Revised Voluntary Remediation Program Application

Prepared for

Former MacGregor Golf Company Site
HSI Site No. 10398
Albany, Georgia

February 2012

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Submitted to the
Georgia Environmental Protection Division

On Behalf of
Brunswick Corporation
Albany Sport Co.
Albany Partners, L.L.C.

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Table of Contents

List of Figures

List of Tables

Section 1
Introduction

This Revised Voluntary Remediation Program (VRP) Application is being submitted on behalf of Brunswick Corporation, Albany Sport, Co., and Albany Partners, LLC (the Group) for the Former MacGregor Golf Company Site (the Site). The VRP Application dated April 5, 2011 has been revised in accordance with comments received from the Georgia Environmental Protection Agency (EPD) dated November 29, 2011.

The Site is located at 1601 South Slappey Drive in Albany, Dougherty County, Georgia (**Figure 1**). A VRP Application Form and Checklist is provided in **Appendix A**, and the warranty deed information is provided in **Appendix B**. A tax parcel map showing the location of the qualifying property and abutting properties, including the tax parcel identification numbers, is included in **Appendix C**. A monthly summary of hours invoiced by the professional engineer providing oversight of the Voluntary Remediation Plan development is provided in **Appendix D**. Finally, **Appendix E** provides the exposure assumptions, chemical-specific parameters, and calculation spreadsheets for the site cleanup standards.

1.1 Property and Participant Eligibility

The property meets the eligibility criteria for the VRP. A release of regulated substances into the environment has been confirmed. The property is not listed on the federal National Priorities List (NPL), and is not currently undergoing response activities required by an order of the regional administrator of the federal Environmental Protection Agency (USEPA), and the facility is not required to have a permit under Code Section 12-8-66. 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 USEPA. There are no outstanding liens filed against the property pursuant to Code Section 12-8-94 or Code Section 12-13-6.

The VRP applicants are Brunswick Corporation, Albany Sport, Co., and Albany Partners, LLC. Albany Partners, LLC is the current property owner. The VRP applicants are not in violation of any order, judgment, statute, rule, or regulation subject to the enforcement authority of the director of the Environmental Protection Division (EPD).

1.2 Site Description and Site Background

The property is approximately 50 acres, and is presently unoccupied. The Site formerly consisted of a golf club manufacturing facility, several storage buildings, paved parking areas, a golf club testing range, and an equipment building (**Figure 2**). The warehouse and former driving range are fenced and there are two access roads, located east and south of the warehouse. The eastern portion of the Site is primarily asphalt paved, whereas the western portion of the Site where the former driving range was located is a grassy field. A total of 29 monitoring wells have been installed for environmental assessment and monitoring (28 on-site and one off-site). The Site features and monitoring well locations are shown on **Figure 3**.

The Site topography is relatively flat and varies from 191 to 204 feet above mean sea level (amsl). An intermittent drainage ditch runs in a westerly direction from near the northern edge of the former disposal area, in a tree line, to the western property boundary. The ditch ends in an intermittent detention basin. Stormwater runoff flows primarily towards the intermittent drainage ditch, which also

receives stormwater runoff from off-site sources, including a railroad right-of-way, and then discharges into a detention basin. The intermittent drainage ditch and detention basin are normally dry, except following significant rain events.

MacGregor Golf Company operated the plant primarily for the manufacturing of golf clubs from 1960 to 1993. As part of the golf club production, a metal plating facility was operated until 1993. This operation was located along the southern wall of the warehouse and consisted of plating tanks housed within three concrete pits. In 1993 the tanks were removed and in 1994 the concrete pits were filled with soil and clean sand and then sealed with concrete.

1.3 Source Description

Reportedly, manufacturing wastes were likely disposed from approximately 1962 to 1973 in an area located just west of the main building that is part of the former test driving range. This "source area" is approximately 60 by 100 feet and is located next to the equipment shed. According to previous reports, no disposal pit or lagoon was created; the waste was poured or spread directly on the ground. Wastes included spent solvents and plating process sludge that contained xylenes, methyl and ethyl alcohol, toluene, chromium, nickel, lead, and cyanide. The chromium applied during the plating process was likely in the hexavalent form as chromic acid (CrO_3).

Construction of the test driving range involved grading of the former disposal area, and the soils were dispersed over a wider area.

1.4 Site Constituents of Concern

The current site constituents of concern (COCs) were defined in the December 2009 *Revised Compliance Status Report and Corrective Action Report* (CSR/CAP) Addendum, which was accepted by the EPD in a letter dated February 17, 2011. The site COCs are listed below.

Site COCs	
Organics	**Inorganics**
1,1-Dichloroethene (1,1-DCE)	Chromium, Total
Benzene	Chromium, Hexavalent
cis-1,2-Dichloroethene (cis-1,2-DCE)	Chromium, Trivalent
Ethylbenzene	Cyanide
Trichloroethene (TCE)	Nickel
Vinyl Chloride (VC)	
Xylenes (total)	

1.5 Document Organization

This document provides information to support the application for enrollment into the Georgia VRP, and is organized into the following five sections:

- Section 1.0 has presented background information on the Site, including a description of the source and identification of the Site COCs.
- Section 2.0 describes the current Site conditions, including the geology, hydrogeology, and current soil and groundwater conditions.

- Section 3.0 presents the preliminary Conceptual Site Model (CSM) for the Site. This section describes the various elements included in the CSM, including human health and ecological receptors and the complete and incomplete exposure pathways that may exist at the Site. Also discussed in this section is a fate and transport model that will be used to help demonstrate compliance with the Site cleanup standards under the VRP.
- Section 4.0 provides an overview of the current status of the Site relative to the VRP delineation and cleanup standards developed for the Site.
- Section 5.0 provides the Preliminary Remediation Plan and the Projected Milestone Schedule for delineation and remediation of the Site.

Section 2
Current Site Conditions

This section describes the current site conditions and includes information regarding the geology and hydrogeology at the Site, and the current soil and groundwater conditions at the Site.

2.1 Geology and Hydrogeology

2.1.1 Subsurface Geology

The MacGregor Golf Site is located on the Dougherty Plain District of the Coastal Plain Physiographic Province in southwestern Georgia. The Coastal Plain Physiographic Province is characterized by sequences of Mesozoic and Cenozoic sediments consisting of marls, sands, clays, and limestones. The shallow soils at the Site consist primarily of silty sands, sandy silts and clays that in most cases are a weathering product of the limestone bedrock. The thickness of the unconsolidated sediments at the Site is approximately 40 feet. Within this zone, thin layers of chert occur at depths of 18 to 35 feet below ground surface (bgs). Beneath the chert, sediments increase in clay content with clay layers ranging from 1 to 6 feet thick in several areas of the Site.

A semi-confining unit consisting of a chalky limestone of the upper Ocala Limestone is present beneath the soils at the Site, from approximately 50 to 60 feet bgs, overlying the fossiliferous, permeable Ocala Limestone. The Ocala Limestone commonly characterized by karst textures can be subdivided into two zones, upper and lower. The upper portion of the Ocala consists of variable sandy, clayey, friable, chalky, fossiliferous limestone that grades to depth to a harder, shelly, limestone (Warner, 1997). During the installation of monitoring well MW-8D, continuous core samples were collected which indicated the fossiliferous Ocala Limestone extended to a depth of approximately 170 feet bgs. Underlying the Ocala Limestone is the lower confining unit, the Lisbon Formation which consists of glauconitic, fine calcareous sand, clay, and interbedded limestone.

2.1.2 Hydrogeology

Groundwater at the Site is present in both upper (overburden soils/unconsolidated sediments) and lower (shallow limestone bedrock) water bearing zones. All groundwater wells located on-site were re-surveyed on January 10, 2012. Based on the water level measurements from January 2012, groundwater was encountered in the upper water bearing zone at elevations ranging from 148 to 157 feet amsl. Groundwater was encountered in the lower water bearing zone at elevations of 148 to 149 feet amsl. Potentiometric maps for the upper and lower water bearings zones in January 2012 are provided as **Figures 4** and **5**. The new top of casing and groundwater elevations are provided in **Table 1**. The groundwater levels measured in January 2012 suggest a groundwater elevation high in the upper water bearing zone in the vicinity of MW-25 (near the southwest corner of the main warehouse), with groundwater flow outward from there (**Figure 4**). The groundwater gradient in the lower water bearing zone is very shallow, changing by only about 0.5 feet over a 1,200 foot distance across the Site, To the extent that there is any horizontal flow in the lower water bearing unit, groundwater would be expected to flow from east to west and outward from the central portion of the Site to the north and south (**Figure 5**).

