "A" attached hereto only] and FARMERS FAVORITE FERTILIZER OF MOULTRIE, INC., a Georgia corporation [as to Tract II described on Exhibit "A" attached hereto only] herein collectively called the "Grantor," whose post office address is 1801 East Memorial Blvd., Lakeland, FL 33802, and PCS JOINT VENTURE, LTD., a Florida limited partnership, whose post office address is Suite 500, 122 First Avenue South, Saskatoon, Saskatchewan S7K 7G3, herein called the "Grantee";

WITNESSETH that, in consideration of Ten Dollars (\$10.00) in hand paid and other valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Grantor does hereby grant, bargain, sell, alien, convey, transfer and confirm unto Grantee all that tract or parcel of land located in Colquitt County, in the State of Georgia, more fully described in Exhibit "A" attached hereto and made a part hereof, together with all buildings and other improvements located thereon, and together with all rights, members and appurtenances in any manner appertaining or belonging to said property.

TO HAVE AND TO HOLD said property, together with all and singular the rights, members and appurtenances thereof, to the same being, belonging or in anywise appertaining, to the only proper use, benefit and behoof of grantee in fee simple absolute forever. Grantor shall warrant and forever defend the right, title and interest to said property unto Grantee against the claims of all persons claiming by, through or under Grantor, except for those matters set forth in Exhibit "B" attached hereto and made a part hereof. Where the context requires or permits, "Grantor" and "Grantee" shall include their respective heirs, successors and assigns.

IN WITNESS WHEREOF, Grantor has executed this deed under seal on the date above written.

Signed, sealed and delivered in our presence on this 15 day of January, 1992

*[Signature]*  
Unofficial Witness

*[Signature]*  
Notary Public

(NOTARY SEAL)  
(NOTARY STAMP)



OFFICIAL SEAL  
LINDA S. MILLER  
My Commission Expires  
Nov. 25, 1995

Colquitt County, Georgia  
Real Estate Transfer Tax  
Paid \$ 520.30  
Date 1-23-92  
Clerk of Superior Court

FLORIDA FAVORITE FERTILIZER, INC., a Florida corporation, d/b/a "FARMERS FAVORITE FERTILIZER OF MOULTRIE"

*[Signature]*  
BY: AS ITS: President

*[Signature]*  
ATTEST: AS ITS: Asst. Secretary



THIS INSTRUMENT PREPARED BY MARY H. QUINLAN  
TRENAM, SIMMONS, KEMKER, SCHARF, BARKIN, FRYE & O'NEILL, P.A.  
P. O. BOX 1102  
TAMPA, FLORIDA 33601

RETURN TO: MARY H. QUINLAN  
TRENAM, SIMMONS, KEMKER, SCHARF, BARKIN, FRYE & O'NEILL, P.A.  
P. O. BOX 1102  
TAMPA, FLORIDA 33601

Signed, sealed and delivered  
in our presence on this  
15<sup>th</sup> day of January, 1992

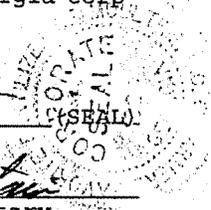
FARMERS FAVORITE FERTILIZER OF  
MOULTRIE, INC., a Georgia corp-  
oration

[Signature]  
Unofficial Witness

BY: [Signature]  
AS ITS: President

[Signature]  
Notary Public

ATTEST: [Signature]  
AS ITS: Asst. Secretary



(NOTARY SEAL)  
(NOTARY STAMP)



OFFICIAL SEAL  
LINDA S. MILLER  
My Commission Expires  
Nov. 25, 1995

TRACT II:

PARCEL #1. 1.501 acres of land lying and being in the City of Moultrie, Colquitt County, Georgia, and more particularly described as BEGINNING at a concrete monument at the Southwest intersection of Fourth Avenue Northeast and Sixth Street Northeast, and from said point of beginning run South South 0°4' East along the West margin of Sixth Street Northeast 184.77 feet, thence run South 89°49'20" West 352.88 feet to a point, thence run North 0°3' East 185.51 feet to a point on the South margin of Fourth Avenue Northeast, thence run North 89°57' East along the South margin of Fourth Avenue Northeast a distance of 352.5 feet to a concrete monument and the point of beginning; all as more particularly shown on a plat of survey made by Patchen, Mingledorff and Associates, Consulting Engineers, on November 18, 1966, which plat is recorded in Plat Book 5, page 8, Colquitt County Records.

and

PARCEL #2. 1.323 acres of land lying and being in the City of Moultrie, Colquitt County, Georgia, and more particularly described as BEGINNING at a concrete monument in the intersection of the East margin of the Georgia Northern Railroad right-of-way with the North margin of Second Avenue Northeast in said city, thence run North 0°17' West along the East margin of said railroad right-of-way 213.5 feet to a point, thence run North 45°25'55" East 137.52 feet to a point, thence run North 89°43' East 101.5 feet to a point, thence run South 0°17' East 314 feet to a point in the North margin of Second Avenue Northeast, thence run North 89° West along the North margin of Second Avenue North 200 feet to a concrete monument and the point or place of beginning; all as more particularly shown on a plat of survey made by Patchen, Mingledorff and Associates, Consulting Engineers, on November 18, 1966, which plat is recorded in Plat Book 5, Page 8, Colquitt County Records.

and

PARCEL #3. 2.68 acres of land lying and being in the City of Moultrie, Colquitt County, Georgia, and more particularly described as beginning at a concrete monument at the Northeast intersection of Fourth Avenue, Northeast and Third Street, Northeast, thence run North 0°24' West along the East margin of Third Street, Northeast 360.54 feet to a concrete monument in the South margin of the right-of-way of the Atlantic Coastline Railroad, thence run in an Easterly direction along an arc on the South margin of the right-of-way of the Atlantic Coastline Railroad, which arc has a radius of 1407.69 feet, a distance of 282.75 feet to a concrete monument, thence run North 89°51'40" East along the South margin of said railroad right-of-way 19.76 feet to a concrete monument in the West margin of the Georgia Northern Railroad right-of-way, thence run South 0°17' East along the West margin of said Georgia Northern Railroad right-of-way 385.63 feet to a concrete monument in the North margin of Fourth Avenue, Northeast, thence run South 89°57' West along the North margin of Fourth Avenue, Northeast 300.29 feet to a concrete monument and to the point or place of beginning; all as more particularly shown on a plat of survey made by Patchen, Mingledorff and Associates, Consulting Engineers on November 30, 1966, which plat is recorded in Plat Book 5, Page 6, Colquitt County, Records.

TRACT I:

All that tract or parcel of land lying, being and situated in the City of Moultrie, Colquitt County, Georgia, and being more particularly described as follows:

Beginning at a point on the east margin of Third Street Northeast at the intersection of said margin of said street with the north margin of the right-of-way of the spur or sidetrack of the A. B. & C. Railroad, known as the Coleman Spur, said point being 180 feet north, more or less, from the Northeast corner of the intersection of said Third Street Northeast and Second Avenue Northeast; thence from said point of beginning run North along the east margin of said Third Street Northeast a distance of 210 feet and to the property of C.O. Smith Guano Company; thence run East along the South line of the C.O. Smith Guano Company property a distance of 288 feet, more or less, and to the west margin of the right-of-way of the main line of the Georgia Northern Railway Company; thence run South along the said west margin of said right-of-way a distance of 210 feet, more or less, and to the north margin of the right-of-way of the spur or sidetrack of the A. B. & C. Railroad, known as the Coleman Spur; thence run West along said North margin of said right-of-way a distance of 288 feet, more or less, and to the point or place of beginning; all of said tract being in original Land Lot No. 262 of the 8th Land District of Colquitt County, Georgia. This being the same property conveyed to Georgia Peanut Company by J.R. Hackett in Deed recorded in Deed Book 76, Page 598 in the records of the office of the Clerk of Superior Court, Colquitt County, Georgia; by J.R. Hackett in Deed recorded in Deed Book 76, Page 600, said records; by Colquitt County Tobacco Warehouse Company, Inc. in Deed recorded in Deed Book 85, Page 450, said records; by C.O. Smith in Deed recorded in Deed Book 101, Page 581, said records.

ALSO all of the right, title and interest of the Grantor in a strip of land 60 feet in width East and West and lying immediately West of Parcel #3 above described and extending from the North margin of Fourth Avenue, Northeast to the South margin of the right-of-way of the Atlantic Coastline Railroad Company, and formerly being a portion of Third Street, Northeast, which portion has been abandoned by the City of Moultrie for street purposes, containing 0.485 acres; all as more particularly shown on a plat of survey made by Patchen, Mingledorff and Associates, Consulting Engineers, on November 30, 1966, which plat is recorded in Plat Book 5, Page 6, Colquitt County Records.

PARCEL #4. 2.480 acres of land lying and being in the City of Moultrie, Colquitt County, Georgia, and more particularly described as beginning at a concrete monument in the intersection of the North margin of Fourth Avenue, Northeast with the East margin of the Georgia Northern Railroad right-of-way, thence run North  $0^{\circ}17'$  West along the East margin of the Georgia Northern Railroad right-of-way 386.21 feet to a concrete monument in the South margin of the Atlantic Coastline Railroad right-of-way, thence run in an Easterly direction along the South margin of said Atlantic Coastline Railroad right-of-way on an arc, which arc has a radius of 930.366 feet, a distance of 234.52 feet to a concrete monument, thence run South  $22^{\circ}18'23''$  East 47.75 feet to a point, thence run South  $20^{\circ}41'35''$  East 223.29 feet to a point, thence run South  $32^{\circ}13'30''$  East 32.53 feet to a point in the North margin of the right-of-way of the Atlantic Coastline spur track, thence run in a Southwesterly direction along the North margin of the right-of-way of the Atlantic Coastline spur track on an arc, which arc has a radius of 529.671 feet, a distance of 100.94 feet to a point in the North margin of Fourth Avenue, Northeast, thence run South  $89^{\circ}57'$  West along the North margin of Fourth Avenue, Northeast 276.45 feet to a concrete monument and the point or place of beginning all as more particularly shown on a plat of survey made by Patchen, Mingledorff and Associates, Consulting Engineers, on November 30, 1966, which plat is recorded in Plat Book 5, Page 6, Colquitt County Records.

PARCEL #5. A triangular tract of land containing 2667 square feet, lying and being in the City of Moultrie, Colquitt County, Georgia, and more particularly described as beginning at a point on the North margin of Fourth Avenue, Northeast, which point is North  $89^{\circ}57'$  East 296.64 feet from a concrete monument in the intersection of the East margin of the right-of-way of the Georgia Northern Railroad and the North margin of Fourth Avenue, Northeast, thence run in a Northeasterly direction along the South margin of the right-of-way of the Atlantic Coastline spur track on an arc, which arc has a radius of 513.671 feet, a distance of 82.94 feet to a point, thence run South  $32^{\circ}14'5''$  East 9.23 feet to a point, thence run South  $22^{\circ}41'20''$  East 57.30 feet to a concrete monument in the North margin of Fourth Avenue, Northeast, thence run South  $89^{\circ}57'$  West along the North margin of Fourth Avenue, Northeast 83.37 feet to the point or place of beginning; all as more particularly shown on a plat of survey made by Patchen, Mingledorff and Associates, Consulting Engineers, on November 30, 1966, which plat is recorded in Plat Book 5, Page 6, Colquitt County Records.

PARCEL #6. A tract of land lying and being in the City of Moultrie, Colquitt County, Georgia, and more particularly described as beginning at a concrete monument in the South margin of Fourth Avenue, Northeast 668.14 feet South 89°57' West from the Southwest intersection of 4th Avenue, Northeast and Sixth Street, Northeast, thence run South 0°17' East along the East margin of said railroad right-of-way 472.14 feet to a point, which is Parcel #2 above described, thence run North 45°25'55" East along the margin of said Parcel #2 a distance of 137.52 feet to a point, thence run North 89°43' East along said Parcel #2 101.5 feet to a point, thence run South 0°17' East along said Parcel #2 a distance of 314 feet to a point in the North margin of Second Avenue, Northeast, thence run South 89° East along the North margin of Second Avenue, Northeast 100.65 feet to a concrete monument in the West margin of Fifth Street, Northeast, thence run North 0°04' West along the West margin of Fifth Street, Northeast 277 feet to a point, thence run South 89° East 60.01 feet to a point in the East margin of Fifth Street, Northeast, thence run South 0°04' East along the East margin of Fifth Street, Northeast 177 feet to a concrete monument in the North margin of lands of Ella Evans, thence run South 89° East along the North margin of lands of Ella Evans 150 feet to a concrete monument, thence run South 0°04' East along the East margin of lands of Ella Evans 50 feet to a concrete monument, thence run North 89° West along the South margin of lands of Ella Evans 75 feet to a point in the East margin of Parcel #7, hereinafter described, thence run South 0°04' East along the East margin of said Parcel #7 50 feet to a point in the North margin of Second Avenue, Northeast, thence run South 89° East along the North margin of Second Avenue, Northeast 120 feet to a concrete monument in the West margin of lands of J.A. Windom Estate, thence run North 0°4' West along the West margin of lands of said Windom Estate 100 feet to a concrete monument, thence run South 89° East along the North margin of said Windom Estate 110 feet to a concrete monument in the West margin of Sixth Street, Northeast, thence N 0°4' W, 213.06 feet to lands sold by the Grantor to Jenkins Gin Company, thence run South 89°49'20" West along lands of Jenkins Gin Company 322 feet, thence run North 9°04' West 152 feet, thence run North 89°49'20" East 132.02 feet to the right of way of the Georgia & Florida Railroad, thence run North 0°03' East 50 feet to Parcel #1 above described, thence run South 89°49'20" West along the South margin of said Parcel #1 150 feet to a point, thence run North 0°03' East 185.51 feet to a point in the South margin of Fourth Avenue, Northeast, thence run South 89°57' West along the South margin of Fourth Avenue, Northeast 315.64 feet to a concrete monument and the point or place of beginning.

PARCEL #6A. 0.123 acres of land lying and being in the City of Moultrie, Colquitt County, Georgia, more particularly described as beginning at a concrete monument in the South margin of Fourth Avenue, Northeast, which point is the Northwest corner of Parcel #6 hereinabove described, and from said point run South  $89^{\circ}57'$  West a distance of 17.67 feet to lands of the Georgia Northern Railroad, thence run South  $0^{\circ}17'$  East along lands of Georgia Northern Railroad 302 feet, thence run North  $89^{\circ}57'$  East along lands of said Railroad 17.67 feet to the West margin of said Parcel #6, thence run North  $0^{\circ}17'$  West along the West margin of said Parcel #6 302 feet to a concrete monument and the point or place of beginning; all as more particularly shown on a plat of survey made by Patchen, Mingledorff and Associates, Consulting Engineers, on November 18, 1966, which plat is recorded in Plat Book 5, Page 8, Colquitt County Records.

PARCEL #8. 1.859 acres of land lying and being in the City of Moultrie, Colquitt County, Georgia, and more particularly described as beginning at a concrete monument in the Southeast intersection of Third Street, Northeast and Fourth Avenue, Northeast, thence run North  $89^{\circ}57'$  East along the South margin of Fourth Avenue, Northeast 300.16 feet to a concrete monument in the West margin of the right-of-way of the Georgia Northern Railroad, thence run South  $0^{\circ}17'$  East along the West margin of the Georgia Northern Railroad right-of-way 270

feet to a concrete monument in the North margin of lands of Cotton Producers Association, thence run South  $89^{\circ}57'$  West along the North margin of lands of Cotton Producers Association 299.61 feet to a concrete monument in the East margin of Third Street, Northeast, thence run North  $0^{\circ}24'$  West along the East margin of Third Street, Northeast 270 feet to a concrete monument and the point or place of beginning; all as more particularly shown on a plat of survey made by Patchen, Mingledorff and Associates, Consulting Engineers, on December 1, 1966, which plat is recorded in Plat Book 5, Page 9, Colquitt County Records.

## EXHIBIT "B"

## TRACT I:

1. Taxes for the year 1991 and subsequent years.
2. Restrictive covenant recorded in Deed Book 375, Page 609, Colquitt County records.
3. Agreement between the Georgia Peanut Company and Atlantic Coastline Railroad Company for occupation of a certain portion of Atlantic Coastline Railroad Company's right-of-way in Colquitt County dated November 17, 1954 and recorded May 18, 1955 in Deed Book 167, Page 3, aforesaid records.

## TRACT II:

1. Taxes for the year 1991 and subsequent years.
2. Sanitary sewer easement from Farmers Favorite Fertilizer to City of Moultrie, Georgia, dated January 23, 1983, recorded in Deed Book 372, Page 54, Colquitt County records.
3. Access easement from Columbia Nitrogen Corporation to Sam Jenkins, Sr. dated September 1, 1970, recorded in Deed Book 276, Page 43-44, aforesaid records, and assigned to Jenkins Gin Company by Assignment dated September 18, 1970, recorded in Deed Book 276, Page 45, aforesaid records.
4. Right-of-way and easement deed from Columbia Nitrogen Corporation to Georgia Northern Railway Company dated December 21, 1967, recorded in Deed Book 254, Pages 52-54, aforesaid records.
5. Right-of-way deed from E. Reynolds to Highway Board of Georgia dated December 14, 1939, recorded in Deed Book 108, Pages 155-156, aforesaid records.
6. Right-of-way deed from E. Reynolds to Highway Board of Georgia dated December 14, 1939, recorded in Deed Book 108, Pages 157-158, aforesaid records.
7. Restrictive covenants and reservations set out in deed from The Georgia Northern Railway Company to C.O. Smith Guano Company dated December 11, 1964, recorded in Deed Book 234, Page 140, aforesaid records and amended by Agreement from Georgia Northern Railway Company to C.O. Smith Guano Company dated April 21, 1967, recorded in Deed Book 249, Pages 207-208, aforesaid records.

8. Right-of-way deed from John R. Hall, Jr. to Highway Board of Georgia, dated December 15, 1929\*, recorded in Deed Book 108, Pages 155-156, aforesaid records. (\*1939)
9. Easement rights from C.O. Smith to Georgia & Florida Railroad dated May 1, 1951, recorded in Deed Book 142, Pages 513-515, aforesaid records. (See Plat Book 1, Page 188).
10. Right-of-way deed from Moultrie Compress Company to Highway Board of Georgia dated December 15, 1939, recorded in Deed Book 108, Page 156, aforesaid records.
11. Agreement and right-of-way deed from Moultrie Compress Company to Atlanta, Birmingham & Atlantic Railroad Company dated July 3, 1912, recorded in Deed Book GG, Pages 156-157, aforesaid records. (Plat recorded Deed Book GG, Page 158).