As noted above, the January 2012 potentiometric surface map for the upper water bearing zone (**Figure 4**), suggests a mounding of groundwater near the southwest corner of the main warehouse. The cause of this mounding, which was not evident during the March 2011 or prior sampling events, is not known

and is currently being investigated, but could be associated with recent drought conditions or a possible water line leak near the facility. In an effort to better understand the upper water bearing zone at this site, groundwater levels will be measured monthly for a period of three months following acceptance into the VRP to ensure representative groundwater elevations are used in developing the remediation plan.

The upper water bearing zone has a horizontal conductivity range of 2.51 feet per day (ft/day) to 15.73 ft/day. Lower values (approximately 2 to 7 ft/day) were observed near the former waste disposal area, and higher values (approximately 8 to 16 ft/day) were observed in the southeastern portion of the Site. The lower water bearing zone horizontal conductivities range from 0.78 to 56.47 ft/day. The results show that in the lower water bearing zone there is a zone of significantly lower hydraulic conductivity near well MW-9, whereas relatively high hydraulic conductivities (approximately 20 to 50 ft/day) occur at the other lower zone wells. This "low conductivity zone" near MW-9 is consistent with the observed lower zone potentiometric surface that exhibits a slight "mound" in the MW-9 area. MW-8D is a deep well that penetrates the lower confining unit. The calculated horizontal conductivity in this zone is very low, approximately 0.001 ft/day, as would be expected. Additional information regarding hydraulic properties can be obtained in the 2006 Compliance Status Report (CSR) prepared for the Site (Brown and Caldwell, 2006).

2.2 Current Soil and Groundwater Conditions

Soil and groundwater investigations were performed by others at the Site between 1994 and 2000, and Brown and Caldwell conducted a source area characterization in the former waste disposal area in 2005. Additional soil and groundwater sampling in various locations throughout the Site was conducted in 2008, 2009 and 2010 (groundwater only). The specific areas of focus included the former waste disposal area, and the intermittent drainage ditch and detention pond. The historical soil and current and historical groundwater detections of Site COCs are provided in **Tables 2** through **4**, respectively. Additional information regarding the soil and groundwater investigations performed at the Site can be obtained in the 2006, 2008 and 2009 CSRs prepared by Brown and Caldwell (Brown and Caldwell, 2006; Brown and Caldwell 2008; Brown and Caldwell, 2009).

2.2.1 Current Soil Conditions

2.2.1.1 Organics in Soil

VOCs including 1,1-DCE, cis-1,2-DCE, TCE, VC, benzene, ethylbenzene and xylenes have been detected in soils at the Site. The majority of VOCs were detected in the samples collected in 2005 during the source area characterization of the former waste disposal area (B1 through B8) with the highest concentrations of cis,1,2-DCE and VC detected in boring B-4 at 11 mg/kg and 1.5 mg/kg, respectively. The VOC concentrations in these borings ranged from 0.013 mg/kg to 0.025 mg/kg for 1,1-DCE; 0.0062 mg/kg to 11 mg/kg for cis-1,2-DCE; 0.0056 mg/kg to 0.025 mg/kg for TCE; non-detect to 1.5 mg/kg for VC; 0.0042 mg/kg to 0.0098 mg/kg for benzene; 0.0061 mg/kg to 32 mg/kg for ethylbenzene; and 0.027 mg/kg to 130 mg/kg for xylenes. The remaining samples collected between 1994 and 2000, and from 2005, 2008 and 2009 contained no detections to very low concentrations of VOCs.

2.2.1.2 Inorganics in Soil

Numerous soil samples have been collected at the Site and analyzed for inorganics, specifically, chromium, cyanide and nickel. The highest concentrations of inorganics were detected in borings SB-3, SB-4, SB-6, SB-15, SB-16, SB-17, SB-18, SB-25, SB-26, SB-29, DB-S1, DB-S2, and SED-1 through SED-6. All of these borings are located within the intermittent drainage ditch or detention basin with the exception of SB-3, SB-4 and SB-6 which are located in the vicinity of the former waste disposal area. The total chromium concentrations in these samples ranged from 133 mg/kg to 3,300 mg/kg. The samples collected in 2009 from borings DB-S1, DB-S2 and SED-3 through SED-6 were speciated for hexavalent

and trivalent chromium, which showed that all of the chromium at these locations is in the trivalent form, at concentrations ranging from 5.9 mg/kg to 3,300 mg/kg. The cyanide concentrations in these samples ranged from 0.2 mg/kg to 3.7 mg/kg, and nickel concentrations ranged from 52 mg/kg to 620 mg/kg. The remaining samples collected from the Site contained low to no concentrations of chromium, cyanide and nickel.

2.2.2 Current Groundwater Conditions

2.2.2.1 Organics in Groundwater

Groundwater monitoring has occurred at the Site since 1995. The highest concentrations of VOCs (cis-1,2-DCE, TCE, and VC) in the upper water bearing zone are seen in the samples collected from monitoring well MW-4, located in the vicinity of the former waste disposal area. Concentrations of cis-1,2-DCE, TCE, and VC in January 2012 were 0.410 milligram per liter (mg/L), 0.110 mg/L, and 0.0048 mg/L, respectively. Only one other well currently sampled at the site contains VOCs in groundwater; cis-1,2-DCE was detected in MW-25 at a concentration of 0.0083 mg/L in March 2011. No VOCs were detected in groundwater from wells MW-22 and MW-23, located around the perimeter of the source area, when they were last sampled March 2011.

In current and previous monitoring of the lower water bearing zone, VOCs were only present in wells MW-8 and MW-15, which are located on the southeastern portion of the Site. MW-8 was last sampled for VOCs in 1999, and the only detection was 1,1-DCE at 0.016 mg/L. Concentrations in MW-15 in 2003 were 0.066 mg/L and 0.008 mg/L for 1,1-DCE and TCE, respectively, and concentrations are expected to have declined in the intervening 8 years.

2.2.2.2 Inorganics in Groundwater

Chromium is the only inorganic constituent present at elevated levels in the groundwater. The highest concentration of total chromium currently in groundwater is in monitoring well MW-24 (0.153 mg/L in January 2012); however, only a turbid sample could be obtained due to the low water level in the well (128 Nephelometric Turbidity Units [NTU]). To assess the source of the chromium, the sample was also filtered and the concentration of dissolved chromium was 0.122 mg/L. Chromium is also present in the groundwater of MW-11. Speciation of the MW-24 and MW-11 samples indicated that the chromium is primarily in the hexavalent state. In January 2012, neither total nor hexavalent chromium were detected in the sample from MW-19.

Nickel was previously detected in MW-4 at 2.863 mg/L; however, the turbidity in this 2006 sample was high (132 NTU). This well was re-sampled in January 2012 using low-flow low-volume techniques to minimize turbidity. A low turbidity sample was obtained, and the nickel concentration was only 0.0725 mg/L. Cyanide was not detected in the four wells where other inorganics were detected.

Section 3
Preliminary Conceptual Site Model

This section presents the preliminary Conceptual Site Model (CSM) developed for the Site and its environmental condition in order to facilitate development of remedial action objectives for the Site. Also discussed in this section is a fate and transport model that will be used to help demonstrate compliance with the Site cleanup standards under the VRP.

3.1 Elements of the Conceptual Site Model

A 3-dimensional Conceptual Site Model was developed to illustrate the approximate extent of VOCs and inorganics in the subsurface and the potential exposure pathways and receptors at the Site. **Figures 6** and **7** illustrate plan view and profile diagrams of the CSM.

3.1.1 Ground Surface Features

The Site topography is relatively flat with elevations ranging from 191 to 204 feet above mean sea level (amsl). Stormwater run-off flows primarily towards the intermittent drainage ditch that runs in a westerly direction from north of the former disposal area along the tree line, to the western property boundary. The ditch ends in an on-site intermittent detention basin. The intermittent drainage ditch and detention basin are normally dry, except following significant rain events. The drainage ditch also receives stormwater run-off from off-site sources, including a railroad right-of-way.

Soil samples collected from the intermittent ditch and detention basin indicated elevated concentrations of nickel and chromium. Based on the flow direction of stormwater at the Site, the metals apparently migrated from the former waste disposal area to the drainage ditch.

3.1.2 Subsurface Features

3.1.2.1 Vadose Zone and Upper Water Bearing Zone

The upper water zone consists predominantly of silty sands, sandy silts, clays and chert of the weathered limestone residuum which is represented on the upper portion of **Figure 7.** The thickness of the unconsolidated sediments at the Site is approximately 40 to 50 feet with the thin layers of chert occurring at depths of 18 to 35 feet bgs. Beneath the chert, sediments increase in clay content with clay layers ranging from 1 to 6 feet thick. The lower boundary to this zone is the chalky limestone that occurs in the uppermost Ocala Limestone at 50 to 55 feet bgs.

Figures 6 and **7** show approximately where VOCs and inorganics have been identified in the upper water zone. According to previous reports, waste was poured or spread onto the ground surface in the former waste disposal area. The VOCs and inorganics released at the ground surface would be expected to migrate vertically, under the influence of gravity, with some horizontal spreading with depth through the unsaturated zone and into the saturated zone.

3.1.2.2 Semi-Confining Unit

Between the depths of approximately 50 to 60 feet bgs, a chalky limestone occurs that grades with depth with increasing cementation and induration and decreasing permeability. This layer is laterally continuous across the Site and is interpreted to be a hydraulic boundary to the lower water bearing zone encountered at 60 feet bgs. However, based on the hydraulic properties (i.e., vertical groundwater velocity, vertical gradient and vertical hydraulic conductivity) of the semi-confining unit, vertical leakage

occurs through the chalky limestone from the upper water bearing zone to the lower water bearing zone as seen by concentrations of VOCs and inorganics in the lower water bearing zone.

3.1.2.3 Lower Water Bearing zone

At approximately 60 feet bgs, the chalky limestone increases in competency and becomes a porous and permeable fossiliferous limestone of the Ocala Limestone that extends to a depth of approximately 170 feet bgs. This unit, the Upper Floridan aquifer, is a principal water supply aquifer and previously served to supply irrigation and fire water to the Site. The Upper Floridan aquifer is confined above and below. The upper confining zone is the chalky limestone as described above, and the lower confining zone is the calcareous clayey Lisbon formation.

Concentrations of VOCs and inorganics are present in the lower water bearing zone; specifically, the upper portion of the permeable fossiliferous limestone as seen in wells MW-8 and MW-15 at depths of approximately 70 and 80 feet bgs, respectively.

3.1.3 Contaminant Fate and Transport

Moderate to low concentrations of TCE, cis-1,2-DCE, and VC continue to be detected in monitoring wells (primarily MW-4) immediately downgradient of the source area within the upper water bearing zone. As described further in Section 5, preliminary modeling using Biochlor®, a one-dimensional axial transport model, has been conducted to evaluate potential COC migration from this area. Biochlor® has been used to provide a preliminary understanding of the fate and transport of the remaining VOCs observed in groundwater. The preliminary model demonstrated that the current groundwater plume will continue to shrink over time, and that VOC concentrations will continue to decline.

Additionally, a limited interim remedial action consisting of injection of zero valent iron (ZVI) within the upper water bearing zone was conducted in 2003. The interim action created a barrier zone of accelerated attenuation downgradient of MW-4. The barrier has most likely resulted in the decrease in VOC concentrations observed in the remaining downgradient monitoring wells.

3.2 Receptors and Exposure Pathways

The following sections provide details regarding the receptor surveys and the complete exposure pathways that exist at this Site. Receptors included in this evaluation included human receptors and ecological receptors.

3.2.1 Human Receptor Survey

The Site is currently vacant, though the on-site facilities could be used for future office space and warehousing operations. The surrounding properties primarily consist of industrial and/or commercial facilities. The nearest residence is located approximately 0.2 miles east of the Site (**Figure 2**). Municipal water is provided throughout the study area. There are no known water wells that supply potable water within a 1,000-foot radius of the Site.

Anticipated future use of the Site is industrial and/or commercial. Even if allowed, it is highly unlikely that this property would be used for residential properties due to the industrial nature of the surrounding area.

Based on VOC concentrations recently detected in monitoring well MW-4 located just west of the main warehouse (**Figure 3** and **Tables 3 and 4**), there may be potential for indoor inhalation of vapor emissions from groundwater in the main warehouse. Vapor intrusion in the main warehouse will therefore be addressed at a later date with the use of the Johnson & Ettinger (J&E) Model for Subsurface Vapor Intrusion into Buildings (Johnson and Ettinger, 1991), fate and transport modeling, sub-slab soil gas sampling, and/or indoor air sampling.

Another potential area for indoor inhalation of vapor emissions to consider is in the storage shed located just west of the main building. VOCs have been detected above cleanup standards in soil boring B-4 (**Figure 8**), which is located next to the storage shed. However, this shed is a small (approximately 1,600 square feet), unoccupied structure that is primarily used for storage. Human health receptors will be limited to an occasional visitor and exposure will therefore be limited. An assessment of vapor intrusion into this storage shed is therefore not warranted at this time.

Potential exposure pathways for human receptors are provided below. Each of the human exposure scenarios are on-site scenarios. There are no potential groundwater scenarios.

- Future Site Worker: Commercial site workers were considered receptors in this evaluation due to their anticipated future presence at the Site. Although commercial workers would primarily remain inside the facility and exposure to soils is minimal, workers would occasionally exit the facility to access outside buildings and structures. Possible routes of exposure associated with commercial workers include:
    - Future Ingestion of surficial soil
    - Future Dermal contact with surficial soil
    - Future Inhalation of vapors and particulates from surficial soil
    - Future Indoor inhalation of vapor emissions from groundwater (main warehouse only).
- Current/Future Groundskeeper or Construction Worker: Construction workers and groundskeepers were considered as limited receptors in this evaluation. Construction workers are likely to spend only negligible amounts of time in the existing building as compared to commercial workers, and may be exposed to surficial soil during excavations. Groundskeepers are exposed to surficial soils during routine maintenance of the grounds. Therefore, potential routes of exposure associated with construction workers and groundskeepers include:
    - Ingestion of surficial soil
    - Dermal contact with surficial soil
    - Inhalation of vapors and particulates from surficial soil.
- Current/Future Adolescent Trespasser: Trespassers were considered receptors in this evaluation despite the Site being located in a commercial area unlikely to attract trespassers. The Site is surrounded by security fencing and has a gate (**Figure 3**). However, trespassers were included as receptors for future use of the Site. The possible routes of exposure associated with trespassers are:
    - Inhalation of vapors and particulates from surficial soil
    - Ingestion of surficial soil
    - Dermal contact with surficial soil.

3.2.2 Ecological Receptor Survey

The Georgia Natural Heritage Program provides a listing of "Known Locations of Rare and Other Special Concern Animals, Plants and Natural Communities within Georgia" organized by Topographic Quadrangle. The site is within the Albany West Southwest, Georgia Quadrangle. Potential plant and animal receptors are provided in **Table 5.**

Theoretical potential exposure pathways for terrestrial organisms are ingestion (e.g., plant matter, surface water, soil, and sediment), dermal absorption, and inhalation. The potential exposure pathways for aquatic organisms are through root absorption, ingestion (e.g., plant matter, surface water, and sediment), dermal absorption, and inhalation.

Site contaminants are located in subsurface groundwater, surficial soil, and subsurface soil. There are no perennial surface water bodies or flows on the Site. The closest surface water body is an unnamed stormwater drainage swale 0.75 to 1 mile east and southeast of the Site. The Flint River is 1.75 miles

directly east of the Site. An intermittent drainage ditch runs in a westerly direction from near the northern edge of the former disposal area, in a tree line, to the western property boundary. The ditch ends in an intermittent detention basin. However, both the drainage ditch and detention basin are normally dry, except following significant rain events. Therefore, the potential for the environmental receptors identified in **Table 5** to be exposed appears to be negligible. In addition, the drainage ditch and detention basin were sampled for site contaminants in 2009 and all concentrations were below the Site cleanup levels.

Section 4
Site Status Relative to Delineation and Cleanup Standards

This section describes the delineation and cleanup standards that have been developed for the Site. An overview of the current soil and groundwater status relative to the Site delineation and cleanup standards is also provided in this section, along with plans to meet the delineation standards where exceedances currently exist for soil and groundwater.

4.1 Development of Standards

4.1.1 Site Delineation Standards

Delineation standards have been developed for groundwater and soil at the Site in accordance with Section 12-8-108(1) of the Georgia VRP Act. Three concentrations for groundwater and five concentrations for soil were considered for use as delineation standards according to subparagraphs (A) through (E) of Section 12-8-108(1), as summarized in **Table 6**. The designated delineation standards for groundwater and soil are the default, residential cleanup standards (subparagraph E) except where background concentrations (subparagraph A) are used.