RECORDED

1-24-92

Shirley 2 Asbell CLERK

## **APPENDIX B**

	Thickness (feet)	Depth (feet)
<b>Potential Water-Bearing Zones:</b>		
Limestone .....	275	575
Limestone .....	155	830

**COLQUITT COUNTY**

Location: 80 ft. south of First Avenue at Water Works in Moultrie  
 Owner: No. 4 City of Moultrie  
 Driller: Stevens Southern Drilling Company  
 Drilled: October 1943

Well No.: GGS 22  
 Elev.: 308

	Thickness (feet)	Depth (feet)
<b>Pliocene to Recent (Undifferentiated):</b>		
Sand: fine to coarse-grained, subangular; clay, dark-gray to black, sandy, lignitic, limonitic .....	10	10
<b>Miocene (Undifferentiated):</b>		
Sand: fine-grained, phosphatic (finely disseminated); some clay, yellowish-green, somewhat indurated, tough .....	83	93
Clay: dark-green, somewhat indurated, blocky, sandy; interbedded limestone, white to light-brown (latter dolomitized, saccharoidal), rather massive, sandy .....	282	375
Limestone: white to light-brown (latter dolomitized, saccharoidal), massive, somewhat saccharoidal, sandy .....	95	470
Dolomitic limestone: dark-brown, massive, saccharoidal .....	25	495
<b>Oligocene (Undifferentiated):</b>		
Limestone: light-gray to brown, nodular, crystalline, dense, much calcitized, fossiliferous (Ostracods and abundant Foraminifera); interbedded dolomitic limestone, dark-brown, saccharoidal, massive .....	50	545
<i>Rotalia mexicana</i> var., <i>Asterigerina</i> sp., <i>Lepidocyclina</i> sp. at 495-505.		
<b>Upper Eocene: Jackson Group: Ocala Limestone:</b>		
Dolomitic limestone: light-brown, saccharoidal, massive .....	155	700

**Middle Eocene: Claiborne Group: Lisbon Formation**

	Thickness (feet)	Depth (feet)
Limestone: cream, granular, much calcitized, fossiliferous (macroshells, echinoid and bryozoan remains and Foraminifera) .....	100	800

*Robulus alato-limbatus*, *Lenticulina fragaria* var., *Nodosaria latejugata* var., *Eponides jacksonensis* at 700-720.

*Asterocyclina* sp. at 760-775.

**Summary:**

Pliocene to Recent (undifferentiated) .....	10	10
Miocene (undifferentiated) .....	485	495
Oligocene (undifferentiated) .....	50	545
Upper Eocene (Ocala limestone) .....	155	700
Middle Eocene (Lisbon formation) .....	100	800

**Potential Water-Bearing Zones:**

Limestone .....	100	800
-----------------	-----	-----

**Remarks:**

Dolomitic limestone yields hard water. The strata of Oligocene age in the above well are composed largely of dolomitic limestone. The underlying limestones of Ocala age constitute the principal source of ground water in this well.

**COLQUITT COUNTY**

Location: 760 ft. west of east line, 210 ft. north of south line, Land Lot 270, 8th Land District  
 Owner: No. 1 D. G. Arrington  
 Driller: R. T. Adams Drilling Company  
 Drilled: August 1948

Well No.: GGS 170  
 Elev.: 270  
 (derrick floor)

	Thickness (feet)	Depth (feet)
No samples .....	120	120

**In Miocene (Undifferentiated):**

Clay: pale-green, sandy; interbedded limestone, white, dense, phosphatic, somewhat dolomitized at certain levels, sandy, fossiliferous at depth (casts and molds of megafossils) .....	270	390
--	-----	-----

Casts and molds of megafossils prominent at 330-340.

## **APPENDIX C**

**Golder Associates Inc.**

9428 Baymeadows Road, Suite 400  
Jacksonville, FL USA 32256-7979  
Tel: (904) 363-3430  
Fax: (904) 363-3445



**REPORT ON**

**CORRECTIVE ACTION FOR SOIL  
FORMER SULFURIC ACID PLANT  
FAVORITE FARMERS FERTILIZER  
MOULTRIE, GEORGIA  
HSI SITE NUMBER 10259**

*Submitted to:*

*GEORGIA DEPARTMENT OF NATURAL RESOURCES  
ENVIRONMENTAL PROTECTION DIVISION  
2 MARTIN LUTHER KING JR. DRIVE, SE  
SUITE 1462 EAST  
ATLANTA, GEORGIA 30334*

*Submitted by:*

*Golder Associates Inc.  
9428 Baymeadows Road, Suite 400  
Jacksonville, Florida 32256*

**DISTRIBUTION:**

2 Copies Georgia Environmental Protection Division  
4 Copies Farmers Favorite Fertilizer  
2 Copies Golder Associates Inc.

August 2006

973-3788.005

*Aug 14, 2006  
Report  
according  
to Golder.*

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## 1.0 INTRODUCTION

Golder Associates Inc. (Golder) was contracted by PCS Joint Venture, Ltd., to oversee the implementation of the Corrective Action Workplan (Workplan) at the Farmers Favorite Fertilizer (FFF) facility located in Moultrie, Georgia. The Workplan was submitted to the Georgia Environmental Protection Division (EPD) of the Department of Natural Resources in August of 2005, and subsequently approved by EPD in their letter dated January 10, 2006.

Golder has submitted the following documents to the Georgia EPD that are related to this Site:

- ✓ 1 • Compliance Status Report (CSR) (March 1998);
- ✓ 2 • Response (November 9, 1998) to a Notice of Deficiency (NOD) (September 22, 1998);
- ✓ 3 • Revised CSR (May 1999);
- 4 • Corrective Action Plan (CAP) (July 1999);
- 5 • CAP Addendum (June 13, 2000);
- ✓ 6 • CSR Addendum and Response (June 2000) to a NOD (March 9, 2000);
- 7 • CSR Addendum 2 (December 4, 2000);
- 8 • CSR Addendum 3 (July 15, 2002);
- 9 • Background Determination of Metals in Groundwater (July 8, 2003);
- ✓ 10 • CSR Addendum 4 (December 16, 2003);
- ✓ 11 • Focused Feasibility Study (FFS) and CAP, Rev 1, (July 2004); and
- 12 • Corrective Action Workplan (August 31, 2005).

Work conducted at the Site in conjunction with the soil corrective action was implemented in general accordance with the approved Corrective Action Workplan. Descriptions of these activities are presented in further detail in Sections 3.0 through 5.0 of this report.

## 2.0 SITE BACKGROUND INFORMATION

The Site is comprised of approximately 4 acres and is located at 315 4<sup>th</sup> Avenue N.E. in Moultrie, Colquitt County, Georgia. The Site is located within an area mapped on the U. S. Geological Survey (USGS) Moultrie, Georgia 7.5-minute topographic quadrangle map with coordinates of approximately 31°10'55" north latitude and 83°46'59" west longitude. A site location map is presented on Figure 1. The entire FFF facility includes approximately 17 acres of land and is bounded on the west and south by urban/residential areas and on the north and east by undeveloped land and industrial areas.

The area of concern for the soil corrective action was the former sulfuric acid plant area in the northern portion of the FFF facility. A Site map showing Site features and approximate Site boundaries is presented on Figure 2.

Sulfuric acid production commenced at the Site with the construction of two lead reaction chambers in 1948. Sulfuric acid was manufactured for use in formulating phosphate and superphosphate fertilizers. As production increased, four additional lead chambers were constructed in the early to mid 1950s. In 1982, the manufacture of sulfuric acid ceased and the plant was used to dilute concentrated sulfuric acid, brought to the plant by rail, to 78 percent (the concentration required for fertilizer production). The dilution process involved transporting concentrated sulfuric acid off-loaded from rail cars to dilution tanks via piping that was once part of the production process piping. The piping ran beneath the tanks in the space between land surface and the raised platform on which the tanks were constructed.

The acid plant contained six lead chambers with associated lead piping and lead-covered structures that were constructed between 1948 and the early to mid 1950s. The chambers and plant structures were dismantled in August 1996. Most of the lead was recovered from the chambers during demolition and sold for recycling. Following demolition, bricks and concrete rubble were spread over a portion of the Site.

Site investigations conducted by the EPA, EPA representatives, and Golder identified the presence of lead and other metals at concentrations exceeding regulatory limits in soil at the Site. These activities are described in detail in the 2004 Compliance Status Report Addendum 4. The highest concentrations of lead and other metals in soil appeared in the former sulfuric acid plant and cooling towers area. Figure 2 shows the former locations of the sulfuric acid plant, cooling

towers, and other facilities. Historic plant operations may have caused some of these elevated levels; however, no records have been discovered detailing releases of sulfuric acid at the site. Elevated concentrations of lead at other locations in the former sulfuric acid plant area may have resulted from soil re-distribution activities. Again, however no definitive data or documentation exists to confirm the exact source of such concentrations.

The former structures that contained sulfuric acid were constructed of lead and brick; therefore, the most likely regulated substance released to the soil and groundwater is lead. Additional substances, (arsenic, barium, cadmium, chromium, mercury, and silver) were also included as potential constituents of concern COCs due to detections of these metals in some samples; however, no record of releases of these metals was located. Furthermore, no sources for these metals could be identified at the site.

### 3.0 CORRECTIVE ACTION OBJECTIVES

The primary objectives of the corrective action were to reduce or eliminate exposure risks associated with metals-impacted soil at the Site, and to reduce the potential for continued leaching of constituents from metals-impacted soils into groundwater at the Site. The Site cleanup goal for lead was based on Type 4 soil Risk Reduction Standards (RRSs) and generated using the Georgia adult lead model (GALM). Based on the model, the cleanup goals for lead were 930 milligrams per kilogram (mg/kg) for soil from ground surface to 2 feet below ground surface (ft-bgs), and 1,303 mg/kg for soil deeper than 2 ft-bgs. Site cleanup goals for all other metals were Type 3 soil RRSs. These goals were approved by the Georgia EPD, and are summarized in the following table.

PARAMETER	Cleanup Goal (mg/kg)
Antimony	10
Arsenic	41
Barium	1,000
Beryllium	3
Cadmium	39
Chromium	1,200
Cobalt	25
Copper	1,500
Lead (0 to 2 ft-bgs)	930
Lead (deeper than 2 ft-bgs)	1,303
Mercury	17
Nickel	420
Selenium	36
Silver	10
Thallium	10
Vanadium	100
Zinc	2,800

While there were isolated areas of contamination in soils from arsenic, barium, cadmium, chromium, copper, mercury and zinc, these areas were also generally within the area requiring corrective action for lead. Therefore, the corrective action was primarily based on remediation of lead, however, it should be noted that certain peripheral areas outside of the main excavation, where soil was impacted by metals other than lead, were addressed by selective excavation with subsequent treatment and off-Site disposal. Confirmation samples were collected from excavated areas to confirm that soil cleanup goals had been achieved.

#### 4.0 SOIL CORRECTIVE ACTION ACTIVITIES

Soil excavation activities in the former sulfuric acid plant area consisted of a multifaceted approach that included the following tasks:

- excavation of impacted soils to depths up to 10 ft-bgs;
- temporary staging of saturated soils within the limits of contamination to allow for gravity drainage of pore water prior to mechanical screening and subsequent treatment;
- mechanical screening of excavated soils for recovery of buried debris followed by ex-situ stabilization of segregated soils by mixing with proprietary treatment reagent in a large pug mill;
- off-Site disposal of stabilized soils characterized as non-hazardous waste;
- washing of recovered debris with collection of generated rinsate liquid for reuse in soil stabilization mixing process;
- disposal of excess rinsate water and generated waste water to the City of Moultrie publicly-owned treatment works (POTW);
- off-Site disposal of clean debris at a construction and demolition (C&D) waste facility; and
- backfilling using clean imported fill to re-establish Site grades.

The following is a more detailed description of activities that were conducted for completion of soil corrective action at the site.

##### 4.1 Site Preparation Activities

Site mobilization commenced on November 8, 2006 and consisted of the movement of personnel and equipment to the project site. Initial site mobilization activities included the construction of a debris washing and staging area; installation of two soil staging areas, replacement of the concrete pipe culvert conveying an unnamed creek across the Site, and the arrival of excavation equipment, soil screening and mixing equipment, soil treatment reagent, and backfill material. Mobilization of equipment and supplies was carried out throughout the project as needed. There were several key tasks required to set up and establish the project work zones. The Site layout is shown on Figure 2, and various photographs documenting site preparation work are presented in Appendix A. The key tasks are listed as follows.

- Construction of two temporary staging areas for treated soils;
- Construction of a debris wash area;
- National pollutant discharge elimination system (NPDES) permitting;
- Abandonment of the existing water supply well; and
- Replacement of the existing stormwater pipe.

Two temporary staging areas were constructed for on-site staging of treated soil. Each staging area was underlain by an impermeable barrier of high-density polyethylene (HDPE) geomembrane, and surrounded by perimeter berms. The staging area was constructed in a manner that allowed for containment and subsequent collection of accumulated stormwater. The locations of the staging areas are shown on Figure 2. Also, see photographs 9 and 10 (Appendix A).

A debris wash area (photograph 1 – Appendix A) was constructed that consisted of concrete pad for staging of recovered debris prior to washing, a debris wash station, and a second concrete pad for staging of washed debris prior to off-site disposal. The debris wash station consisted of a hinged steel grate overlying an open-top concrete box that allowed for capture and containment of rinsate generated during debris washing activities. The location of the debris wash area is shown on Figure 2.

On December 12, 2005, the contractor, Moran Environmental Recovery, Inc. (Moran) filed a notice of intent (NOI) with the Georgia EPD for coverage under an NPDES general permit to discharge stormwater associated with construction activity. As part of this permit, Moran was also required to prepare an erosion, sedimentation and pollution control plan. An erosion and sediment control plan review was completed by the Georgia State Soil and Water Conservation Commission (Middle South Georgia District) on October 30, 2006, and subsequently approved by the District Supervisor on January 3, 2006. A copy of the NOI and associated plan review form indicating approval by the State of Georgia is included in Appendix B.

An existing 8-inch diameter well, suspected to have been a water supply well for previous plant operations, was abandoned as part of the site preparation activities. The measured depth of the well was approximately 195 feet, and abandonment was completed on January 16, 2006 by drilling subcontractor licensed in the State of Georgia. The drilling subcontractor was Sanders Drilling, a subsidiary of Bishop Pump and Well Services, Inc., (state license number 217) located

in Tifton, Georgia. Abandonment was accomplished by placing 20 feet of concrete at the bottom of the well, followed by placement of bentonite chips to 20 ft-bgs, followed by a second application of concrete that extended to 8 ft-bgs.

In order to accommodate the excavation work to be conducted at the Site, the concrete culvert conveying an unnamed creek beneath the central portion of the Site (Figures 2 and 3) was excavated and subsequently replaced. Approximately 380 linear feet of concrete pipe was removed and replaced with 48-inch diameter HDPE pipe. The location of the new pipe is shown on Figure 2, and photographs (photographs 2 through 8) documenting the work associated with the removal and replacement of the stormwater line are presented in Appendix A.

## **4.2 Soil Corrective Action Implementation**

### **4.2.1 Excavation and Screening of Impacted Soil**

Following approval of the NPDES permit, excavation of impacted soil commenced on January 6, 2006. The initial stages of excavation work included removal of the upper 2 feet of material located in the southeast portion of the property to allow for construction of a temporary staging area (identified as Temporary Staging Area 1) immediately adjacent to the soil mixing platform located along the south edge of the Site, and to allow for construction of temporary access roads between staging and work areas. Following the completion of shallow excavation work in the southeast portion of the property, excavation work continued near the north edge of the Site on January 13, 2006. From this point forward, excavation work generally proceeded toward the south, progressively moving toward the southern extent of the delineated impacted area where soil removal work terminated just to the north of the soil mixing platform. Between January 6 and March 9, 2006, a total of approximately 16,000 tons of impacted soil was excavated at the Site. The location and extent of excavated soil is depicted on Figures 3 through 7, and photographs documenting some of the excavation work are presented in Appendix A (photographs 11 through 26). Prior to treatment, excavated material was screened using a mobile power screen to segregate debris from soil, and in an effort to minimize potential for cross contamination, at no point was untreated soil staged outside the delineated zone of soil contamination. As shown on Figures 4 through 7, excavation depths ranged from approximately 4 to 10 ft-bgs in the main excavation area. The deep excavation areas represent zones where previous delineation efforts had indicated the presence of contaminants in soil at depths greater

than 4 ft-bgs, and were consequently proposed for removal in the Corrective Action Workplan prepared by Golder in August 2005.

#### **4.2.2 Treatment and Disposal of Soil**

Following screening, the segregated soil was loaded into a pug mill situated on the soil mixing platform where segregated soils were treated with a stabilization reagent (Enviroblend™) to achieve TCLP targets for COCs so that the treated material could be disposed of in a Subtitle D landfill. The reagent composition was developed during treatability studies conducted prior to preparation of the Corrective Action Plan (CAP). The Enviroblend® 20/80 mix ratio used during treatment ranged from 6 to 10 percent. Higher ratios of Enviroblend® were added at the start of the project and were decreased as data indicated that low mix ratios were adequate to achieve TCLP goals. Treated soils were staged in approximate 100-ton piles for post-treatment sampling and subsequent verification that TCLP targets had been achieved, and to evaluate requirements for off-site disposal versus using the stabilized material as treated backfill to remain on site. Post-treatment samples were collected from each pile and analyzed for total lead and TCLP metals including arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver, and samples from select piles were analyzed for additional total metals including arsenic, barium, cadmium, chromium, copper, mercury, and zinc. Based on the analytical data, it was determined that all of the treated material would be disposed of in a Subtitle D landfill. A total of approximately 594 tons of Enviroblend® was used for stabilization of impacted soils, and a total of approximately 16,000 tons of treated soil was subsequently transported to Pecan Row Landfill located Valdosta, Georgia for disposal. A summary of the analytical data for the stabilized soil is presented in Table 2, and photographs documenting some of the soil treatment activities are presented in Appendix A. Waste manifests for the treated material are presented in Appendix D.