4.1.2 Site Cleanup Standards

Cleanup standards have also been developed for groundwater and soil at the Site in accordance with Sections 12-8-108(5) and 12-8-108(6) of the Georgia VRP Act. Potential cleanup standards for this Site are the Hazardous Site Response Act (HSRA) Residential (Types 1 and 2) and Non-Residential (Types 3 and 4) Risk Reduction Standards (RRSs) that were previously developed under the Revised CSR/CAP Addendum and then subsequently updated. These standards were revised and re-submitted to EPD for approval on March 25, 2011, and were also used to develop the site cleanup levels under the VRP program, as the designated cleanup standards for groundwater and soil are the higher of the Types 1, 2, 3, and 4 RRS for each media. The cleanup standards were further revised in accordance with EPD's November 29, 2011 comments, and are being submitted with this Revised VRP Application (calculations provided in **Appendix E**). The groundwater RRS and VRP cleanup standards are summarized in **Table 7**, and the final Site delineation and cleanup standards for soil and groundwater are summarized in **Table 8**.

4.2 Status of Soil Relative to Standards

4.2.1 Comparison to Delineation Standards

A summary of historical soil detections of Site COCs is provided in **Table 3**. VOCs in soil have been horizontally and vertically delineated at the Site. Inorganics in soil have also been horizontally and vertically delineated with the exception of one soil sampling location in the drainage ditch, SB-17A. This location, sampled in September 1999 at a depth of 23 to 25 feet bgs, contained nickel at a concentration of 61 mg/kg which exceeded its delineation standard of 50 mg/kg.

Numerous surficial soil samples collected from the drainage ditch and detention basin from 0 to 2 feet bgs had concentrations of chromium and/or nickel above the delineation standards. However, based on

the vertical concentration profiles in other deeper borings along the drainage ditch and in the detention basin, it is evident that inorganic concentrations consistently decline with depth. **Figure 8**, a cross-section view of the drainage ditch and detention basin, illustrates that chromium and nickel are vertically delineated in the drainage ditch and detention basin with the exception of nickel in SB-17A, as previously noted.

In summary (**Table 9**), Site COCs in soil have been delineated vertically and horizontally with the exception of the following:

- Vertical delineation for nickel is lacking below sample SB-17A, which was collected below the drainage ditch at a depth of (23 to 25 feet bgs) in 1999.

4.2.2 Comparison to Cleanup Standards

As shown in **Table 2** and **Figures 8 and 9**, all soil samples collected to date meet the cleanup standards for inorganics and organics with the exception of the uppermost sample in B-4, located near the northeastern corner of the storage shed in the former waste disposal area. This sample, collected in June 2005 at a depth of 5 to 10 feet bgs, contained cis-1,2-DCE and VC at concentrations of 11 and 1.5 mg/kg, which exceeded the cleanup standards of 7 and 0.2 mg/kg, respectively. Concentrations in the underlying sample, collected at 15 to 20 feet bgs, meet the standards, as do samples from B-1, B-2, and B-10 collected 15 to 25 feet away. Current concentrations at this location are expected to have declined in the 6 years since the sample was collected.

In summary (**Table 9**), all soil samples meet the cleanup standards with the exception of:

- The 2005 sample B-4, collected at 5 to 10 feet bgs in the former waste disposal area, which exceeds the cis-1,2-DCE and VC cleanup standards.

4.3 Status of Groundwater Relative to Standards

4.3.1 Comparison to Delineation Standards

A summary of the most current groundwater concentrations of Site COCs are provided in Table 3, and a summary of historical groundwater detections is provided in **Table 4**. VOCs have been delineated in groundwater in the upper and lower water bearing zones across the Site.

Inorganics in groundwater have been delineated across the site with the exception of chromium in MW-24 and MW-11 on the north side of the Site, as indicated in EPD's February 17, 2011 groundwater delineation letter. During the most recent site-wide sampling event (March 2011), hexavalent chromium was detected in groundwater collected from MW-11 at a concentration of 0.0243 mg/L, which is above the delineation standard of 0.01 mg/L. A sample collected in January 2012 from monitoring well MW-24, located just north of MW-11, contained total and hexavalent chromium at concentrations of 0.153 and 0.125 mg/L, respectively; however, this sample was very turbid due to low water levels, and thus dissolved chromium was also measured. The dissolved concentrations were 0.122 and 0.115 mg/L for total and hexavalent chromium, respectively.

In summary (**Table 9**), Site COCs in groundwater have been delineated vertically and horizontally, with the exception of:

- Chromium (total and/or hexavalent) has not been delineated in the upper and lower water bearing zones to the north of monitoring wells MW-24 and MW-11.

4.3.2 Comparison to Cleanup Standards

Monitoring well MW-4, located in the former waste disposal area, is the only monitoring well at the Site that contains organics at concentrations exceeding cleanup standards. In March 2011, cis-1,2-DCE,

TCE, and VC were detected in groundwater from MW-4 at concentrations of 0.410 mg/L, 0.110 mg/L, and 0.0048 mg/L, which exceed the cleanup standards of 0.204, 0.038, and 0.0033 mg/L, respectively.

Monitoring wells MW-24 and MW-11, located on the north side of the site, and monitoring well MW-23 located in the former waste disposal area, contained total and/or hexavalent chromium at concentrations exceeding cleanup standards. In January 2012, well MW-24 was resampled and the groundwater contained 0.153 mg/L and 0.125 mg/L of total and hexavalent chromium, respectively, compared to the cleanup standards of 0.10 mg/L and 0,01 mg/L, respectively; however, as noted above, only a turbid sample could be obtained at that time. The March 2011 groundwater sample from well MW-11, located just southwest of MW-24, contained hexavalent chromium at a concentration of 0.0243 mg/L, which was also slightly above the cleanup level. The one time MW-23 was sampled for total chromium (in 2008), the concentration (0.33 mg/L) exceeded the cleanup level, and thus an attempt was made to resample this well in January 2012; however, the well did not contain enough groundwater to obtain a representative sample.

In summary (**Table 9**), the groundwater at the Site meets all of the cleanup standards with the exception of the following:

- Concentrations of cis-1,2-DCE, TCE, and VC exceed the cleanup standards in MW-4, which is located in the upper water bearing zone in the former waste disposal area.
- Monitoring wells MW-24 and MW-11 (on the north side of the Site) and monitoring well MW-23 (in the former waste disposal area) contain total and/or hexavalent chromium at concentrations above the cleanup standards.

4.4 Proposed Plans to Meet Delineation Standards

Soil delineation for nickel will be completed through additional sampling at SB-17A. A soil sample will be collected in this area at a depth below 25 feet bgs where the 1999 sample was obtained and analyzed for nickel, within the timeframe for vertical delineation required by the VRP.

Groundwater delineation will be completed through additional sampling. Levels of total and/or hexavalent chromium that currently exceed the delineation standards in MW-11 and MW-24 are in several cases very close to the delineation standard. These wells will be re-sampled using low-flow/low-volume sampling techniques to confirm chromium concentrations in groundwater at these locations. Based on the results of these sampling events, steps to further delineate these constituents, if necessary, will be taken within the timeframe for vertical and/or horizontal delineation required by the VRP (**Table 9** and **Figure 11**).

Section 5
Preliminary Remediation Plan

Section 5.0 provides the Preliminary Remediation Plan for soil and groundwater that has been developed for the Site.

5.1 Preliminary Remediation Plan for Soil

All soil samples collected to date meet the VRP cleanup standards for inorganics and organics with the exception of the uppermost sample in B-4, located near the northeastern corner of the storage shed in the former waste disposal area. This sample, collected in June 2005 at a depth of 5 to 10 feet bgs, contained cis-1,2-DCE and VC at concentrations of 11 and 1.5 mg/kg, which exceeded the cleanup standards of 7 and 0.2 mg/kg, respectively.

Given that concentrations were not significantly above the cleanup levels and that this sample was collected 6 years ago, another sample will be collected at this location to determine current soil concentrations. The sample will be analyzed for cis-1,2-DCE and VC and the results will be compared to the cleanup standards. If the results do not exceed the standards, remediation will not be required. If they are above the standards, then the result will be addressed through modeling, the use of area averaging, or if necessary and feasible, by excavation (**Table 9**).