#### **4.2.3 Soil Confirmation Sampling**

Soil confirmation samples were collected to establish that soil with metals concentrations exceeding the Site cleanup goals had been removed. The Site cleanup goal for lead was developed based on the Type 4 soil RRS and generated using the GALM. Based on the model, the cleanup goals for lead were 930 mg/kg for soil from ground surface to 2 ft-bgs, and 1,303 mg/kg for soil deeper than 2 ft-bgs. Site cleanup goals for all other metals were the Type 3 soil RRSs. Figures 4 through 7 show the locations of soil confirmation samples, and Table 1 presents a summary of the confirmation sample analytical results. Digital copies of all laboratory

analytical results are presented on a compact disc provided in Appendix C. As shown in Table 1, analytical results for six soil samples indicated an exceedance of a site cleanup goal. As a result, further excavation work was conducted where necessary, and additional confirmation samples were subsequently collected to confirm that the impacted soil had been successfully removed. A discussion of each of the six areas displaying an exceedance of a site cleanup goal based on confirmation sample results is presented in the following paragraphs.

Analytical data for confirmation sample C-7+25' @ 0.5' indicated an exceedance of the site cleanup goal for total lead, (1,600 mg/kg). Sample C-7+25' @ 0.5' was collected from a depth of 0.5 ft-bgs at the location shown on Figure 7. Additional excavation was subsequently conducted in the vicinity of sample C-7+25' @ 0.5' to a depth of 2 ft-bgs, and additional confirmation samples were collected to confirm that the remaining impacted material had been removed. Analytical results for confirmation samples C-7+31FT @ 0.5FT, C-7+31FT @ 2.0FT, C-7+31FT-11FTN @ 0.5FT, and C-7+25FT-9FTS @ 0.5FT, collected within the limits of the additional excavation, all indicated total lead concentrations below the site cleanup goals (as also shown in Table 1).

Analytical data for confirmation sample F-6+34FT E @ 2.0 FT indicated an exceedance of the site cleanup goal for total lead, (2,200 mg/kg). Sample F-6+34FT E @ 2.0 FT was collected from a depth of 2 ft-bgs, at the location shown on Figure 6. Additional excavation work was subsequently conducted in the vicinity of sample F-6+34FT E @ 2.0 FT to a depth of 4 ft-bgs, and additional confirmation samples were collected to confirm that the remaining impacted material had been removed. Analytical results for confirmation samples F-6+34FT E @ 4.0 FT, F+10FT-6+30FT @ 2FT, E+40FT-6+40FT @ 2FT, and F-6+40FT @ 2FT, collected within the limits of the additional excavation, all indicated total lead concentrations below the site cleanup goals.

Analytical data for confirmation sample F-6 @ 4.0 FT, collected from the base of the excavation at a depth of 4 ft-bgs at the location shown on Figure 6, indicated an exceedance of the Type 3 RRS for total mercury (46 mg/kg). An additional sample was subsequently collected from this location for laboratory analysis of TCLP mercury. Analytical results indicated no detection of mercury above the laboratory method detection limit of 0.000050 mg/L. Consequently, given that the constituent is evidently of a non-leachable form, and that the sample was collected at depth sufficient to minimize risk associated with direct exposure, no additional excavation work was necessary at this location.

Analytical data for confirmation sample G+21-5 @ 4.0 FT indicated an exceedance of the Type 3 RRS for total zinc (3,000 mg/kg). Sample G+21-5 @ 4.0 FT was collected from a depth of 4 ft-bgs, at the location shown on Figure 4. Additional excavation work was subsequently conducted in the vicinity of sample G+21-5 @ 4.0 FT to a depth of 5 ft-bgs, and additional confirmation samples were collected to confirm that the remaining impacted material had been removed. Analytical results for confirmation samples G+21-5 @ 5.0 FT, G+22FT-5+10 @ 4FT, G+35FT-5+10 @ 4FT, and G+25FT-4+40FT @ 4FT, collected within the limits of the additional excavation, all indicated total zinc concentrations below the site cleanup goals.

Analytical data for confirmation sample G+25FT-4+40FT @ 0.5FT indicated an exceedance of the Type 3 RRS for total zinc (3,000 mg/kg). Sample G+25FT-4+40FT @ 0.5FT was collected from a depth of 0.5 ft-bgs, at the location shown on Figure 4. Additional excavation work was subsequently conducted in the vicinity of sample G+21-5 @ 4.0 FT to a depth of 2 ft-bgs, and additional confirmation samples were collected to confirm that the remaining impacted material had been removed. Analytical results for confirmation samples G+25FT-4+40FT @ 2FT, G+35FT-4+19FT @ 0.5FT, and G+35FT-5+10 @ 0.5FT, collected within the limits of the additional excavation, all indicated total zinc concentrations below the site cleanup goals.

Analytical data for confirmation sample H-3 4.55-0.5 indicated an exceedance of the site cleanup goal for total lead, (1,200 mg/kg). Sample H-3 4.55-0.5 was collected from a depth of 0.5 ft-bgs, at the location shown on Figure 4. Additional excavation work was subsequently conducted in the vicinity of sample H-3 4.55-0.5 to a depth of 1 ft-bgs, and additional confirmation samples were collected to confirm that the remaining impacted material had been removed. Analytical results for confirmation samples H-3 4.55-2, G+45FT-2+40FT @ 1FT, G+45FT-3+17FT @ 1FT, and H+5FT-3 @ 1FT, collected within the limits of the additional excavation, all indicated total lead concentrations below the site cleanup goals.

#### **4.2.4 Characterization and Disposal of Recovered Debris**

Immediately following excavation, excavated material was passed through a mobile power screen to separate debris from the impacted soil prior to soil into the soil treatment. Recovered debris was staged in approximate 15- to 20-ton piles for verification sampling and subsequent rinsing, if necessary. Debris piles requiring rinsing were handled at the debris wash station, which consisted of a hinged steel grate overlying an open-top concrete box that allowed for capture and containment of rinsate. During the initial stages of the material segregation process, all recovered

debris was rinsed at the debris wash station to remove adhering soil particles and ensure compliance with disposal facility requirements. After rinsing of approximately 82 tons of debris, Golder determined that rinsing of all recovered debris was likely not necessary, especially given that the process proved to be cumbersome and labor intensive and was beginning to effect the overall progress of the soil corrective action. The requirement for rinsing was therefore modified to include only those piles of debris for which representative samples indicated an exceedance of the applicable TCLP criteria. If such an exceedance was observed, the debris pile was moved to the debris wash station where thorough rinsing was conducted to remove adhering soil particles, and another representative sample subsequently collected and submitted for analysis of metals by TCLP. Table 3 presents a summary of the analytical data for representative samples collected from piles of recovered debris, and electronic copies of waste manifests are included on a compact disc provided in Appendix D. As part of the soil corrective action, a total of approximately 440 tons of debris was recovered and subsequently transported to Pecan Row Landfill located Valdosta, Georgia for disposal.

#### 4.2.5 Characterization and Disposal of Generated Wastewater

Process water collected during debris rinsing operations and accumulated stormwater from excavation/staging areas was pumped to a 21,000-gallon clarifier tank. After the heavier solids settled out, the accumulated wastewater was sampled (from the top of the storage tank) and analyzed for constituents required by the City of Moultrie Publicly Owned Treatment Works (POTW) in order to document compliance with the POTW permit limits prior to discharge. The POTW compliance analytical results are provided in Table 4, and digital copies of laboratory reports are provided on a compact disc in Appendix C. A total of approximately 164,000 gallons of wastewater was discharged to the City of Moultrie POTW as part of various work activities associated with the soil corrective action.

## **5.0 SITE RESTORATION**

### **5.1 Construction Debris and Personal Protective Equipment Disposal**

Following soil corrective action activities, the staging areas and debris wash area were dismantled. Waste material generated as a result of dismantling these areas was subsequently transported to Pecan Row Landfill located in Valdosta, Georgia for disposal.

Additionally, site personnel involved in the soil corrective action generated personal protective equipment (PPE) waste. PPE used during the field operations included nitrile gloves, PVC gloves, and Tyvek™ suits. The PPE waste was disposed of with the stabilized soil at Pecan Row Landfill. Prior to disposal, a sample of the PPE waste was submitted for laboratory analytical testing to document compliance with disposal facility requirements. The analytical data for this sample are presented in Table 5.

### **5.2 Backfilling of Excavated Areas**

Clean imported fill material was used to replace contaminated material excavated and removed from the site. Prior to conducting backfilling operations, representative samples were taken from each borrow location for analytical testing of the eight RCRA metals by total analysis. Table 6 presents a summary of the analytical data for imported backfill samples. Pictures of backfilling and site restoration activities are included in Appendix A (photographs 27 through 30).

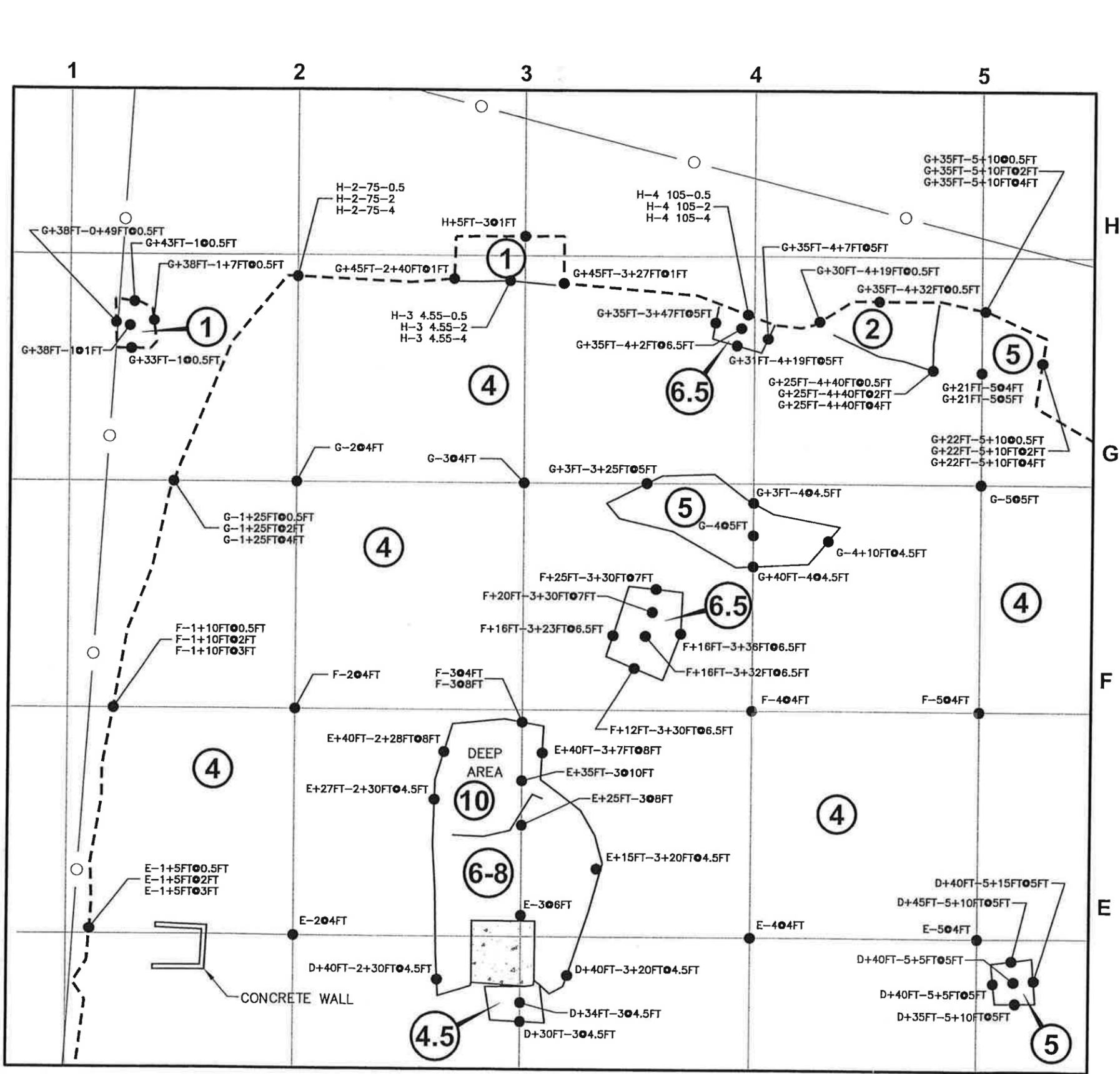
### **5.3 Grading and Planting**

Following the completion of backfilling operations, the site was graded for placement of a vegetative cover. An irrigation system was installed to aid in the establishment of the vegetative cover following placement of grass seed across the Site.

### **5.4 Post-Construction Elevation Survey**

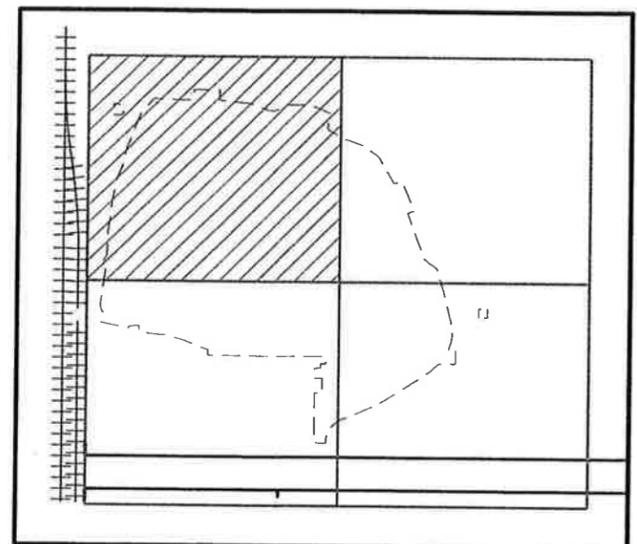
A post-construction elevation survey was completed by Poppel, Putnal & Associates on April 9, 2006. Final elevations were surveyed and the data used to develop an as-built drawing for the Site. A copy of the as-built drawing is provided in Appendix E.

Drawing file: 9733788E002.dwg Jun 27, 2006 - 8:34am

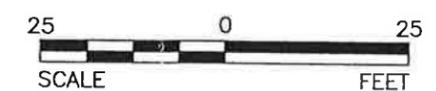


**LEGEND**

-  BUILDING
-  CONCRETE
-  LIMITS OF EXCAVATED AREAS
-  FENCE LINE
-  CONFIRMATION SAMPLE LOCATION
-  APPROXIMATE DEPTH OF EXCAVATED AREA (IN FEET BELOW GROUND SURFACE)



**KEY MAP**  
NOT TO SCALE



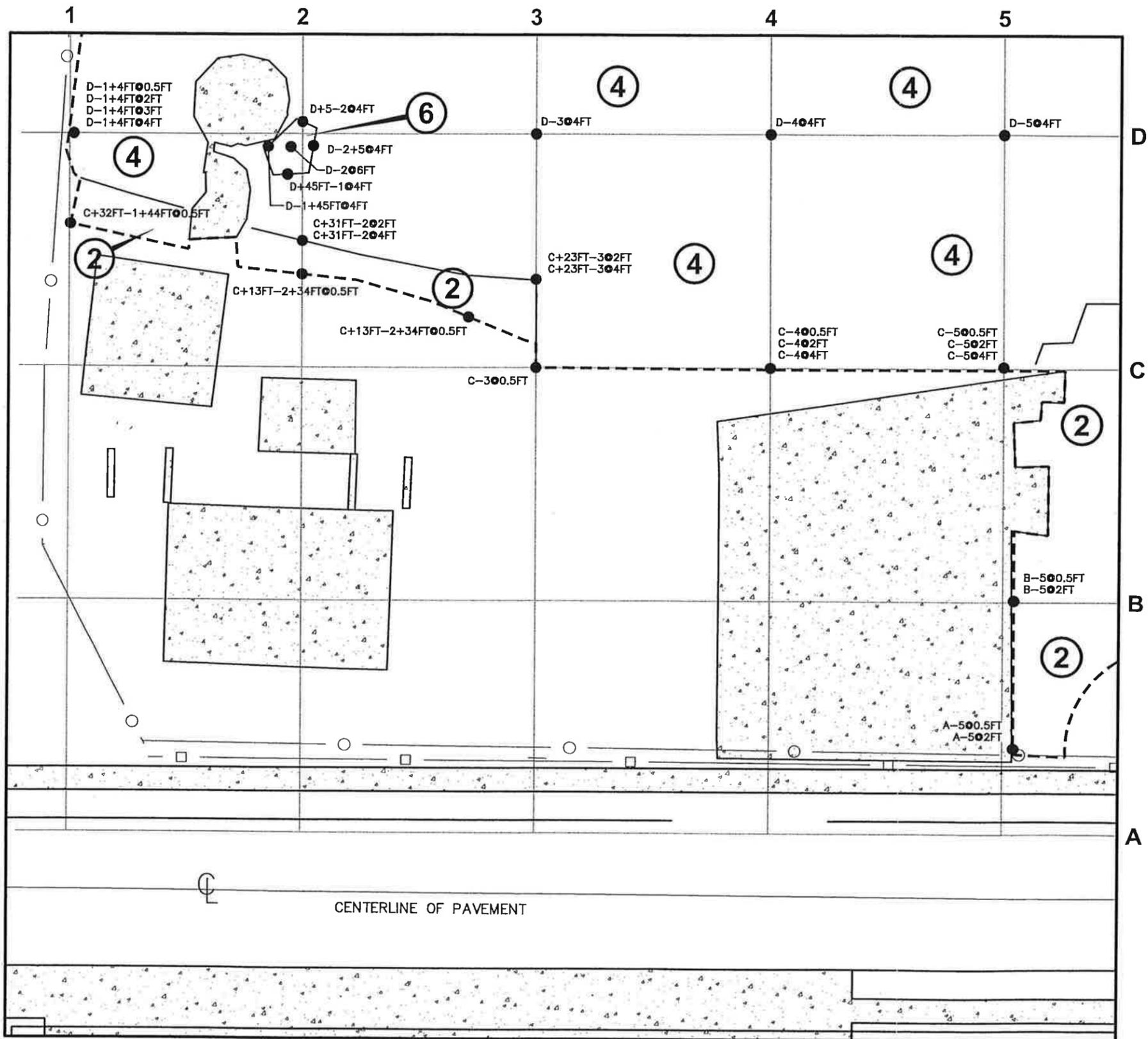
PROJECT  
FORMER FAVORITE FERTILIZER  
CORRECTIVE ACTION FOR SOIL  
MOULTRIE, GA

TITLE  
**CONFIRMATION SAMPLE  
LOCATIONS  
- NW Quadrant -**

PROJECT No.	973-3788
FILE No.	9733788E002
REV. 0	SCALE AS SHOWN
DESIGN	MJD 05/24/06
CADD	MRM 06/27/06
CHECK	<i>[Signature]</i> 8/15/06
REVIEW	<i>[Signature]</i> 8/15/06

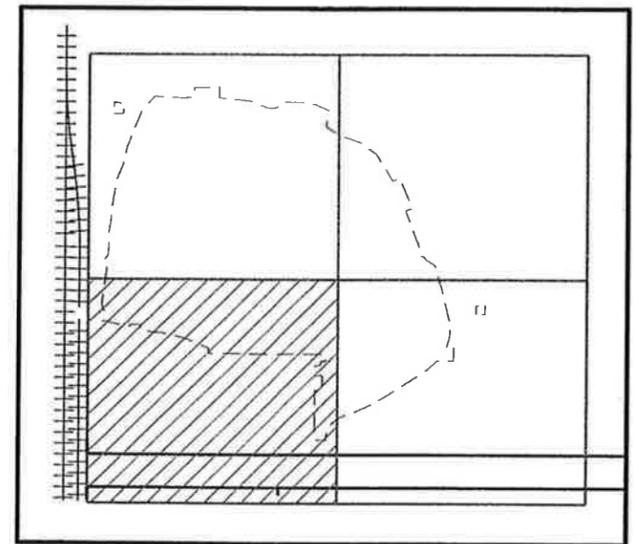
**FIGURE 4**

Drawing file: 9733788E003.dwg Jun 27, 2006 - 8:52am



**LEGEND**

-  BUILDING
-  CONCRETE
-  LIMITS OF EXCAVATED AREAS
-  FENCE LINE
-  CONFIRMATION SAMPLE LOCATION
-  APPROXIMATE DEPTH OF EXCAVATED AREA (IN FEET BELOW GROUND SURFACE)



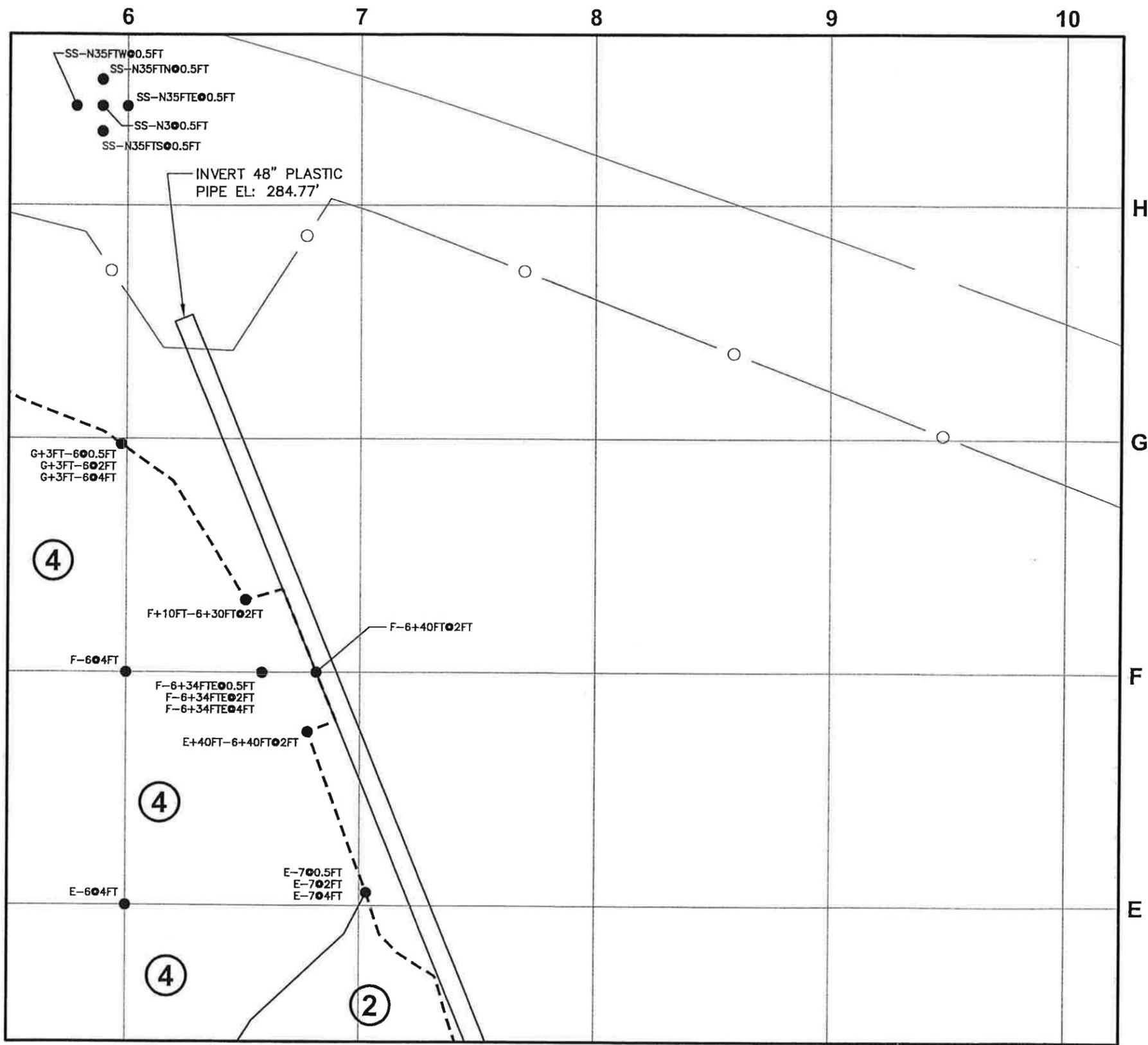
PROJECT  
FORMER FAVORITE FERTILIZER  
CORRECTIVE ACTION FOR SOIL  
MOULTRIE, GA

TITLE  
CONFIRMATION SAMPLE  
LOCATIONS  
- SW Quadrant -

PROJECT No.	973-3788
FILE No.	9733788E003
REV. 0	SCALE AS SHOWN
DESIGN	MJD 05/24/06
CADD	MRM 06/27/06
CHECK	MJD 8/15/06
REVIEW	JW 8/07/06

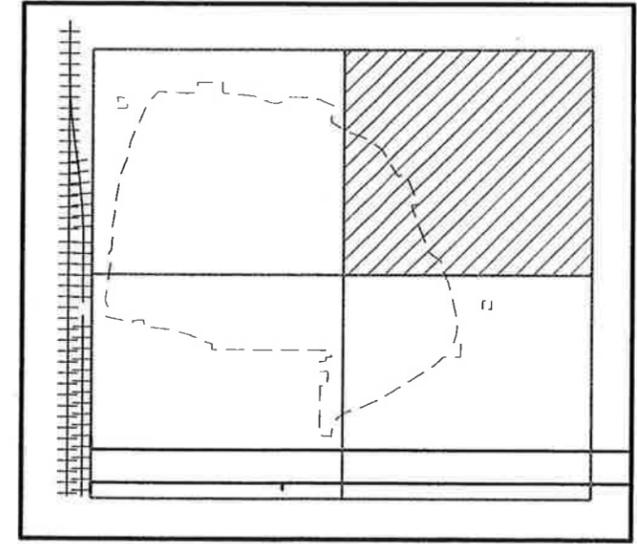
**FIGURE 5**

Drawing file: 9733788E004.dwg Jun 27, 2006 - 8:49am



**LEGEND**

-  BUILDING
-  CONCRETE
-  LIMITS OF EXCAVATED AREAS
-  FENCE LINE
-  CONFIRMATION SAMPLE LOCATION
-  APPROXIMATE DEPTH OF EXCAVATED AREA (IN FEET BELOW GROUND SURFACE)



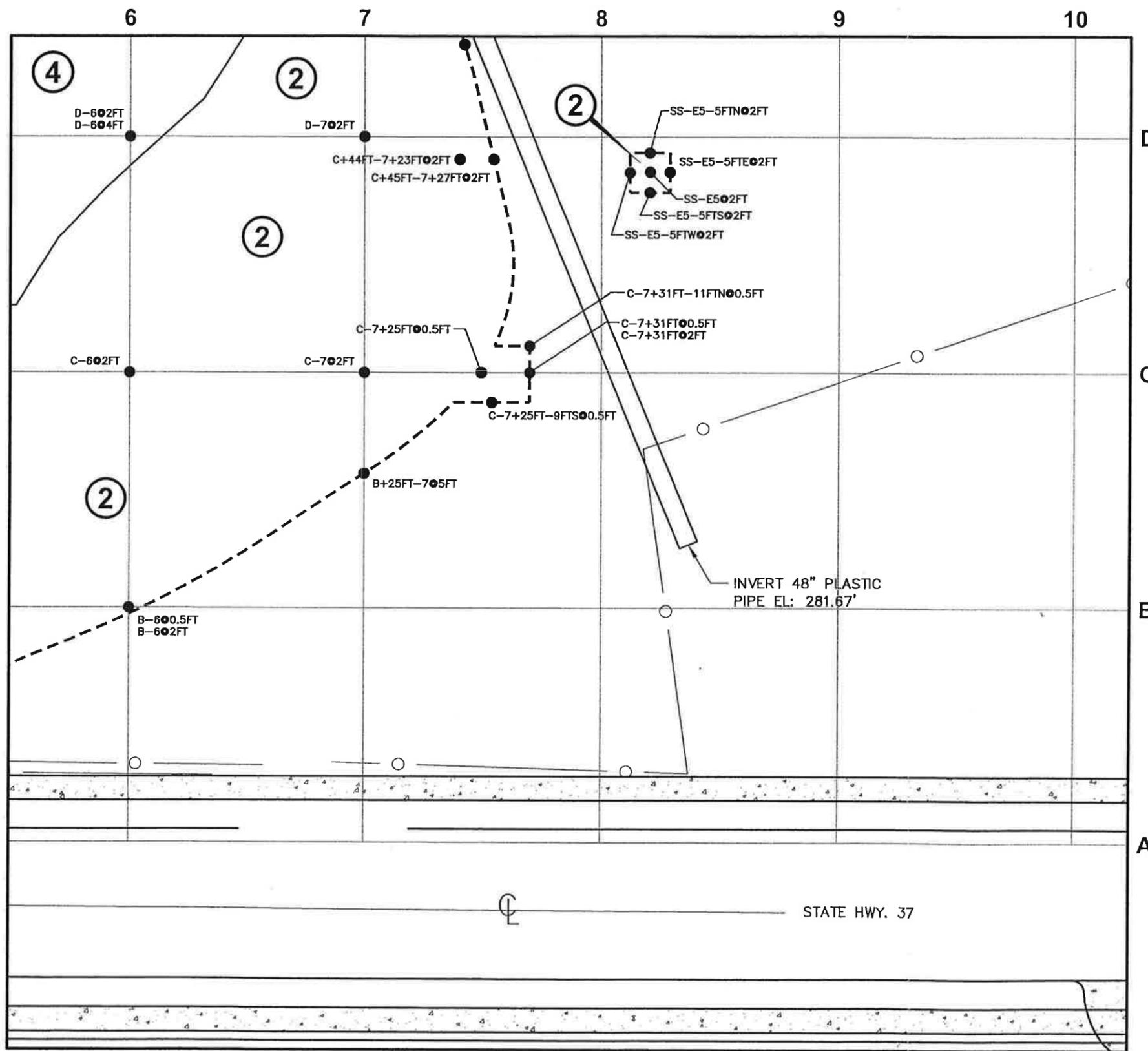
PROJECT  
**FORMER FAVORITE FERTILIZER  
 CORRECTIVE ACTION FOR SOIL  
 MOULTRIE, GA**

TITLE  
**CONFIRMATION SAMPLE  
 LOCATIONS  
 - NE Quadrant -**

PROJECT No. 973-3788	
FILE No. 9733788E004	
REV. 0	SCALE AS SHOWN
DESIGN	MJD 05/24/06
CADD	MRM 06/08/06
CHECK	<i>mo</i> 8/5/06
REVIEW	<i>JR</i> 8/5/06

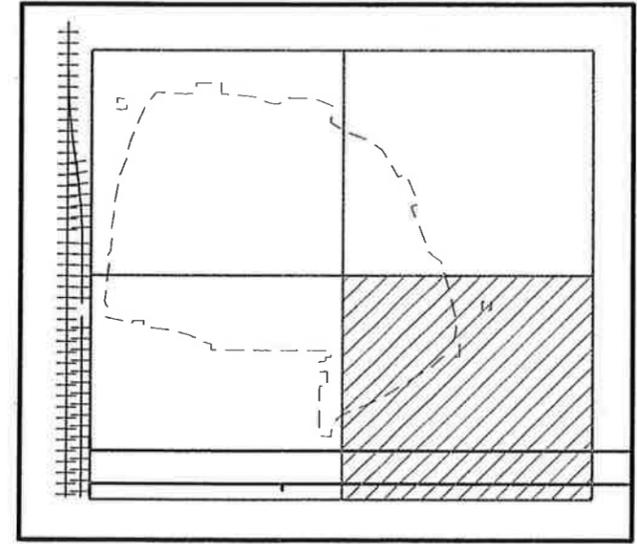
**FIGURE 6**

Drawing file: 973378BE005.dwg Jun 27, 2006 - 8:51am



**LEGEND**

-  BUILDING
-  CONCRETE
-  LIMITS OF EXCAVATED AREAS
-  FENCE LINE
-  CONFIRMATION SAMPLE LOCATION
-  APPROXIMATE DEPTH OF EXCAVATED AREA (IN FEET BELOW GROUND SURFACE)



**KEY MAP**  
NOT TO SCALE



PROJECT  
FORMER FAVORITE FERTILIZER  
CORRECTIVE ACTION FOR SOIL  
MOULTRIE, GA

TITLE  
**CONFIRMATION SAMPLE  
LOCATIONS  
- SE Quadrant -**

PROJECT No.	973-3788	
FILE No.	973378BE005	
REV. 0	SCALE	AS SHOWN
DESIGN	MJD	05/24/06
CADD	MRM	06/27/06
CHECK	<i>[Signature]</i>	8/15/06
REVIEW	<i>[Signature]</i>	8/15/06

**FIGURE 7**

## **APPENDIX D**

## Georgia Department of Natural Resources

205 Butler Street, S.E., Floyd Towers East, Atlanta, Georgia 30334

J. Leonard Ledbetter, Commissioner  
Harold E. Reiter, Assistant Director  
Environmental Protection Division  
14041650 4713

August 1, 1960

Mr. Ollin Carter, Sr.  
Plant Manager  
Farmers Favorite Fertilizer of Moultrie, Inc.  
P. O. Box 1907  
Moultrie, Georgia

RE: Disposal of acidulation  
pond sludge

Dear Mr. Carter:

We have reviewed the data you submitted regarding the 5000 tons of acidulation pond sludge from your plant in Moultrie.

Being nonhazardous, we have no objection to disposal in a permitted sanitary landfill with the concurrence of the landfill owner.

Please be advised that should the character of the waste change as a result of process modifications, raw material changes, etc., it is your responsibility to reanalyze the waste so that it continues to be properly classified as hazardous or nonhazardous.

Should you need additional information, please call Mr. Terrell Rooks at (404) 656-7802.

Sincerely,

Howard L. Barefoot  
Unit Coordinator  
Hazardous Waste Management  
Program

HB:cen(049F)

cc: James Dunbar

File: Farmers Favorite Fertilizer of Moultrie, Inc. (R)

**TABLE 1**

SOIL SAMPLE LOCATIONS  
FORMER TREATMENT POND AREA  
FARMERS FAVORITE FERTILIZER  
HSI SITE NUMBER 10259

MOULTRIE, GEORGIA

SOIL BORING	DEPTH (ft bgs)	SAMPLE DATE	SAMPLE TIME	pH	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CHROMIUM	LEAD	NICKEL
SBTP-1	10	12/20/2002	1100	x	x	x	x	x	x	x	x
	15	12/20/2002	1105	x	x	x	x	x	x	x	x
SBTP-2	10	12/20/2002	0900	x	x	x	x	x	x	x	x
	15	12/20/2002	0920	x	x	x	x	x	x	x	x
SBTP-4	8	12/23/2002	1600	x	x	x	x	x	x	x	x
	15	12/20/2002	1025	x	x	x	x	x	x	x	x
SBTP-5	2	6/16/2003	1127	x	x	x	x	x	x	x	x
	5	6/16/2003	1129	x	x	x	x	x	x	x	x
	10	12/20/2002	0955	x	x	x	x	x	x	x	x
	15	12/20/2002	1000	x	x	x	x	x	x	x	x
	10	12/20/2002	0820	x	x	x	x	x	x	x	x
SBTP-7-10	15	12/20/2002	0825	x	x	x	x	x	x	x	x
	10	12/19/2002	1010	x	x	x	x	x	x	x	x
SBTP-9-10	15	12/19/2002	1015	x	x	x	x	x	x	x	x
	10	12/19/2002	0930	x	x	x	x	x	x	x	x
SBTP-10	15	12/19/2002	0955	x	x	x	x	x	x	x	x
	2	6/16/2003	1135	x	x	x	x	x	x	x	x
SBTP-11 FD	2	6/16/2003	1135	x	x	x	x	x	x	x	x
	5	6/16/2003	1137	x	x	x	x	x	x	x	x
	15	12/19/2002	1150	x	x	x	x	x	x	x	x
SBTP-12	2	6/16/2003	1141	x	x	x	x	x	x	x	x
	5	6/16/2003	1143	x	x	x	x	x	x	x	x
	10	12/19/2002	1405	x	x	x	x	x	x	x	x
	10	12/19/2002	1405	x	x	x	x	x	x	x	x
	15	12/19/2002	1410	x	x	x	x	x	x	x	x
SBTP-13	15	12/19/2002	1410	x	x	x	x	x	x	x	x
	2	6/16/2003	1143	x	x	x	x	x	x	x	x
FD	5	6/16/2003	1145	x	x	x	x	x	x	x	x
	5	6/16/2003	1145	x	x	x	x	x	x	x	x
	10	12/19/2002	1445	x	x	x	x	x	x	x	x
	15	12/19/2002	1500	x	x	x	x	x	x	x	x
	15	12/19/2002	1500	x	x	x	x	x	x	x	x