5.2 Preliminary Remediation Plan for Groundwater

5.2.1 Chromium

Monitoring wells MW-24, MW-11, and MW-23 contain groundwater with concentrations of total and/or hexavalent chromium above the cleanup standards of 0.10 and 0.01 mg/L, respectively. In January 2012, groundwater from MW-24 contained total and hexavalent chromium at concentrations of 0.153 and 0,125 mg/L, although the sample was turbid. In March 2011, groundwater from MW-11 contained hexavalent chromium at a concentration of 0.0243. However, as chromium in these two wells has not yet been delineated, additional groundwater monitoring and/or other actions will be taken to complete delineation in this area prior to proposing remediation strategies.

MW-23 was only sampled for chromium once, and thus an attempt was made to re-sample this well in January 2012 to confirm the presence of total chromium. Unfortunately, there was not enough groundwater in the well to collect a non-turbid, representative sample. Therefore, this well will be re-sampled for chromium to determine current conditions, and the results will be compared to the cleanup standard. If the result is below the standard, then remediation will not be required. If the chromium concentration exceeds the cleanup standard, then this result will be addressed through fate and transport modeling and a uniform environmental covenant (UEC) restricting the use of groundwater (**Table 9**).

5.2.2 Volatile Organic Compounds

Monitoring well MW-4, located in the former waste disposal area, is the only monitoring well at the Site that contains organic COCs at concentrations exceeding cleanup standards. In March 2011, cis-1,2-DCE, TCE, and VC were detected in groundwater from MW-4 at concentrations of 0.410, 0.110, and 0.0048 mg/L, above the cleanup standards of 0.204, 0.038, and 0.0033 mg/L, respectively.

The presence of cis-1,2-DCE, TCE, and VC in MW-4 will be addressed through fate and transport modeling and a UEC to restrict the use of groundwater. Preliminary modeling has been conducted and indicates that compliance with VRP cleanup criteria at a designated Point of Exposure can be demonstrated. As previously noted, the modeling will use Biochlor®, a one-dimensional axial transport model widely recognized by the USEPA and the U.S. Geological Survey (USGS) to evaluate potential migration. The primary transport parameters used in Biochlor® are hydraulic conductivity, hydraulic gradient, effective porosity, dispersion, absorption, and biotransformation or compound-specific half-lives. In modeling for the Site, these parameters will be based on site data or by selecting reasonable ranges based on a review of the literature as described below.

As there are no drinking water wells located or planned within the downgradient vicinity of the Site, the Point of Exposure for this Site will be defined as a hypothetical point of drinking water exposure located a distance of 1,000 feet downgradient of the delineated site contamination around MW-4. The fate and transport model will be used to evaluate migration and project concentrations at an established Point of Demonstration upgradient of the hypothetical Point of Exposure. The Point of Demonstration well will be determined within the first six months of enrollment in the VRP after additional groundwater elevation and flow data can be obtained in the upper water bearing zone.

As noted above, Biochlor® has already been used to provide a preliminary understanding of the fate and transport of the VOCs remaining in groundwater at this Site and to assess whether these VOCs will pose risks at the Point of Demonstration and Point of Exposure. For preliminary purposes only, wells MW-12, MW-13, and MW-19 were used as Point of Demonstration wells. The anticipated model set-up and assumptions are summarized below.

- Biochlor® is a one-dimensional axial transport model which only has the ability to model from the time of release to a selected time into the future. As the majority of the disposal reportedly occurred between 1962 and 1973, the model simulation will be run for 45 years from the point of release. The results of the initial 45-year simulation will be matched to recent Site data. In order to evaluate whether the plume has potential to migrate to the Point of Demonstration, the model will be run for an additional 20 years, resulting in a total model simulation time of 65 years.
- Hydraulic conductivity and gradient data are available from previous work at the Site. The effective porosity for the sandy, clayey silt zone will be assumed to be 0.35.
- The primary transport parameters used in Biochlor® are dispersion, absorption, and biotransformation or compound-specific half-lives. Typically a value of 10 percent of the overall plume length is used to account for dispersion in the model. Absorption is represented in the model as a retardation value which requires estimations of bulk density, fractional carbon organic content, and the carbon partitioning coefficient (K_{oc}). Estimated and measured values of these parameters will be used in the model. Biotransformation or compound-specific half-lives are used in the model to represent the effects of biodegradation. The estimated half-lives will be based on observed concentrations over time in MW-4.

The preliminary fate and transport modeling, conducted prior to receipt of the March 2011 data, demonstrated the following relative to the July 2010 VOC concentrations in MW-4:

- Groundwater concentrations in MW-4 will continue to decrease over time.
- Site COC concentrations in the Point of Demonstration wells will not exceed the cleanup standards through the year 2027.
- Levels exceeding the VRP cleanup standards are not projected to migrate within 200 to 500 feet of the Point of Demonstration wells.
- The observed VOC concentrations will not reach the hypothetical Point of Exposure.

- In light of the extensive groundwater data from 15 years of monitoring, no further groundwater monitoring is expected to be necessary. This conclusion will be verified once the Biochlor® model has been finalized upon acceptance of the Site into the VRP.

Note that concentrations of cis-1,2-DCE, TCE, and VC decreased by 45 percent, 41 percent, and 81 percent, respectively, from July 2010 to March 2011.. Thus, the above preliminary conclusions are not expected to change as a result of the more recent data. The preliminary model will be updated to include chromium as a site COC, if needed.

In addition, a UEC would be executed to prevent the use of groundwater at the site. If J&E modeling predicts the potential for vapor intrusion in the main warehouse, and fate and transport modeling and/or sampling indicates a potential risk due to vapor intrusion, then the UEC will be modified to require additional vapor intrusion evaluations prior to construction of new buildings or future occupancy of existing currently unoccupied structures.

5.3 Projected Milestone Schedule

A Projected Milestone Schedule, showing timelines for the following items, is included on **Figure 11**:

- Preliminary cost estimate submittal
- Financial assurance demonstration
- Monthly groundwater level measurements for a period of 3 months
- Groundwater and soil delineation of Site COCs (horizontal and vertical)
- Submittal of Updated Conceptual Site Model
- Final Remediation Plan submittal
- Active remediation, if necessary
- Compliance Status Report submittals.

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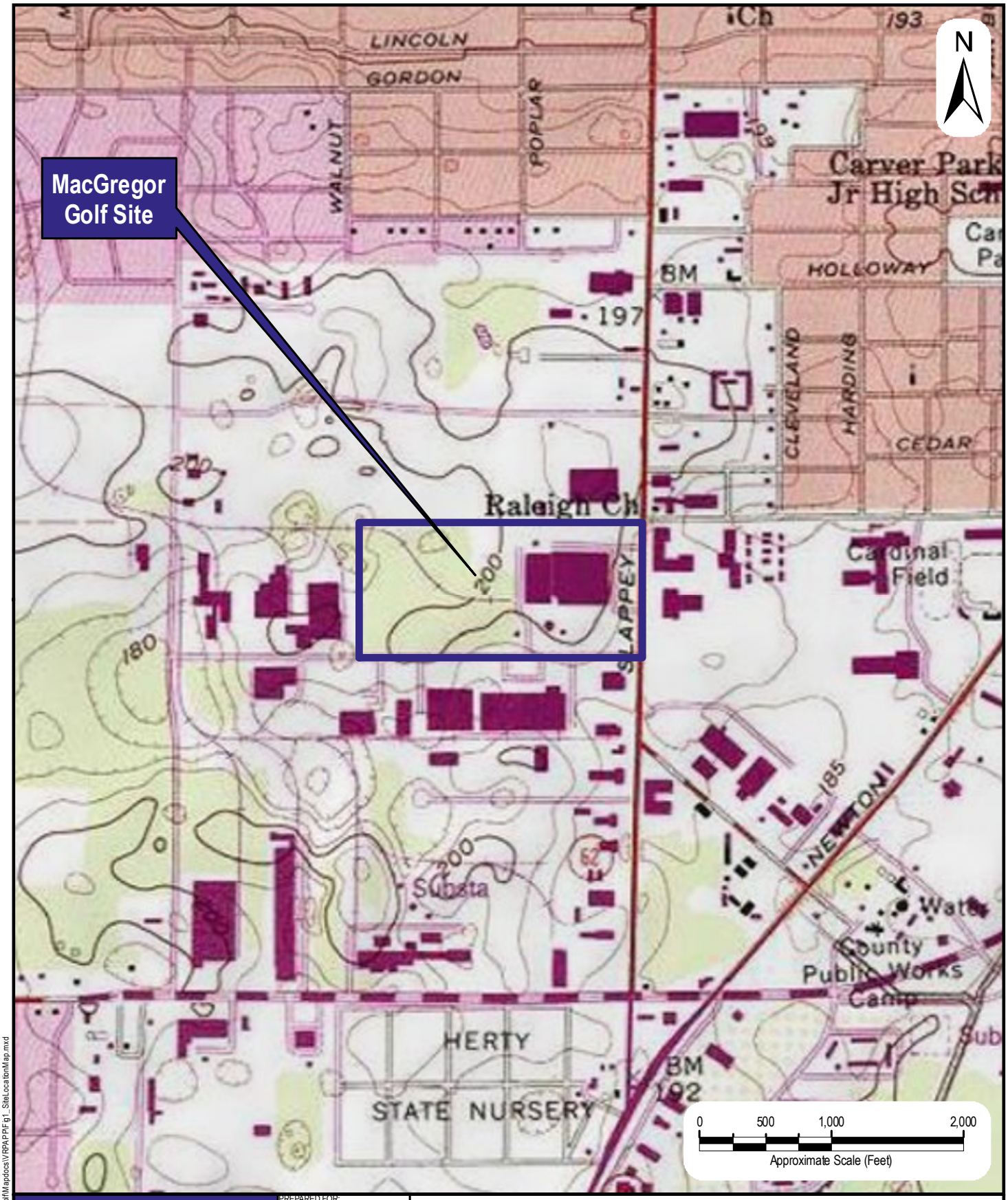