**TABLE 1**

SOIL SAMPLE LOCATIONS  
FORMER TREATMENT POND AREA  
FARMERS FAVORITE FERTILIZER  
HSI SITE NUMBER 10259

MOULTRIE, GEORGIA

SOIL BORING	DEPTH (ft bgs)	SAMPLE DATE	SAMPLE TIME	pH	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CHROMIUM	LEAD	NICKEL
SBTP-14	10	12/19/2002	0840	x	x	x	x	x	x	x	x
	15	12/19/2002	0845	x	x	x	x	x	x	x	x
SBTP-15	2	6/16/2003	1155	x	x	x	x	x	x	x	x
	5	6/16/2003	1157	x	x	x	x	x	x	x	x
	10	12/19/2002	0740	x	x	x	x	x	x	x	x
	15	12/19/2002	0800	x	x	x	x	x	x	x	x
SBTP-16	2	6/16/2003	1200	x	x	x	x	x	x	x	x
	5	6/16/2003	1202	x	x	x	x	x	x	x	x
	10	12/18/2002	1645	x	x	x	x	x	x	x	x
	15	12/18/2002	1655	x	x	x	x	x	x	x	x
	10	12/18/2002	1545	x	x	x	x	x	x	x	x
SBTP-17	15	12/18/2002	1555	x	x	x	x	x	x	x	x
	2	6/16/2003	1212	x	x	x	x	x	x	x	x
SBTP-18	5	6/16/2003	1214	x	x	x	x	x	x	x	x
	10	12/18/2002	1450	x	x	x	x	x	x	x	x
	10	12/18/2002	1450	x	x	x	x	x	x	x	x
	14	12/18/2002	1500	x	x	x	x	x	x	x	x
	14	12/18/2002	1500	x	x	x	x	x	x	x	x
SBTP-19	10	12/18/2002	0850	x	x	x	x	x	x	x	x
	15	12/18/2002	0910	x	x	x	x	x	x	x	x
SBTP-20	10	12/18/2002	0955	x	x	x	x	x	x	x	x
	10	12/18/2002	0955	x	x	x	x	x	x	x	x
	15	12/18/2002	1000	x	x	x	x	x	x	x	x
	15	12/18/2002	1000	x	x	x	x	x	x	x	x
SBTP-21	10	12/18/2002	1100	x	x	x	x	x	x	x	x
	15	12/18/2002	1125	x	x	x	x	x	x	x	x
SBTP-22	2	6/16/2003	1220	x	x	x	x	x	x	x	x
	5	6/16/2003	1222	x	x	x	x	x	x	x	x
	10	12/18/2002	1220	x	x	x	x	x	x	x	x
	15	12/18/2002	1225	x	x	x	x	x	x	x	x

**TABLE 1**

SOIL SAMPLE LOCATIONS  
FORMER TREATMENT POND AREA  
FARMERS FAVORITE FERTILIZER  
HS1 SITE NUMBER 10259

MOULTRIE, GEORGIA

SOIL BORING	DEPTH (ft bgs)	SAMPLE DATE	SAMPLE TIME	pH	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CHROMIUM	LEAD	NICKEL
SBTP-23	10	12/18/2002	1350	x	x	x	x	x	x	x	x
	15	12/18/2002	1400	x	x	x	x	x	x	x	x
SBTP-24	2	6/16/2003	1230	x	x	x	x	x	x	x	x
	5	6/16/2003	1231	x	x	x	x	x	x	x	x
	15	6/16/2003	1235	x	NA	x	x	NA	NA	NA	x
	15	6/16/2003	1235	x	NA	x	x	NA	NA	NA	x
SBTP-25	2	6/16/2003	1250	x	x	x	x	x	x	x	x
	5	6/16/2003	1255	x	x	x	x	x	x	x	x
	15	6/16/2003	1300	x	NA	x	x	NA	NA	NA	x
SBTP-26	2	6/16/2003	1315	x	x	x	x	x	x	x	x
	5	6/16/2003	1320	x	x	x	x	x	x	x	x
	15	6/16/2003	1330	x	NA	x	x	NA	NA	NA	x
	15	6/16/2003	1330	x	NA	x	x	NA	NA	NA	x
SBTP-27	2	6/16/2003	1410	x	x	x	x	x	x	x	x
	5	6/16/2003	1412	x	x	x	x	x	x	x	x
	15	6/16/2003	1415	x	NA	x	x	NA	NA	NA	NA
SBTP-28	2	6/16/2003	1421	x	x	x	x	x	x	x	x
	5	6/16/2003	1507	x	x	x	x	x	x	x	x
	15	6/16/2003	1515	x	NA	NA	x	NA	NA	NA	NA
SBTP-29	15	6/16/2003	1530	x	NA	x	x	NA	NA	NA	NA
	2	6/16/2003	1540	x	x	x	x	x	x	x	x
SBTP-30	5	6/16/2003	1545	x	x	x	x	x	x	x	x
	15	6/16/2003	1555	x	NA	x	x	NA	NA	NA	x
SBTP-31	15	6/16/2003	1610	x	NA	NA	NA	NA	NA	NA	NA
	2	6/16/2003	1620	x	x	x	x	x	x	x	x
SBTP-32	5	6/16/2003	1622	x	x	x	x	x	x	x	x
	15	6/16/2003	1640	x	NA	NA	NA	NA	NA	NA	x
SBTP-33	15	6/16/2003	1645	x	NA	NA	NA	NA	NA	NA	x
	2	6/16/2003	1645	x	NA	NA	NA	NA	NA	NA	x

**TABLE 1**

SOIL SAMPLE LOCATIONS  
FORMER TREATMENT POND AREA  
FARMERS FAVORITE FERTILIZER  
HSI SITE NUMBER 10259

MOULTRIE, GEORGIA

SOIL BORING	DEPTH (ft bgs)	SAMPLE DATE	SAMPLE TIME	pH	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CHROMIUM	LEAD	NICKEL
SBTP-34	2	6/16/2003	1649	x	x	x	x	x	x	x	x
	5	6/16/2003	1650	x	x	x	x	x	x	x	x
	10	6/16/2003	1655	x	NA	NA	NA	NA	NA	NA	x
	15	6/16/2003	1656	x	NA	NA	NA	NA	NA	NA	x
SBTP-35	2	6/16/2003	1705	x	x	x	x	x	x	x	x
	5	6/16/2003	1707	x	x	x	x	x	x	x	x
	15	6/16/2003	1710	x	NA	NA	NA	NA	NA	NA	x
SBMW22	5	12/19/2002	1500	x	x	x	x	x	x	x	
SBMW23 FD	5	12/19/2002	0830	x	x	x	x	x	x	x	x
	5	12/19/2002	0830	x	x	x	x	x	x	x	x
SBMW24	5	12/19/2002	1200	x	x	x	x	x	x	x	x

Notes:

pH measured in pH Units

Shaded concentrations exceed the delineation limit.

< = Below laboratory reporting limit. Value shown is reporting limit.

1 - Delineation limit

2 - Corrective action level

FD = Field duplicate

ft bgs = feet below ground surface

NA = Not analyzed

RL = Laboratory reporting limit

\* = Elevated detection limit due to matrix interference.

Checked by: 

**TABLE 2**

SUMMARY OF DETECTED PARAMETERS IN SOIL  
 FORMER TREATMENT POND AREA  
 FARMERS FAVORITE FERTILIZER  
 HSI SITE NUMBER 10259

MOULTRIE, GEORGIA

SOIL BORING	SAMPLE ID	SAMPLE DEPTH (ft bgs)	SAMPLE DATE	pH	ARSENIC mg/kg	BARIUM mg/kg	BERYLLIUM RL <sup>1</sup> mg/kg	CADMIUM mg/kg	CHROMIUM mg/kg	LEAD mg/kg	NICKEL RL <sup>1</sup> mg/kg
SBTP-1	SBTP-1-10	10	12/20/2002	7.9	<1.3	17	<0.53	<0.66	12	7.8	<5.3
	SBTP-1-15	15	12/20/2002	3.8	4.9	22	<0.48	<0.6	12	8.8	<4.8
SBTP-2	SBTP-2-10	10	12/20/2002	7.3	1.9	18	<0.51	<0.63	10	7.8	<5.1
	SBTP-2-15	15	12/20/2002	4.8	<1.1	21	<0.46	<0.57	5.3	5	<4.6
SBTP-4	SBTP-4-8	8	12/23/2002	5	1.5	38	<0.49	<0.62	14	11	<4.9
	SBTP-4-15	15	12/20/2002	4.1	<1.3	41	<0.53	<0.66	13	10	<4.9
SBTP-5	SBTP-5-2	2	6/16/2003	5.7	3	29	<0.48	<0.59	20	27	7.6
	SBTP-5-5	5	6/16/2003	6.9	2	26	<0.47	<0.58	15	8.4	<4.7
	SBTP-5-10	10	12/20/2002	6.8	<1.3	41	<0.51	<0.64	24	10	12
	SBTP-5-15	15	12/20/2002	3.5	1.3	52	<0.49	<0.62	15	7.8	<4.9
	SBTP-7-10	10	12/20/2002	4.4	6.5	18	<0.5	<0.62	32	31	<5
SBTP-9-10	SBTP-7-15	15	12/20/2002	4.6	3.9	67	0.86	<0.68	13	19	6.1
	SBTP-9-10	10	12/19/2002	8.6	<1.3	14	<0.53	<0.67	11	5.8	<5.3
SBTP-10-10	SBTP-9-15	15	12/19/2002	5.2	<1.4	8.4	<0.56	<0.69	15	8	<5.6
	SBTP-10-10	10	12/19/2002	7.4	1.8	26	<0.52	<0.65	22	6.5	7.4
	SBTP-10-15	15	12/19/2002	4.8	<1.3	2	<0.52	<0.65	4.6	2.8	<5.2
SBTP-11	SBTP-11-2	2	6/16/2003	6	2.5	30	<0.45	<0.56	18	20	6.9
	SBTP-11-2 FD	2	6/16/2003	6	2.2	23	<0.45	<0.56	22	18	11
	SBTP-11-5	5	6/16/2003	6.4	3.4	27	<0.45	<0.56	14	56	6.3
SBTP-12	SBTP-11-15	15	12/19/2002	4.5	<1.2	5.2	<0.5	<0.62	6.6	5.6	<5
	SBTP-12-2	2	6/16/2003	5.7	3	24	<0.46	<0.57	19	18	7.4
	SBTP-12-5	5	6/16/2003	7.5	3.1	11	<0.46	<0.58	17	7	<4.6
	SBTP-12-10	10	12/19/2002	4.4	1.5	33	0.65	<0.66	15	10	<5.3
	SBTP-12-10 FD	10	12/19/2002	4.4	2.3	41	0.6	<0.65	23	24	<5.2
SBTP-12-15	SBTP-12-15	15	12/19/2002	4.7	1.6	28	<0.53	<0.67	12	9.5	<5.3
	SBTP-12-15 FD	15	12/19/2002	4.9	<1.3	17	<0.51	<0.63	10	6.9	<5.1

**TABLE 2**

SUMMARY OF DETECTED PARAMETERS IN SOIL  
 FORMER TREATMENT POND AREA  
 FARMERS FAVORITE FERTILIZER  
 HSI SITE NUMBER 10259

MOULTRIE, GEORGIA

SOIL BORING	SAMPLE ID	SAMPLE DEPTH (ft bgs)	SAMPLE DATE	pH	ARSENIC 7.8 <sup>1</sup> 20 <sup>2</sup>	BARIUM 48.3 <sup>1</sup> 1000 <sup>2</sup>	BERYLLIUM RL <sup>1</sup> 2 <sup>2</sup>	CADMIUM 5.4 <sup>1</sup> 5.4 <sup>2</sup>	CHROMIUM 48.7 <sup>1</sup> 100 <sup>2</sup>	LEAD 127 <sup>1</sup> 127 <sup>2</sup>	NICKEL RL <sup>1</sup> 50 <sup>2</sup>
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SBTP-13	SBTP-13-2	2	6/16/2003	5.8	4.2	13	<0.47	<1.2*	24	5.4	<4.7
	SBTP-13-5	5	6/16/2003	5.2	2.5	4.9	<0.55	<0.69	9.5	5	<5.5
	SBTP-13-5 FD	5	6/16/2003	4.8	3.3	4.8	<0.45	<1.1*	17	6.5	<4.5
	SBTP-13-10	10	12/19/2002	4.4	<1.2	27	<0.49	<0.61	14	13	<4.9
	SBTP-13-15	15	12/19/2002	4.6	4.5	54	0.71	<0.61	9.1	40	<4.9
SBTP-14	SBTP-14-10	10	12/19/2002	8.8	2.2	35	<0.49	<0.62	17	19	5.4
	SBTP-14-15	15	12/19/2002	7	2.4	36	<0.45	<0.56	19	17	5.6
SBTP-15	SBTP-15-2	2	6/16/2003	6.8	3.6	26	<0.44	<0.55	17	16	<4.4
	SBTP-15-5	5	6/16/2003	5.1	<1.1	4.3	<0.45	<0.56	10	3.2	<4.5
	SBTP-15-10	10	12/19/2002	7.5	<1.2	24	<0.49	<0.62	17	11	<4.9
	SBTP-15-15	15	12/19/2002	4.1	<1.3	460	0.51	<0.63	14	19	<5.1
	SBTP-16	SBTP-16-2	2	6/16/2003	5.7	1.4	14	<0.44	<0.54	9.4	3.9
SBTP-16	SBTP-16-5	5	6/16/2003	7.7	3.8	21	<0.47	<0.59	21	6.5	6
	SBTP-16-10	10	12/18/2002	4.8	2.1	17	<0.49	<0.61	21	17	<4.9
	SBTP-16-15	15	12/18/2002	3.9	<1.2	170	<0.49	<0.62	10	11	<4.9
	SBTP-17-10	10	12/18/2002	4.4	<1.1	9.3	<0.45	<0.57	5.3	9.6	<4.5
	SBTP-17-15	15	12/18/2002	4.6	1.9	17	0.71	<0.6	17	28	<4.8
SBTP-18	SBTP-18-2	2	6/16/2003	5.2	7.7	16	<0.44	<1.1*	19	3.9	<4.4
	SBTP-18-5	5	6/16/2003	4.8	2.9	3.7	<0.45	<1.1*	13	8.7	<4.5
	SBTP-18-10	10	12/18/2002	4.3	<1.2	15	<0.47	<0.58	5.9	6.9	<4.7
	SBTP-18-10FD	10	12/18/2002	4.3	1.6	12	<0.47	<0.58	8.7	7	<4.7
	SBTP-18-14	14	12/18/2002	4.4	5	25	<0.47	<0.59	12	17	<4.7
SBTP-19	SBTP-18-14 FD	14	12/18/2002	4.4	2.2	27	<0.48	<0.6	8	13	<4.8
	SBTP-19-10	10	12/18/2002	7.3	1.5	14	<0.48	<0.6	16	10	<4.8
	SBTP-19-15	15	12/18/2002	4	1.5	26	<0.51	<0.63	17	9.2	5.3
SBTP-20	SBTP-20-10	10	12/18/2002	7.5	<1.1	4.5	<0.46	<0.57	6.9	8	<4.6
	SBTP-20-10 FD	10	12/18/2002	8.1	<1.1	6.6	<0.46	<0.57	8.2	6.8	<4.6
	SBTP-20-15	15	12/18/2002	3.8	<1.2	12	<0.48	<0.6	18	12	5
	SBTP-20-15 FD	15	12/18/2002	3.8	1.4	13	<0.47	<0.58	12	9.5	<4.7

**TABLE 2**

SUMMARY OF DETECTED PARAMETERS IN SOIL  
 FORMER TREATMENT POND AREA  
 FARMERS FAVORITE FERTILIZER  
 HSI SITE NUMBER 10259

MOULTRIE, GEORGIA

SOIL BORING	SAMPLE ID	SAMPLE DEPTH (ft bgs)	SAMPLE DATE	pH	ARSENIC mg/kg	BARIUM mg/kg	BERYLLIUM mg/kg	CADMIUM mg/kg	CHROMIUM mg/kg	LEAD mg/kg	NICKEL mg/kg
SBTP-21	SBTP-21-10	10	12/18/2002	4.2	<1.2	32	<0.48	<0.6	24	16	<4.8
	SBTP-21-15	15	12/18/2002	4.2	<1.2	67	0.62	<0.59	8	8.4	<4.7
SBTP-22	SBTP-22-2	2	6/16/2003	4.4	4.1	10	<0.46	<1.1*	18	4.4	<4.6
	SBTP-22-5	5	6/16/2003	4.4	<1.1	3.3	<0.44	<0.55	3.9	3.1	<4.4
	SBTP-22-10	10	12/18/2002	4.4	<1.1	3.8	<0.46	<0.57	4.9	5.8	<4.6
	SBTP-22-15	15	12/18/2002	4.7	<1.2	300	0.6	<0.61	11	17	<4.9
SBTP-23	SBTP-23-10	10	12/18/2002	4.2	<1.1	3	<0.44	<0.56	3.5	6.4	<4.4
	SBTP-23-15	15	12/18/2002	4.5	4.2	31	0.66	<0.6	25	36	<4.8
SBTP-24	SBTP-24-2	2	6/16/2003	5.6	3	30	<0.45	<0.56	18	31	7.7
	SBTP-24-5	5	6/16/2003	6.8	1.9	21	<0.45	<0.56	9.1	29	<4.5
	SBTP-24-15	15	6/16/2003	3.7	NA	4.5	<0.54	NA	NA	NA	<5.4
	SBTP-24-15 FD	15	6/16/2003	4	NA	3.8	<0.46	NA	NA	NA	<4.6
SBTP-25	SBTP-25-2	2	6/16/2003	6.2	<1.1	18	<0.43	<0.54	7.3	15	<4.3
	SBTP-25-5	5	6/16/2003	5.8	2.2	18	<0.47	<0.58	19	6.1	9.9
	SBTP-25-15	15	6/16/2003	3.7	NA	21	<0.49	NA	NA	NA	<4.9
SBTP-26	SBTP-26-2	2	6/16/2003	5.4	2.7	35	<0.44	<0.55	14	4.6	<4.4
	SBTP-26-5	5	6/16/2003	4.5	4.4	10	<0.56	<1.4*	21	6.1	<5.6
	SBTP-26-15	15	6/16/2003	4.2	NA	27	<0.47	NA	NA	NA	<4.7
	SBTP-26-15 FD	15	6/16/2003	4.6	NA	28	<0.48	NA	NA	NA	<4.8
SBTP-27	SBTP-27-2	2	6/16/2003	5.4	<1.1	46	<0.46	<0.53	6.8	30	<4.2
	SBTP-27-5	5	6/16/2003	4.2	2.6	14	<0.46	<0.57	15	5.7	5.8
	SBTP-27-15	15	6/16/2003	4.3	NA	30	<0.49	NA	NA	NA	NA
SBTP-28	SBTP-28-2	2	6/16/2003	4.6	3.4	14	<0.54	<1.3*	21	5.4	<5.4
	SBTP-28-5	5	6/16/2003	4.9	<1.1	5.5	<0.44	<0.55	3.2	3.5	<4.4
	SBTP-28-15	15	6/16/2003	4.8	NA	N	<0.48	NA	NA	NA	NA
SBTP-29	SBTP-29-15	15	6/16/2003	5.1	NA	28	<0.46	NA	NA	NA	NA
SBTP-30	SBTP-30-2	2	6/16/2003	6.8	4.1	21	<0.46	<0.58	19	31	<4.6
	SBTP-30-5	5	6/16/2003	4.5	3.6	4.4	<0.46	<1.2*	11	8.4	<4.6
SBTP-31	SBTP-30-15	15	6/16/2003	4.3	NA	62	0.49	NA	NA	NA	NA
	SBTP-31-15	15	6/16/2003	3.6	NA	NA	NA	NA	NA	NA	<4.8

**TABLE 2**

SUMMARY OF DETECTED PARAMETERS IN SOIL  
 FORMER TREATMENT POND AREA  
 FARMERS FAVORITE FERTILIZER  
 HSI SITE NUMBER 10259

MOULTRIE, GEORGIA

SOIL BORING	SAMPLE ID	SAMPLE DEPTH (ft bgs)	SAMPLE DATE	pH	ARSENIC 7.8 <sup>1</sup> 20 <sup>2</sup>	BARIUM 48.3 <sup>1</sup> 1000 <sup>2</sup>	BERYLLIUM RL <sup>1</sup> 2 <sup>2</sup>	CADMIUM 5.4 <sup>1</sup> 5.4 <sup>2</sup>	CHROMIUM 48.7 <sup>1</sup> 100 <sup>2</sup>	LEAD 127 <sup>1</sup> 127 <sup>2</sup>	NICKEL RL <sup>1</sup> 50 <sup>2</sup>
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SBTP-32	SBTP-32-2	2	6/16/2003	5.8	<1.5	240	<0.63	<0.74	20	37	<5.9
	SBTP-32-5	5	6/16/2003	6.2	<1.2	34	<0.49	<0.61	5.7	35	<4.9
	SBTP-32-15	15	6/16/2003	5.5	NA	NA	NA	NA	NA	NA	6.2
SBTP-33	SBTP-33-15	15	6/16/2003	4	NA	NA	NA	NA	NA	NA	8
SBTP-34	SBTP-34-2	2	6/16/2003	7.5	1.9	33	<0.42	<0.53	15	34	7.5
	SBTP-34-5	5	6/16/2003	7.1	8.5	44	<0.47	<2.9*	73	34	8.8
	SBTP-34-10	10	6/16/2003	4.9	NA	NA	NA	NA	NA	NA	<5
	SBTP-34-15	15	6/16/2003	4	NA	NA	NA	NA	NA	NA	6.4
SBTP-35	SBTP-35-2	2	6/16/2003	6.2	2.3	43	<0.47	<0.59	17	33	6.1
	SBTP-35-5	5	6/16/2003	7.9	1.2	15	<0.48	<0.6	13	13	<4.8
	SBTP-35-15	15	6/16/2003	4.8	NA	NA	NA	NA	NA	NA	5.7
SBMW22	SBMW22-5	5	12/19/2002	7	<1.2	5	<0.48	<0.6	1.7	2	<4.8
SBMW23	SBMW23-5	5	12/19/2002	5.3	<1.1	5.2	<0.46	<0.57	4.9	5.6	<4.6
	SBMW23-5 FD	5	12/19/2002	5.2	<1.2	8.2	<0.47	<0.58	5.3	5.2	<4.7
SBMW24	SBMW24-5	5	12/19/2002	5.2	2.3	5.3	<0.47	<0.58	10	5.3	<4.7

Notes:

pH measured in pH Units

Shaded concentrations exceed the delineation limit.

<= Below laboratory reporting limit. Value shown is reporting limit.

1 - Delineation limit

2 - Corrective action level

FD = Field duplicate

ft bgs = feet below ground surface

NA = Not analyzed

RL = Laboratory reporting limit

\* = Elevated detection limit due to matrix interference.

Checked by: JSL

**TABLE 3**

**SUMMARY OF SOIL QUALITY ASSURANCE SAMPLES  
FORMER TREATMENT POND AREA  
FARMERS FAVORITE FERTILIZER  
HSI SITE NUMBER 10259**

MOULTRIE, GEORGIA

SAMPLE ID	SAMPLE DATE	pH	ARSENIC mg/l	BARIUM mg/l	BERYLLIUM mg/l	CADMIUM mg/l	CHROMIUM mg/l	LEAD mg/l	NICKEL mg/l
EQUIP BLANK 1	12/18/2002	5.8	<0.01	<0.01	<0.004	<0.005	<0.01	<0.005	<0.04
EQUIP BLANK 2	12/18/2002	5.4	<0.01	<0.01	<0.004	<0.005	<0.01	<0.005	<0.04
EQUIP BLANK 3	12/19/2002	5.8	<0.01	<0.01	<0.004	<0.005	<0.01	<0.005	<0.04
EQUIP BLANK 1	6/18/2003	6.7	<0.01	<0.01	<0.004	<0.005	<0.01	<0.005	<0.04
EQUIP BLANK 2	6/18/2003	6.5	<0.01	<0.01	<0.004	<0.005	<0.01	<0.005	<0.04
SAMPLE ID	SAMPLE DATE	pH	ARSENIC mg/kg	BARIUM mg/kg	BERYLLIUM mg/kg	CADMIUM mg/kg	CHROMIUM mg/kg	LEAD mg/kg	NICKEL mg/kg
SBTP12-10	12/19/2002	4.4	1.5	33	0.65	<0.66	15	10	<5.3
SBTP12-10FD RPD	12/19/2002	4.4	2.3	41	0.6	<0.65	23	24	<5.2
		0	42	22	8		42	82	
SBTP12-15	12/19/2002	4.7	1.6	28	<0.53	<0.67	12	9.5	<5.3
SBTP12-15FD RPD	12/19/2002	4.9	<1.3	17	<0.51	<0.63	10	6.9	<5.1
		4		49			18	32	
SBTP18-10	12/18/2002	4.3	<1.2	15	<0.47	<0.58	5.9	6.9	<4.7
SBTP18-10FD RPD	12/18/2002	4.3	1.6	12	<0.47	<0.58	8.7	7	<4.7
		0		22			38	1	
SBTP18-14	12/18/2002	4.4	5	25	<0.47	<0.59	12	17	<4.7
SBTP18-14FD RPD	12/18/2002	4.4	2.2	27	<0.48	<0.6	8	13	<4.8
		0	78	8			40	27	
SBTP20-10	12/18/2002	7.5	<1.1	4.5	<0.46	<0.57	6.9	8	<4.6
SBTP20-10-FD RPD	12/18/2002	8.1	<1.1	6.6	<0.46	<0.57	8.2	6.8	<4.6
		8		38			17	16	
SBTP20-15	12/18/2002	3.8	<1.2	12	<0.48	<0.6	18	12	5
SBTP20-15FD RPD	12/18/2002	3.8	1.4	13	<0.47	<0.58	12	9.5	<4.7
		0		8			40	23	

**TABLE 3**

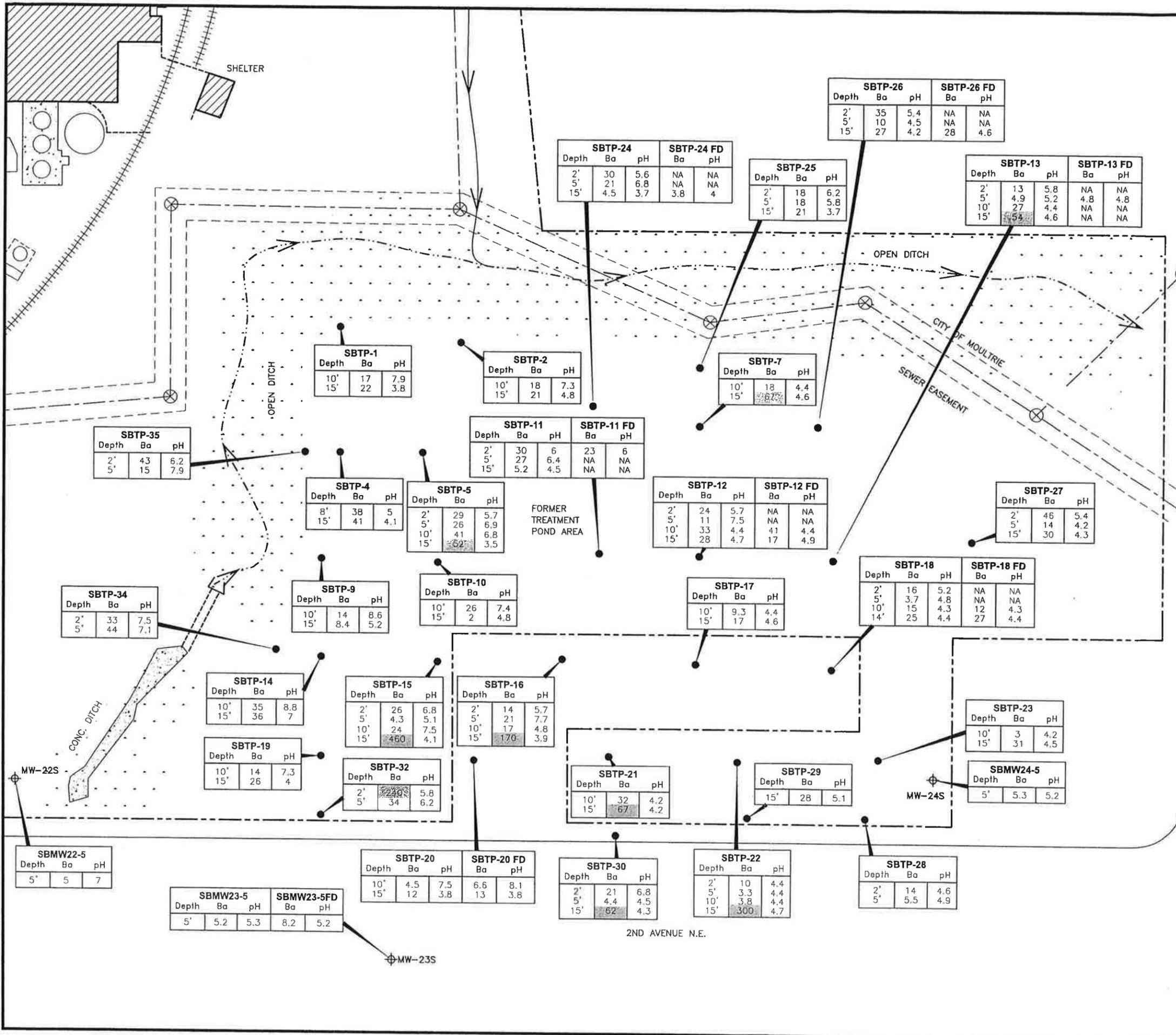
**SUMMARY OF SOIL QUALITY ASSURANCE SAMPLES  
FORMER TREATMENT POND AREA  
FARMERS FAVORITE FERTILIZER  
HSI SITE NUMBER 10259**

MOULTRIE, GEORGIA

SAMPLE ID	SAMPLE DATE	pH	ARSENIC mg/l	BARIUM mg/l	BERYLLIUM mg/l	CADMIUM mg/l	CHROMIUM mg/l	LEAD mg/l	NICKEL mg/l
SBMW23-5	12/19/2002	5.3	<1.1	5.2	<0.46	<0.57	4.9	5.6	<4.6
SBMW23-5FDS	12/19/2002	5.2	<1.2	8.2	<0.47	<0.58	5.3	5.2	<4.7
RPD		2		45			8	7	
SBTP24-15	6/16/2003	3.7	NA	4.5	<0.54	NA	NA	NA	<5.4
DUP-1	6/16/2003	4	NA	3.8	<0.46	NA	NA	NA	<4.6
RPD		7.8		16.9					
SBTP26-15	6/16/2003	4.2	NA	27	<0.47	NA	NA	NA	<4.7
DUP-2	6/16/2003	4.6	NA	28	<0.48	NA	NA	NA	<4.8
RPD		9.1		3.6					
SBTP11-2	6/16/2003	6	2.5	30	<0.45	<0.56	18	20	6.9
DUP-3	6/16/2003	6	2.2	23	<0.45	<0.56	22	18	11
RPD		0.0					20.0	10.5	45.8
SBTP13-5	6/16/2003	5.2	2.5	4.9	<0.55	<0.69	9.5	5	<5.5
DUP-4	6/16/2003	4.8	3.3	4.8	<0.45	<1.1	17	6.5	<4.5
RPD		8.0	27.6	2.1			56.6	26.1	

Checked by: JSK

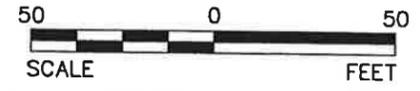
Notes:  
pH measured in pH Units  
< = Below reporting limit. Value shown is laboratory reporting limit.  
RPD = Relative percent difference between primary and field duplicate samples. RPD calculation is based on the average of the two values.  
Concentrations of parameters detected in the equipment blank and monitoring wells were measured in milligrams per liter (mg/l) and soil samples in milligrams per kilogram (mg/kg)  
NA = Not analyzed.



### LEGEND

- BUILDING
- CONCRETE
- PROPERTY BOUNDARY
- SURFACE WATER FLOW DIRECTION
- MANHOLE LOCATION
- SOIL BORING LOCATION
- MW-24S MONITORING WELL LOCATION
- SHADED VALUES INDICATE CONCENTRATIONS > BACKGROUND

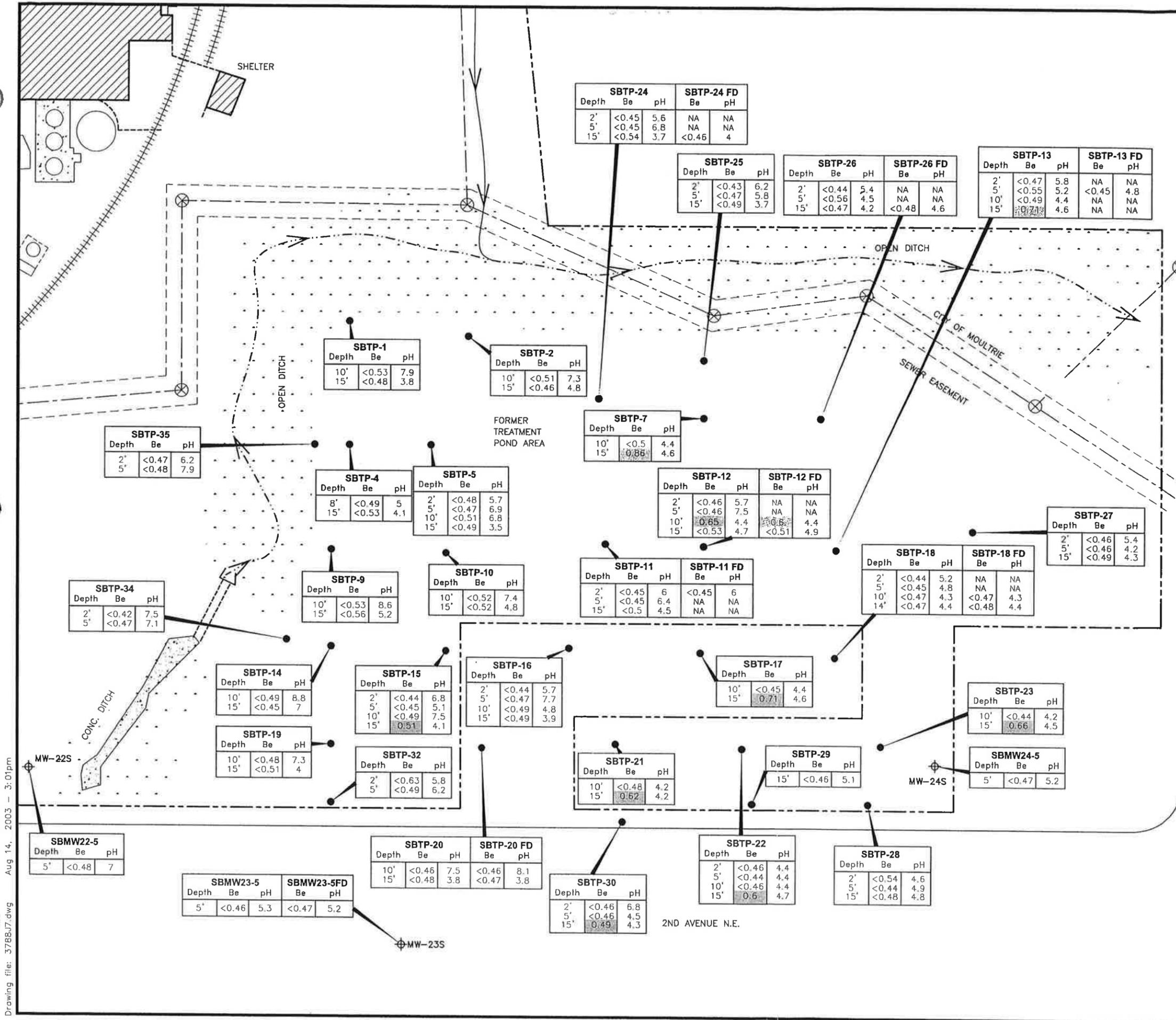
- ### NOTES
- 1.) Ba - BARIUM CONCENTRATIONS REPORTED IN mg/kg.
  - 2.) FD - FIELD DUPLICATE SAMPLE.
  - 3.) < - BELOW REPORTING LIMIT. VALUE SHOWN IS THE METHOD REPORTING LIMIT.
  - 4.) Ba BACKGROUND CONCENTRATION = 48.3 mg/kg.  
Ba CORRECTIVE ACTION GOAL = 1,000 mg/kg.
  - 5.) NA - NOT ANALYZED.