Brown AND Caldwell

PREPARED FOR:
Brunswick Corp.,
Albany Sport Co., &
Albany Partners, LLC

DATE:	03/31/2011
SCALE:	AS SHOWN
DRAWN BY:	JBM
CHECKED BY:	TCB, PCR
PROJECT #:	140849

Figure 1

Site Location Map

Former MacGregor Golf Company
1601 S Slappey Blvd, Albany, Dougherty County, Georgia

FILE PATH: R:\Projects\MacGregorGolf\Mapdocs\VRPA.PF\Fig1_SiteLocationMap.mxd

SOURCE: NATIONAL GEOGRAPHIC SEAMLESS USGS, 2010

N

Approximate Property Boundary

0 300 600
Approximate Scale (Feet)

Source: USDA FSA APFO - 2010 NAIP Natural Color Imagery for Georgia

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Figure 2

Aerial Site Map

Former MacGregor Golf Company
1601 South Slappey Blvd, Albany, Dougherty County, Georgia

Brown AND Caldwell

PREPARED FOR:
Brunswick Corp.,
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Albany Partners, LLC

DATE:	03/31/2011
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PROJECT #:	140849

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N

MW-24
MW-11
MW-6
MW-14
MW-17
Detention Basin
Drainage Ditch
MW-18
MW-22
MW-5
MW-4
MW-23
MW-21
MW-25
MW-13
South Slappey Boulevard
MW-3
MW-2
MW-9
MW-12
MW-15
Supply Well
MW-7
MW-10
MW-19
MW-8D
MW-1
MW-16
Industry Avenue
MW-20

LEGEND

- Deep Monitoring Well
- Shallow Monitoring Well
- Well Not Included in the Monitoring Program
- Approximate Property Boundaries

0 150 300 450
Approximate Scale in Feet

Figure 3

Site Map

Former MacGregor Golf Company
1601 South Slappey Blvd; Albany, Dougherty County, Georgia

Brown AND Caldwell

Prepared For: Brunswick Corp., Albany Sport Co., & Albany Partners, LLC

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N

Detention Basin

Drainage Ditch

MW-11
152.57

MW-14
148.74

MW-22
150.91

MW-18
153.23

MW-13
155.54

MW-4
156.25

MW-23
152.60

MW-3
155.95

MW-25
157.00

MW-2
156.90

MW-12
155.37

MW-10
148.36

MW-19
155.52

MW-1
152.43

South Slappey Boulevard

Industry Avenue

LEGEND

- 148.00 Groundwater Elevation (Feet NAVD88)
- Groundwater Contour (Contour Interval is 1.0 Feet NAVD88)
- Estimated Groundwater Contour
- Apparent Groundwater Flow Direction
- Deep Monitoring Well
- Shallow Monitoring Well
- Well Not Included in the Monitoring Program
- Approximate Property Boundaries

0 150 300 450
Approximate Scale in Feet

Figure 4

Potentiometric Surface Map
Upper Water Bearing Zone
January 10, 2012

Former MacGregor Golf Company,
1601 South Slappey Blvd, Albany, Dougherty County, Georgia

Brown AND Caldwell

Prepared For: Brunswick Corp., Albany Sport Co., & Albany Partners, LLC

DATE:	02/10/2012
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PROJECT #:	140849

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N

MW-24
147.79

MW-6
147.89

MW-17
147.82

147.75

Detention Basin

147.75

Drainage Ditch

148.00

MW-5
148.27

South Slappey Boulevard

148.25

MW-9
148.43

MW-15
148.29

MW-16
148.50

148.50

MW-7
148.08

148.00

148.25

148.50

Industry Avenue

LEGEND

- 148.00 Groundwater Elevation (Feet NAVD88)
- Groundwater Contour (Contour Interval is 0.25 Feet NAVD88)
- Estimated Groundwater Contour
- Apparent Groundwater Flow Direction
- Deep Monitoring Well
- Shallow Monitoring Well
- Well Not Included in the Monitoring Program
- Approximate Property Boundaries

0 150 300 450

Approximate Scale in Feet

Figure 5

Potentiometric Surface Map
Lower Water Bearing Zone
January 10, 2012

Former MacGregor Golf Company
1601 South Slappey Blvd; Albany, Dougherty County, Georgia

Brown AND Caldwell

Prepared For: Brunswick Corp., Albany Sport Co., & Albany Partners, LLC

DATE:	02/08/2012
SCALE:	AS SHOWN
DRAWN BY:	JBM
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PROJECT #:	140849

N

A

A'

COMMERCIAL WORKER, CONSTRUCTION WORKER, GROUNDSKEEPER, & TRESPASSER

DERMAL CONTACT, INGESTION, & INHALATION

VAPOR INTRUSION/ INHALATION

DETENTION BASIN

Treeline

DRIVING RANGE

PUTTING GREEN

INORGANICS IN LOWER ZONE

INORGANICS IN UPPER ZONE

INORGANICS IN SOIL

ESTIMATED EXTENT OF FORMER WASTE DISPOSAL AREA

VOCS IN UPPER ZONE

VOCS IN SOIL

VOCS IN LOWER ZONE

MAIN WAREHOUSE

METAL BLDG

SUPPLY WELL

PARKING

S. SLAPPEY BOULEVARD

INDUSTRY AVENUE

MW-2 MW-3 MW-4 MW-5 MW-6 MW-7 MW-8D MW-9 MW-10 MW-11 MW-12 MW-13 MW-14 MW-15 MW-16 MW-17 MW-18 MW-19 MW-20 MW-21 MW-22 MW-23 MW-24 MW-25

LEGEND

- Property Boundary
- Fence
- Drainage Ditch
- Deep Monitoring Well
- Shallow Monitoring Well
- Well Not Included in the Monitoring Program
- Extent of VOCs in Soil
- Extent of VOCs in Upper Water Bearing Zone
- Extent of VOCs in Lower Water Bearing Zone
- Extent of Inorganics in Soil
- Extent of Inorganics in Upper Water Bearing Zone
- Extent of Inorganics in Lower Water Bearing Zone
- Potential Exposure Pathways
- Potential Exposure Receptors

Notes:

1) MW-8 was converted to MW-8D in August 1999, and was assumed abandoned as of 2006.
2) MW-21 could not be located and was replaced with MW-25 in October 2009.