PROJECT				FARMERS FAVORITE FERTILIZER			
TITLE				TREATMENT POND AREA BARIUM AND pH IN SOIL December 2002/June 2003			
PROJECT No.	973-3788	FILE No.	3788/7	DESIGN	KTB	8/8/03	SCALE AS SHOWN
CADD	GMS	8/14/03	REV. 0	CHECK	KTB	8/15/03	
REVIEW		10/8/03					



Aug 14, 2003 2:58pm  
 Drawing file: 3788/7.dwg



**LEGEND**

- BUILDING
- CONCRETE
- PROPERTY BOUNDARY
- SURFACE WATER FLOW DIRECTION
- MANHOLE LOCATION
- SOIL BORING LOCATION
- MW-24S MONITORING WELL LOCATION
- SHADED VALUES INDICATE CONCENTRATIONS > BACKGROUND

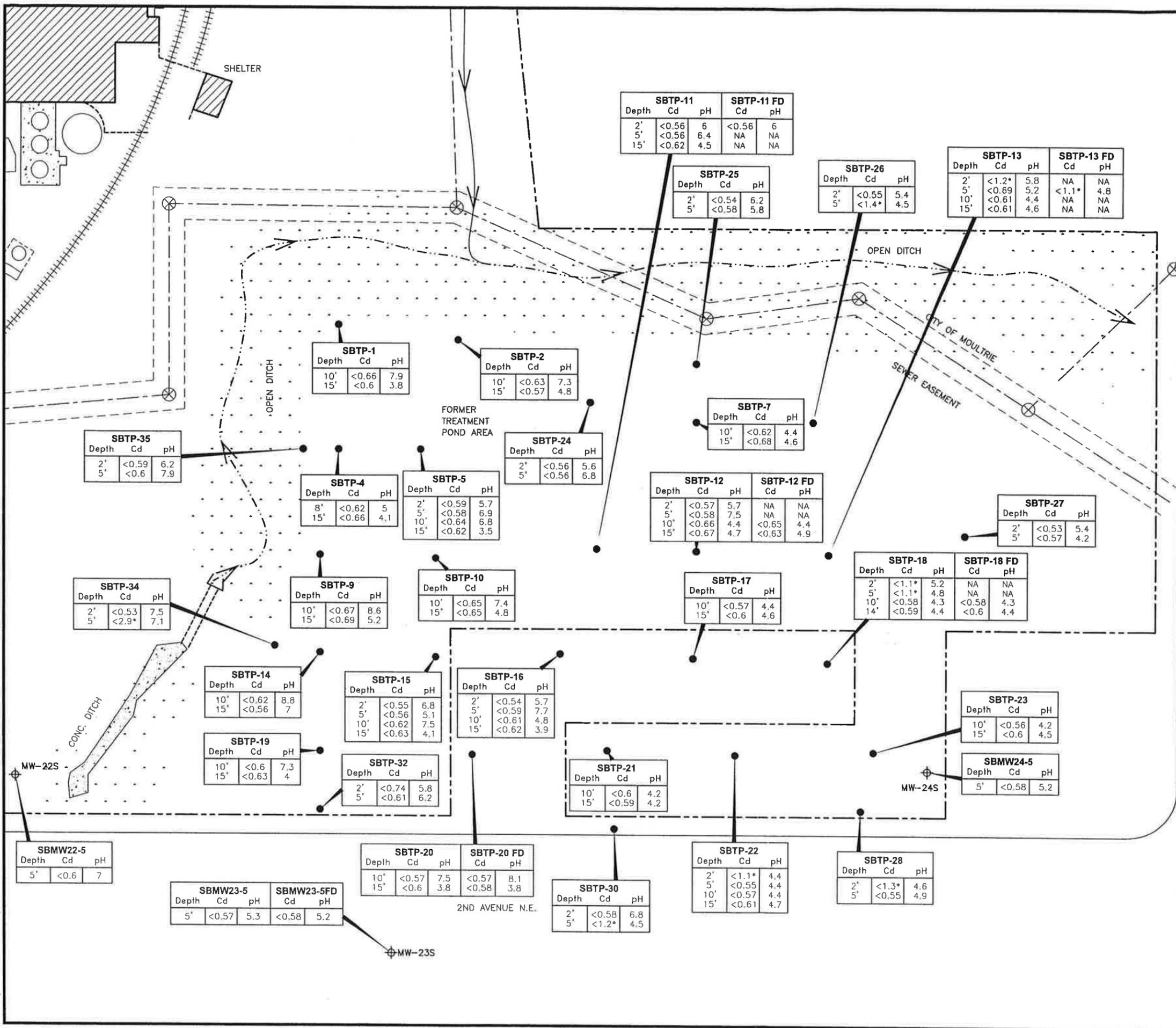
**NOTES**

- 1.) Be - BERYLLIUM CONCENTRATIONS REPORTED IN mg/kg.
- 2.) FD - FIELD DUPLICATE SAMPLE.
- 3.) < - BELOW REPORTING LIMIT. VALUE SHOWN IS THE METHOD REPORTING LIMIT.
- 4.) Be BACKGROUND CONCENTRATION = METHOD REPORTING LIMIT. Be CORRECTIVE ACTION GOAL = 2.0 mg/kg.
- 5.) NA - NOT ANALYZED.



PROJECT				FARMERS FAVORITE FERTILIZER			
TITLE				TREATMENT POND AREA BERYLLIUM AND pH IN SOIL December 2002/June 2003			
PROJECT No.	973-3788	FILE No.	3788J7	SCALE	AS SHOWN	REV.	0
DESIGN	KJ3	8/8/03					
CADD	GMS	8/14/03					
CHECK	KJ3	8/15/03					
REVIEW	MD	10/2/03					
				<b>4</b>			

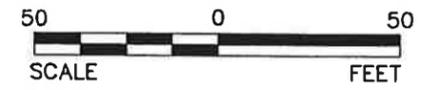
Drawing file: 3788J7.dwg Aug 14, 2003 - 3:01pm



### LEGEND

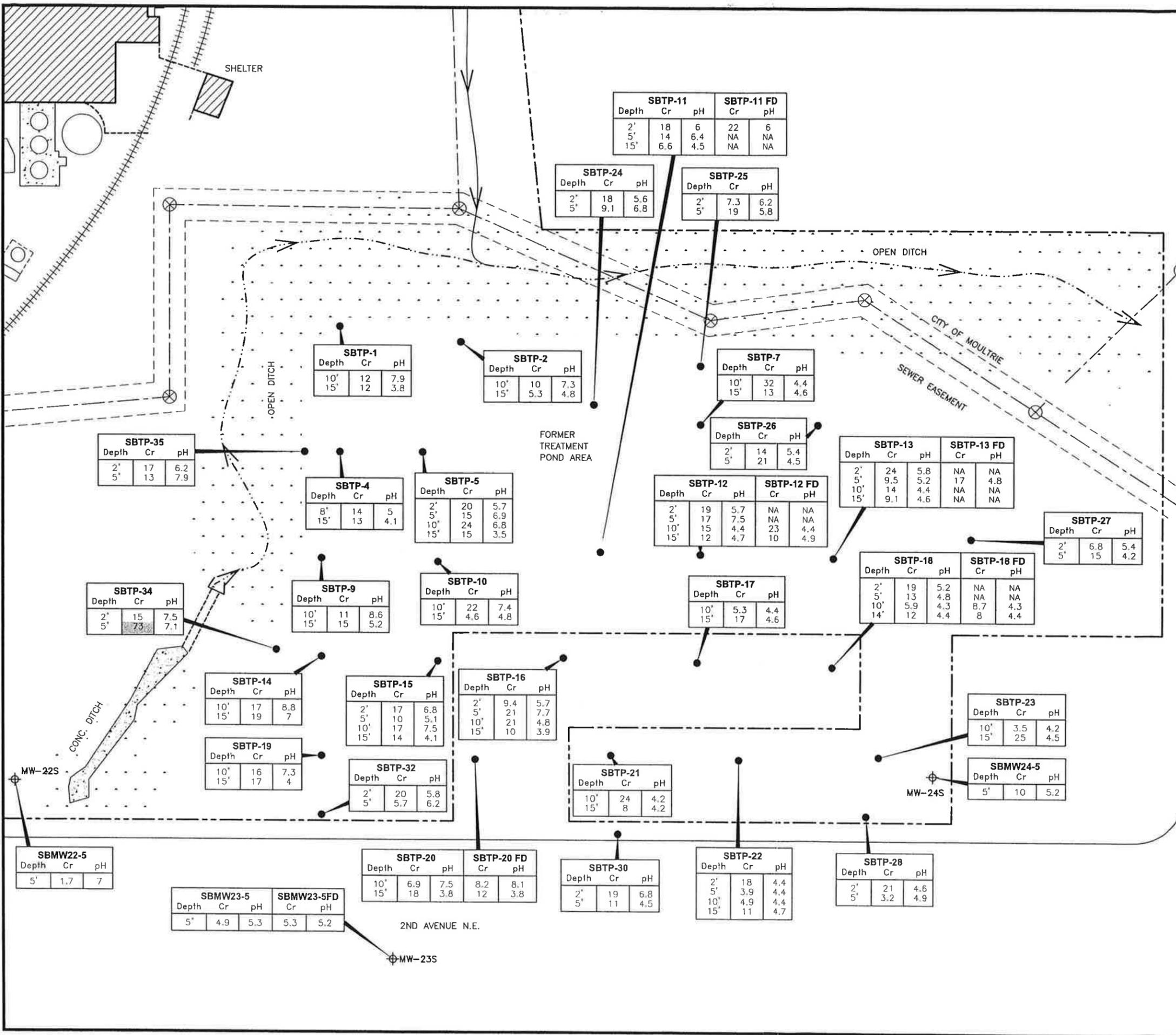
- BUILDING
- CONCRETE
- PROPERTY BOUNDARY
- SURFACE WATER FLOW DIRECTION
- MANHOLE LOCATION
- SOIL BORING LOCATION
- MW-24S MONITORING WELL LOCATION

- ### NOTES
- 1.) Cd - CADMIUM CONCENTRATIONS REPORTED IN mg/kg.
  - 2.) FD - FIELD DUPLICATE SAMPLE.
  - 3.) < - BELOW REPORTING LIMIT. VALUE SHOWN IS THE METHOD REPORTING LIMIT.
  - 4.) Cd BACKGROUND CONCENTRATION = 5.4 mg/kg.  
Cd CORRECTIVE ACTION GOAL = 5.4 mg/kg.
  - 5.) NA - NOT ANALYZED.
  - 6.) \* - ELEVATED DETECTION LIMIT DUE TO MATRIX INTERFERENCE.



PROJECT		FARMERS FAVORITE FERTILIZER	
TITLE		TREATMENT POND AREA CADMIUM AND pH IN SOIL December 2002/June 2003	
PROJECT No.	973-3788	FILE No.	378BK7
DESIGN	KJG 8/8/03	SCALE	AS SHOWN REV. 0
CADD	GMS 8/14/03		
CHECK	KJG 8/15/03		
REVIEW	DM 10/8/03		
			<b>5</b>

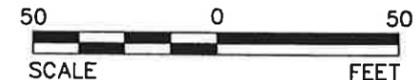
Aug 14, 2003 - 3:01pm  
 Drawing file: 378BK7.dwg



### LEGEND

- BUILDING
- CONCRETE
- PROPERTY BOUNDARY
- SURFACE WATER FLOW DIRECTION
- MANHOLE LOCATION
- SOIL BORING LOCATION
- MW-24S MONITORING WELL LOCATION
- SHADED VALUES INDICATE CONCENTRATIONS > BACKGROUND

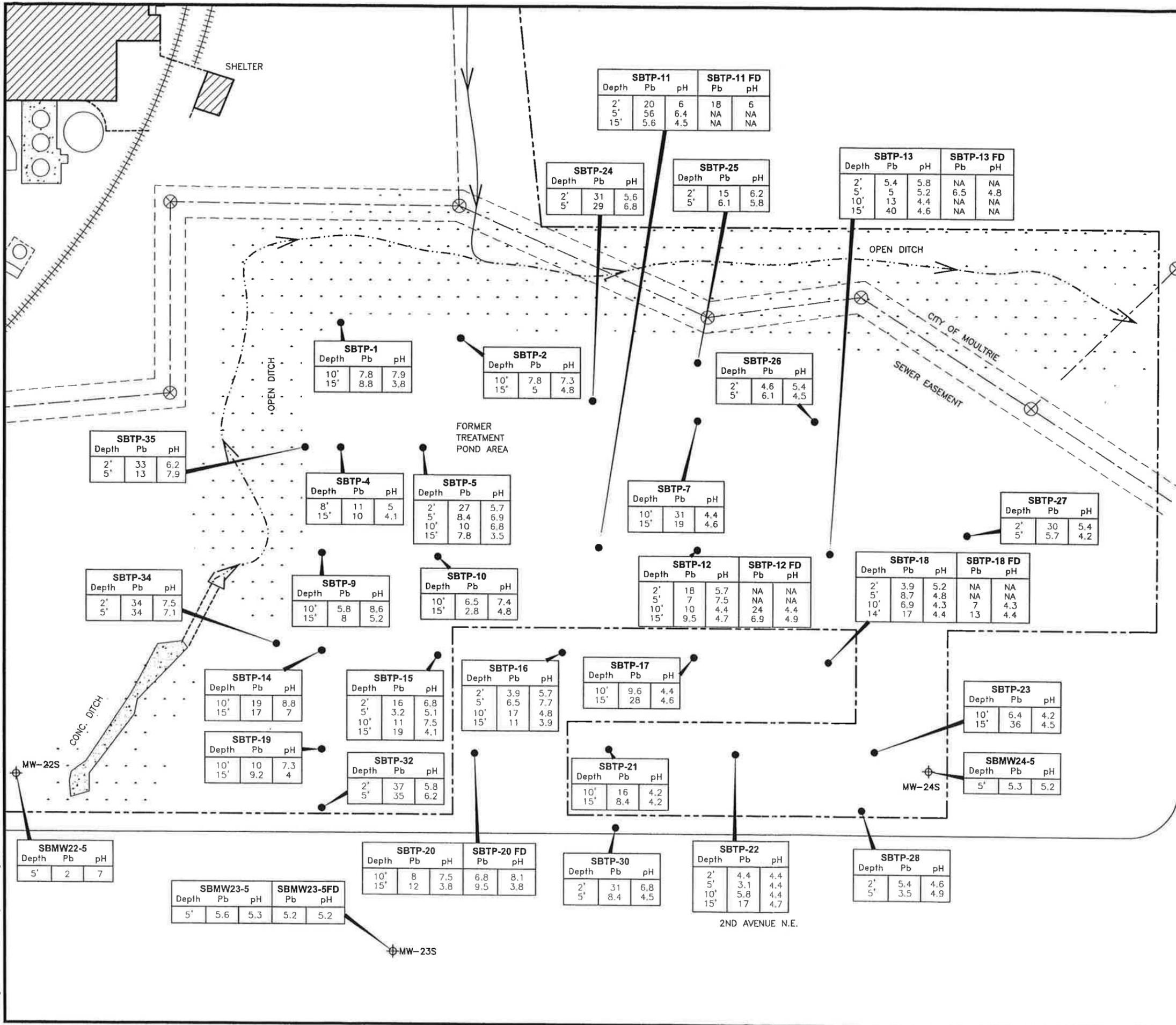
- ### NOTES
- 1.) Cr - CHROMIUM CONCENTRATIONS REPORTED IN mg/kg.
  - 2.) FD - FIELD DUPLICATE SAMPLE.
  - 3.) < - BELOW REPORTING LIMIT. VALUE SHOWN IS THE METHOD REPORTING LIMIT.
  - 4.) Cr BACKGROUND CONCENTRATION = 48.7 mg/kg.  
Cr CORRECTIVE ACTION GOAL = 100 mg/kg.
  - 5.) NA - NOT ANALYZED.



PROJECT	FARMERS FAVORITE FERTILIZER		
TITLE	TREATMENT POND AREA CHROMIUM AND pH IN SOIL December 2002/June 2003		
PROJECT No.	973-3788	FILE No.	378BL7
DESIGN	KJB 8/8/03	SCALE	AS SHOWN REV. 0
CADD	GMS 8/14/03		
CHECK	KJB 8/15/03		
REVIEW	JHR 10/8/03		
			<b>6</b>

**Golden Associates**  
Jacksonville, Florida

Drawing file: 378BL7.dwg Aug 14, 2003 - 3:03pm

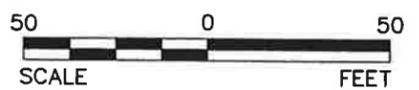


**LEGEND**

-  BUILDING
-  CONCRETE
-  PROPERTY BOUNDARY
-  SURFACE WATER FLOW DIRECTION
-  MANHOLE LOCATION
-  SOIL BORING LOCATION
-  MW-24S MONITORING WELL LOCATION

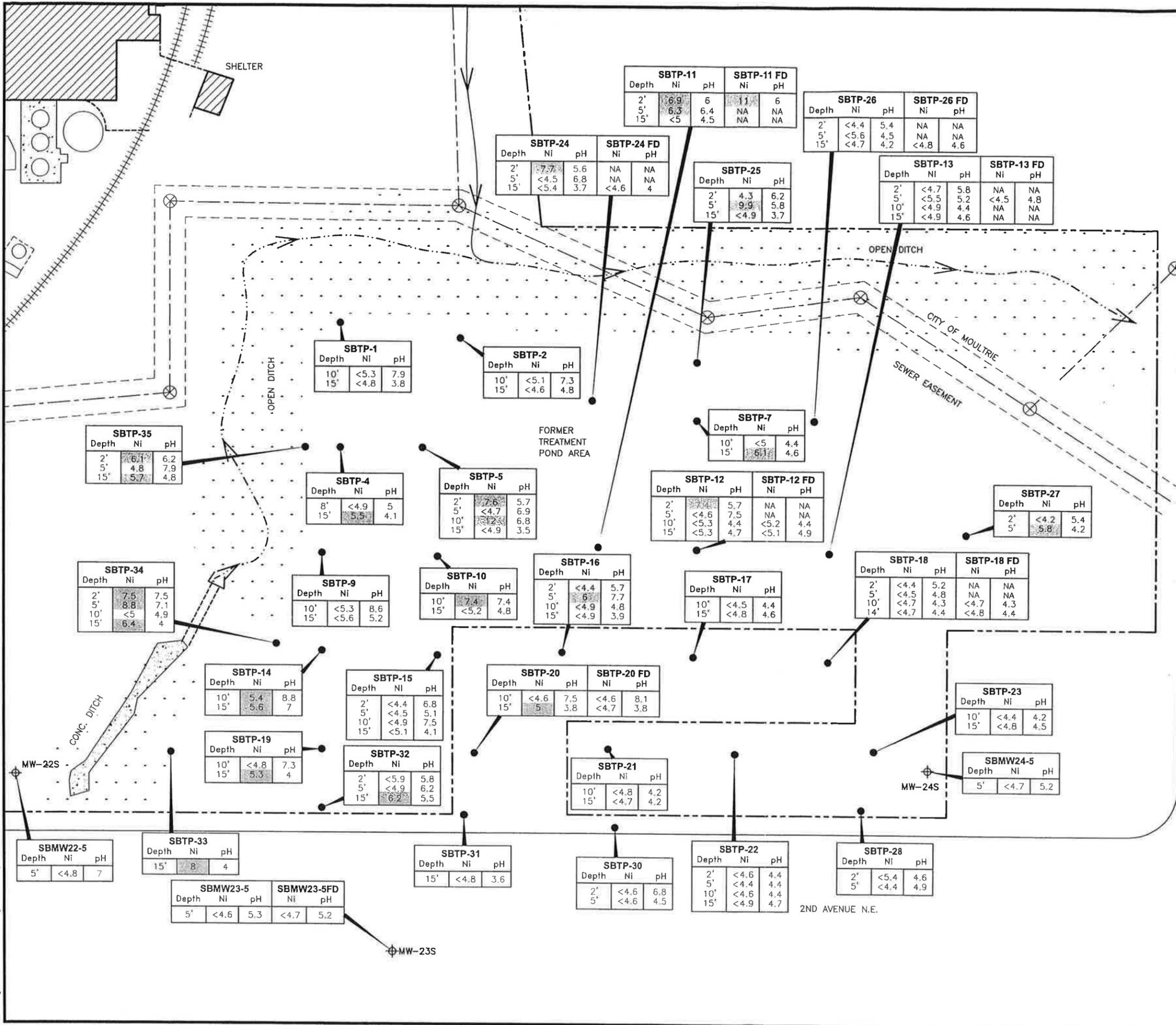
**NOTES**

- 1.) Pb - LEAD CONCENTRATIONS REPORTED IN mg/kg.
- 2.) FD - FIELD DUPLICATE SAMPLE.
- 3.) < - BELOW REPORTING LIMIT. VALUE SHOWN IS THE METHOD REPORTING LIMIT.
- 4.) Pb BACKGROUND CONCENTRATION = 127 mg/kg.  
Pb CORRECTIVE ACTION GOAL = 127 mg/kg.
- 5.) NA - NOT ANALYZED.



PROJECT			
FARMERS FAVORITE FERTILIZER			
TITLE			
<b>TREATMENT POND AREA LEAD AND pH IN SOIL December 2002/June 2003</b>			
PROJECT No.	973-3788	FILE No.	3788M7
DESIGN	KJB 8/8/03	SCALE	AS SHOWN REV. 0
CADD	GMS 8/14/03		
CHECK	KJB RLS/03		
REVIEW	ph 10/8/03		
 <b>Golder Associates</b> Jacksonville, Florida			<b>7</b>

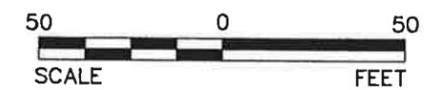
Drawing file: 3788M7.dwg Aug 14, 2003 - 3:04pm



### LEGEND

- BUILDING
- CONCRETE
- PROPERTY BOUNDARY
- SURFACE WATER FLOW DIRECTION
- MANHOLE LOCATION
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- SHADED VALUES INDICATE CONCENTRATIONS > BACKGROUND

- ### NOTES
- 1.) Ni - NICKEL CONCENTRATIONS REPORTED IN mg/kg.
  - 2.) FD - FIELD DUPLICATE SAMPLE.
  - 3.) < - BELOW REPORTING LIMIT. VALUE SHOWN IS THE METHOD REPORTING LIMIT.
  - 4.) NI BACKGROUND CONCENTRATION = METHOD REPORTING LIMIT. Ni CORRECTIVE ACTION GOAL = 50 mg/kg.
  - 5.) NA - NOT ANALYZED.



PROJECT: FARMERS FAVORITE FERTILIZER

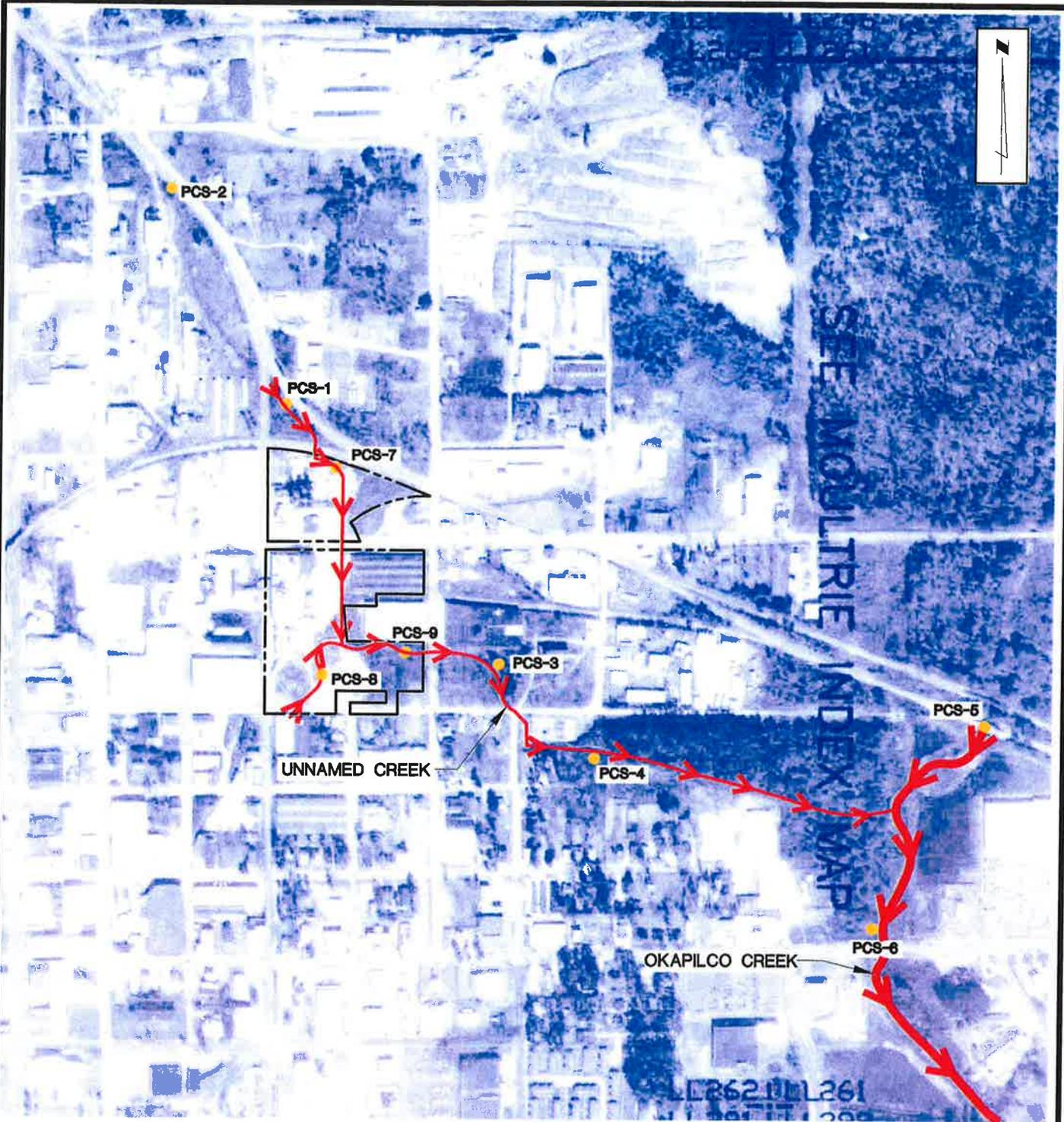
TITLE: TREATMENT POND AREA NICKEL AND pH IN SOIL December 2002/June 2003

PROJECT No.	973-3788	FILE No.	3788P7
DESIGN	KSTJ 8/8/02	SCALE	AS SHOWN REV. 0
CADD	GWS 8/14/03		
CHECK	KSTJ 8/15/03		
REVIEW	DH 10/8/03		

**8**

Drawing file: 3788P7.dwg Aug 14, 2003 3:04pm

## **APPENDIX E**



**LEGEND**

- PROPERTY BOUNDARY
- PCS-1 MACRO INVERTEBRATE SAMPLE LOCATION
- CREEK
- FLOW DIRECTION



JACKSONVILLE, FLORIDA

TITLE

**MACRO INVERTEBRATE  
SEDIMENT SAMPLE LOCATIONS**

CLIENT/PROJECT

FARMERS FAVORITE FERTILIZER

DRAWN	TRG	DATE	11/07/03	JOB NO.	973-3788
CHECKED	<i>KAB</i>	SCALE	AS SHOWN	DWG NO.	3788X7
REVIEWED	<i>JTB</i>	FILE NO.	973-3788	SUBTITLE	FIGURE NO. 19

SPECIES	T.V.**	F.F.G.***	PCS-8-1	PCS-8-2	PCS-8-3	PCS-9-1	PCS-9-2	PCS-9-3	PCS-7-1	PCS-7-2	PCS-7-3
NEMATODA	6.02							NO Bugs			
ANNELIDA										1	
Oligochaeta	*1	CG									
Haplotaxida											
Tubificidae w.o.h.c.	7.11	CG		132		1	1		1		1
<i>Limnodrilus hoffmeisteri</i>	9.47	CG		7							
Lumbriculida											
Lumbriculidae	7.03	CG		7					14		
ARTHROPODA											
MOLLUSCA											
Gastropoda											
Basommatophora											
Physidae											
<i>Physella sp.</i>	8.84	CG					1				
Insecta											
Ephemeroptera											
Tricorythidae	*4	CG									
<i>Tricorythodes sp.</i>	5.06	CG	1								
Trichoptera											
Polycentropodidae	*6	FC									
<i>Cynellus fraternus</i>	*8	FC	1								
Diptera											
Chironomidae				8			1				1
<i>Chironomus sp.</i>	9.63	CG		14		2				1	7
<i>Polypedilum halterale</i>	7.31	SH	8								
<i>Polypedilum illinoense</i>	9	SH		57	16	1	3		2	3	10
<i>Tanytarsus sp.</i>	9.19	FC									1
<i>Thienemannimyia gp.</i>	*6	P									
Psychodidae	*10	CG								1	
<i>Psychoda sp.</i>	9.64	CG									
Stratiomyidae		CG							1		2
TOTAL NO. OF ORGANISMS			10	225	16	4	6	0	18	6	22
TOTAL NO. OF TAXA			3	6	1	3	4	0	4	4	6
EPT INDEX			2	0	0	0	0	0	0	0	0
PERCENT CONTRIBUTION			80.00%	58.67%	100.00%	50.00%	50.00%	#DIV/0!	77.78%	50.00%	45.45%
% OLIGOCHAETES AND CHIRONOMIDS			80.00%	96.89%	100.00%	100.00%	83.33%	#DIV/0!	16.67%	83.33%	90.91%
NO. OF CHIRONOMIDS			1	3	1	2	2	0	1	3	4
BIOTIC INDEX			7.15	7.84	9.00	8.84	8.59	#DIV/0!	7.40	8.11	9.14
SHANNON			0.922	1.685		1.5	1.792		1.098	1.792	1.965
PIELOU			0.582	0.652		0.946	0.896		0.549	0.896	0.76

SPECIES	T.V.**	F.F.G.***	PCS-8-1	PCS-8-2	PCS-8-3	PCS-9-1	PCS-9-2	PCS-9-3	PCS-7-1	PCS-7-2	PCS-7-3
JACCARD COEFFICIENT									No Bugs		
	PCS-8-1	PCS-8-2	PCS-8-3	PCS-9-1	PCS-9-2	PCS-7-1	PCS-7-2	PCS-7-3			
PCS-8-1	1	0	0	0	0	0	0	0			
PCS-8-2	0	1	0.167	0.5	0.429	0.429	0.25	0.5			
PCS-8-3	0	0.167	1	0.333	0.25	0.25	0.25	0.167			
PCS-9-1	0	0.5	0.333	1	0.4	0.4	0.4	0.5			
PCS-9-2	0	0.429	0.25	0.4	1	0.333	0.143	0.429			
PCS-7-1	0	0.429	0.25	0.4	0.333	1	0.143	0.25			
PCS-7-2	0	0.25	0.25	0.4	0.143	0.143	1	0.25			
PCS-7-3	0	0.5	0.167	0.5	0.429	0.25	0.25	1			
PERCENT SIMILARITY											
	PCS-8-1	PCS-8-2	PCS-8-3	PCS-9-1	PCS-9-2	PCS-7-1	PCS-7-2	PCS-7-3			
PCS-8-1	100	0	0	0	0	0	0	0			
PCS-8-2	0	100	25.3	56.2	45.6	19.8	31.6	39.7			
PCS-8-3	0	25.3	100	25	50	11.1	50	45.5			
PCS-9-1	0	56.2	25	100	41.7	16.7	41.7	61.4			
PCS-9-2	0	45.6	50	41.7	100	16.7	50	54.5			
PCS-7-1	0	19.8	11.1	16.7	16.7	100	11.1	15.7			
PCS-7-2	0	31.6	50	41.7	50	11.1	100	62.1			
PCS-7-3	0	39.7	45.5	61.4	54.5	15.7	62.1	100			

Cell: A44

Comment: \*Hilsenhoff Tolerance Values used when North Carolina Tolerance Values are not available

\*\*North Carolina Tolerance Values range from 0 for organisms very intolerant of organic wastes to 10 for organisms very tolerant of organic wastes

\*\*\*F.F.G.-Functional Feeding Group: CG=Collector/Gatherer, FC=Filtering/Collectors, SC=Scrapers, SH=Shredders, P=Predators and PI=Piercer

Benthic Macroinvertebrate Results

SPECIES	PCS-7-1	PCS-7-2	PCS-7-3	PCS-7 SUM	PCS-7 relative abundance	PCS-8-1	PCS-8-2	PCS-8-3	PCS-8 SUM	PCS-8 relative abundance	PCS-9-1	PCS-9-2	PCS-9-3	PCS-9 SUM	PCS-9 relative abundance
NEMATODA				1.00	0.02										
ANNELIDA		1.00													
Oligochaeta															
Haplotaenidia															
Tubificidae w.o.h.c.	1.00		1.00	2.00	0.04		132.00		132.00	0.53	1.00	1.00		2.00	0.20
<i>Limnodrilus hoffmeisteri</i>							7.00		7.00	0.03					
Lumbriculida															
Lumbriculidae	14.00			14.00	0.30		7.00		7.00	0.03					
ARTHROPODA															
MOLLUSCA															
Gastropoda															
Basommatophora															
Physidae															
<i>Physella</i> sp.														1.00	0.10
Insecta															
Ephemeroptera															
Tricorythidae						1.00			1.00	0.00					
<i>Tricorythodes</i> sp.															
Trichoptera															
Polycentropodidae															
<i>Cynellus fraturnus</i>						1.00			1.00	0.00					
Diptera															
Chironomidae															
<i>Chironomus</i> sp.		1.00	1.00	1.00	0.02		8.00		8.00	0.03		1.00		1.00	0.10
<i>Polypedium halterale</i>			7.00	8.00	0.17		14.00		14.00	0.06	2.00			2.00	0.20
<i>Polypedium ilinoense</i>	2.00	3.00	10.00	15.00	0.33	8.00	57.00	16.00	73.00	0.29	1.00	3.00		4.00	0.40
<i>Tanytarsus</i> sp.				1.00	0.02										
<i>Thienemannimyia</i> gp.		1.00		1.00	0.02										
Psychodidae															
<i>Psychoda</i> sp.	1.00			1.00	0.02										
Stratiomyidae			2.00	2.00	0.04										
TOTAL NO. OF ORGANISMS	18.00	6.00	22.00	46.00		10.00	225.00	16.00	251.00		4.00	6.00	0.00	10.00	
TOTAL NO. OF TAXA	4.00	4.00	6.00	10.00		3.00	6.00	1.00	9.00		3.00	4.00	0.00	5.00	
EPT INDEX	0.00	0.00	0.00	0.00		2.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
PERCENT CONTRIBUTION	0.78	0.50	0.45			0.80	0.59	1.00			0.50	0.50	#DIV/0!		
% OLIGOCHAETES AND CHIRONOMIDS	0.17	0.83	0.91			0.80	0.97	1.00			1.00	0.83	#DIV/0!		
NO. OF CHIRONOMIDS	1.00	3.00	4.00			1.00	3.00	1.00			2.00	2.00	0.00		
BIOTIC INDEX	7.40	8.11	9.14			7.15	7.84	9.00			8.84	8.59	#DIV/0!		
SHANNON DIVERSITY	1.10	1.79	1.97		2.48	0.92	1.69			1.91	1.50	1.79			2.12
PIELOU	0.55	0.90	0.76			0.58	0.65				0.95	0.90			
DENSITY (#/m2)				1893					10329					412	

4<sup>th</sup> core x 3 reps = factor of 41.15 to convert no. of organisms to #/m2

## Density

Benthic macroinvertebrate density was calculated using the pooled results from three replicates at each sampling location (total number of individuals in three replicates x 41.15 = number of individuals/m<sup>2</sup>).

## Species Diversity

The Shannon-Weiner (alternately named Shannon or Shannon-Weaver) diversity index incorporates both species richness (number of taxa) and evenness (number of organisms of each individual taxa/total number of individuals) to describe community structure. Lower diversity is the result of a small number of taxa contributing a large proportion of the population. The Shannon-Weiner diversity index ( $H'$ ) is calculated as follows:

$$H' = -\sum p_i \log(\text{base } 2) p_i$$

Where  $p_i$  is the relative abundance of species  $i$ , calculated as follows:

$$p_i = n_i / N$$

$n_i$  = the number of individuals of species  $i$  occurring in the sample population

$N$  = the total number of individuals in the sample population

Species diversity values were calculated using the pooled results of three replicates at each sampling location.