0 75 150 225 300

Approximate Scale in Feet

Figure 6

Conceptual Site Model
Plan View

Former MacGregor Golf Company
1601 South Slappey Blvd; Albany, Dougherty County, Georgia

Brown AND Caldwell

PREPARED FOR: Brunswick Corp., Albany Sport Co., & Albany Partners, LLC

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N

ESTIMATED EXTENT OF FORMER WASTE DISPOSAL AREA (SOURCE AREA)

COMMERCIAL WORKER, CONSTRUCTION WORKER, GROUNDSKEEPER, & TRESPASSER

DERMAL CONTACT, INGESTION, & INHALATION

Approximate Property Boundary

Main Warehouse

A

Drainage Ditch

Unoccupied Storage Shed

VAPOR INTRUSION/ INHALATION

A'

Approximate Property Boundary

Approximate Potentiometric Surface Upper Water-Bearing Unit

Approximate Potentiometric Surface Lower Water-Bearing Unit

LEGEND

- Property Boundary
- Approximate Water Table in Upper Water-Bearing Zone
- Approximate Water Table in Lower Water-Bearing Zone
- Potential Exposure Pathways
- Potential Exposure Receptors
- Soil
- Chert
- Semiconfining Unit / Chalky Limestone
- Limestone Bedrock
- Lower Confining Unit / Limestone
- VOC impacts
- Inorganics impacts

Drawing not to scale

Figure 7

Conceptual Site Model
Profile View

Former MacGregor Golf Company
1601 South Slappey Blvd; Albany, Dougherty County, Georgia

Brown AND Caldwell

PREPARED FOR: Brunswick Corp., Albany Sport Co., & Albany Partners, LLC

DATE:	02/07/2012
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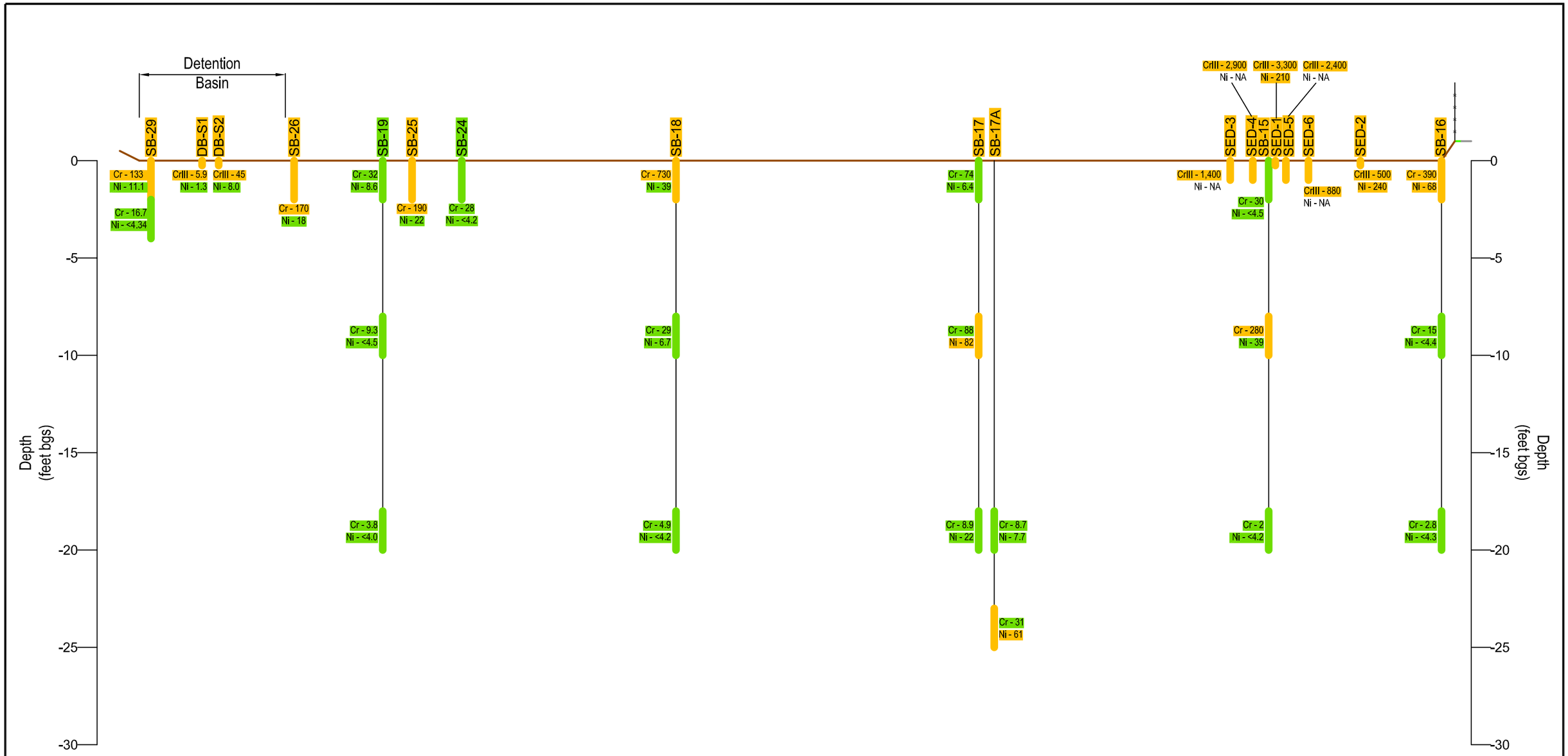

LEGEND

- Soil Boring
- Soil Sampled Interval
- Soil Sample Below Delineation Standard
- Soil Sample Above Delineation Standard, below Cleanup Standard
- Soil Sample Above Cleanup Standard

Notes:

1) All depths given as feet below ground surface (bgs). No points have surveyed elevations.
2) The delineation standard for Nickel (Ni) is 50 mg/kg; the cleanup standard for Ni is 2,665 mg/kg.
3) The delineation standard for Total Chromium (Cr) is 100 mg/kg; the cleanup standard for Cr is 1,200 mg/kg.
4) The delineation standard for Trivalent Chromium (CrIII) is 2.5 mg/kg; the cleanup standard for CrIII is 3,066,000 mg/kg.
5) All Results for Hexavalent Chromium (CrVI) and Cyanide were Below Detection Limits and Delineation Standards.

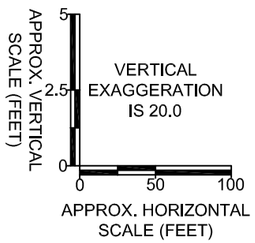

Figure 8

Drainage Ditch Cross-Section

Former MacGregor Golf Company
1601 South Slappey Blvd; Albany, Dougherty County, Georgia

Brown AND Caldwell

PREPARED FOR: Brunswick Corp., Albany Sport Co., & Albany Partners, LLC

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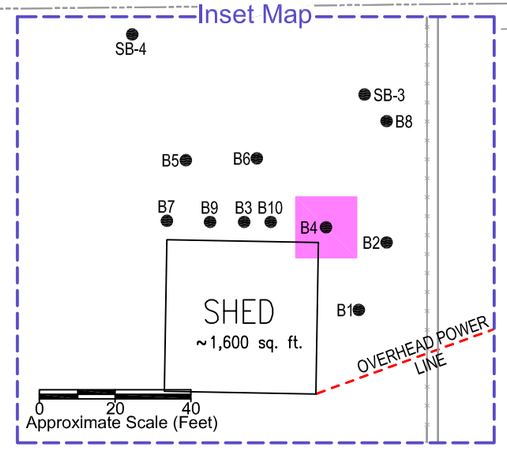
N

SB-36
SB-27
DETENTION BASIN
DB-S2
DB-S1
SB-28
SB-30
SB-20
SB-31
SB-37
SB-29
SB-26
SB-19
SB-25
SB-24
SB-18
SB-17
SB-17A
SB-11
SB-10
SB-22
SB-21
SED-3
SED-1
SED-2
SB-16
SED-4
SB-15
SED-6
SED-5
SB-6
SB-7
SB-4
SB-3
SB-8
SB-38
SB-35
DRIVING RANGE
SB-32
SB-9
SB-1
SB-2
SB-5
PUTTING GREEN
DA-10
SB-13
SB-14
SB-34
SB-39
SB-23
SB-12
SB-33
PARKING
PARKING
PARKING
MAIN WAREHOUSE
METAL BLDG
S. SLAPPEY BOULEVARD
INDUSTRY AVENUE
Treeline
Treeline
Estimated Extent of Former Waste Disposal Area
See Inset Map

B4 (5-10 Feet BGS)	
Site COC Above Cleanup Standard	**Concentration (mg/kg)**
cis-1,2-DCE	11
Vinyl Chloride	1.5

0 75 150 225 300
Approximate Scale (Feet)

Inset Map



LEGEND

- Property Boundary
- Fence
- Drainage Ditch
- Soil Boring Location
- Soil boring that exceeds cleanup standards for one or more site specific compounds of concern (COCs)

Notes:
1) The cleanup standard for cis-1,2-Dichloroethene (cis-1,2-DCE) is 7.0 mg/kg.
2) The cleanup standard for vinyl chloride (VC) is 0.2 mg/kg.

Figure 9
Soil Status Map

Former MacGregor Golf Company
1601 South Slappey Blvd; Albany, Dougherty County, Georgia

Brown AND Caldwell

PREPARED FOR: Brunswick Corp., Albany Sport Co., & Albany Partners, LLC

DATE:	02/07/2012
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N

MW-24	
COC	Concentration
Cr	0.153 mg/L
CrVI	0.125 mg/L

MW-11	
COC	Concentration
CrVI	0.0243 mg/L

MW-4	
COC	Concentration
cis-1,2-DCE	0.410 mg/L
Trichloroethene	0.110 mg/L
Vinyl Chloride	0.0048 mg/L

MW-23	
COC	Concentration
Cr	0.33 mg/L

MW-24
MW-11
MW-6
MW-14
PARKING
PARKING
MW-17
DETENTION BASIN
Treeline
MW-18
MAIN WAREHOUSE
MW-22
Estimated Extent of Former Waste Disposal Area
MW-5
SHED
MW-25
MW-21
MW-13
PARKING
S. SLAPPEY BOULEVARD
DRIVING RANGE
Treeline
MW-3
MW-9
MW-12
PUTTING GREEN
MW-2
METAL BLDG
SUPPLY WELL
MW-15
MW-7
MW-10
MW-19
MW-8D
MW-1
MW-16
INDUSTRY AVENUE
MW-20

LEGEND

- Property Boundary
- Fence
- Drainage Ditch
- Supply Well
- Shallow Monitoring Well
- Deep Monitoring Well
- Well Not Included in the Monitoring Program
- Monitoring well that exceeds cleanup standards for one or more site-specific compounds of concern (COCs)

Notes:

1) The cleanup standard for cis-1,2-Dichloroethene (cis-1,2-DCE) is 0.204 mg/L
2) The cleanup standard for Trichloroethene (TCE) is 0.038 mg/L
3) The cleanup standard for Vinyl Chloride (VC) is 0.0033 mg/L
4) The cleanup standard for Total Chromium (Cr) is 0.10 mg/L
5) The cleanup standard for Hexavalent Chromium (CrVI) is 0.01 mg/L
6) MW-8 was converted to MW-8D in August 1999, and was assumed abandoned as of 2006.
7) MW-21 could not be found in October 2009; it was replaced with MW-25.

0 75 150 225 300
Approximate Scale in Feet

Figure 10
Groundwater Status Map

Former MacGregor Golf Company
1601 South Slappey Blvd; Albany, Dougherty County, Georgia

Brown AND Caldwell

Brunswick Corp.,
Albany Sport Co., &
Albany Partners, LLC

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Figure 11. Projected Milestone Schedule
Former MacGregor Golf Company
Albany, Georgia

ID	Task Name	Projected Completion Date	Year 1				Year 2				Year 3				Year 4				Year 5			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Enrollment in VRP	--																				
2	Submittal of Preliminary Cost Estimate for Implementation of Remediation & Continuing Actions, and Financial Assurance Demonstration	Within 60 days of Enrollment																				
3	Monthly Groundwater Level Measurements	Within 3 Months of Enrollment																				
4	Horizontal Delineation of Site COCs (on accessible property)	Within 6 Months of Enrollment																				
5	Submittal of Semiannual Status Report with Updated Conceptual Site Model	Within 6 Months of Enrollment																				
6	Horizontal Delineation of Site COCs (on property previously unaccessible)	Within 12 Months of Enrollment																				
7	Submittal of Semiannual Status Report with Updated CSM	Within 12 Months of Enrollment																				
8	Vertical Delineation of Site COCs	Within 18 Months of Enrollment																				
9	Submittal of Semiannual Status Report with Updated CSM	Within 18 Months of Enrollment																				
10	Submittal of Semiannual Stataus Report with Final Remediation Plan and Updated CSM	Within 24 Months of Enrollment																				
12	Active remediation, if necessary	Within 30 Months of Enrollment																				
13	Submittal of Semiannual Status Report with Updated CSM	Within 30 Months of Enrollment																				
15	Submittal of the Compliance Status Report under the VRP with Certifications	Within 36 Months of Enrollment																				

Indicates due date indicated on VRP Application Form.

On-site Horizontal Delineation

Off-site Horizontal Delineation

Vertical Delineation, Final Remediation Plan, & Prelim. Cost Estimate

CSR Submittal to VRP with Certifications

Table 1. Well Construction Data and Groundwater Elevations - January 2012

Former MacGregor Golf Company

Albany, Georgia

Well ID	Well Completion Date	Water Bearing Unit	Northing (Feet - Georgia West State Plane NAD83)	Easting (Feet - Georgia West State Plane NAD83)	Total Depth[a] (ft)	Screened Interval[a] (ft)	Open Hole Interval[a] (ft)	Top of Casing Elevation (ft)	Static Depth to Water[a] (ft)	Groundwater Elevation (ft)
Upper Water Bearing Zone										
MW-1	6/28/1995	Upper	566051.98	2293023.36	45.88	33.5-48.5	NA	196.54	44.11	152.43
MW-2	6/28/1995	Upper	566220.01	2292765.44	40.19	25-40	NA	196.61	39.71	156.90
MW-3	6/29/1995	Upper	566348.21	2293042.11	46.33	32.50-47.50	NA	198.41	42.46	155.95
MW-4	6/29/1995	Upper	566470.82	2292611.54	46.96	28-41.50	NA	198.43	42.18	156.25
MW-10	7/15/1998	Upper	566080.73	2292221.58	48.37	33.30-48.30	NA	193.75	45.39	148.36
MW-11	7/15/1998	Upper	566921.91	2292317.31	48.30	33-48	NA	200.25	47.68	152.57
MW-12	7/16/1998	Upper	566218.48	2293315.55	45.28	35-50	NA	194.7	39.33	155.37
MW-13	10/22/1998	Upper	566566.74	2293392.86	50.38	35-50	NA	196.48	40.94	155.54
MW-14	10/20/1998	Upper	566899.03	2292756.18	49.71	34.80-49.80	NA	196.99	48.25	148.74
MW-18	6/17/1999	Upper	566533.98	2292176.82	43.70	28.8-43.8	NA	196.49	43.26	153.23
MW-19	6/17/1999	Upper	566035.83	2292750.34	44.12	29-44	NA	193.4	37.88	155.52
MW-21[b,c]	3/11/2003	Upper	NA	NA	38.61	28.61-38.61	NA	196.80	NM	NM
MW-22	3/11/2003	Upper	566540.86	2292649.02	45.69	35.4-45.4	NA	196.89	45.98	150.91
MW-23	3/11/2003	Upper	566423.91	2292556.49	48.10	37.95-47.95	NA	199.73	47.13	152.60
MW-25[c]	10/21/2009	Upper	566402.83	2292666.80	39.16	29-39	NA	195.82	38.82	157
Lower Water Bearing Zone										
MW-5	7/23/1998	Lower	566495.97	2292539.09	60.50	NA	60-73	199.89	51.62	148.27
MW-6	7/25/1998	Lower	566911.71	2292317.29	60.13	NA	60-73	200.14	52.25	147.89
MW-7	7/22/1998	Lower	566080.91	2292207.62	69.35	60-70	NA	194.22	46.14	148.08
MW-8/8D[b]	8/17/1999	Lower	NA	NA	207.50	197.3-207.3	NA	198	NM	NM
MW-9	7/20/1998	Lower	566227.03	2293312.05	69.28	NA	58.5-73.5	194.68	46.25	148.43
MW-15	10/23/1998	Lower	566153.85	2292894.90	75.38	65.70-75.70	NA	199.23	50.94	148.29
MW-16	10/21/1998	Lower	566065.57	2293320.44	75.47	64.70-74.70	NA	193.61	45.11	148.50
MW-17	6/17/1999	Lower	566871.51	2293186.97	73.81	66-76	NA	198.73	50.91	147.82
MW-20[b]	8/14/1999	Lower	NA	NA	70.00	60-70	NA	193.31	NM	NM
MW-24	2/8/2008	Lower	566975.84	2292293.48	58.75	50-60	NA	200.39	52.60	147.79
Supply Well	1958	Lower	NA	NA	168.00	NA	NA	NM	NM	NM

[a] Depth below top of casing.

[b] Wells are not gauged or sampled as part of the monitoring program.

[c] Well MW-25 replaced MW-21 in 2009.

NA - Not Applicable

NM - Not Measured

Table 2. Historical Soil Detections of Site COCs
Former MacGregor Golf Company
Albany, Georgia

Location	Sample Depth (feet)	Sampling Date	Inorganics: Concentration (mg/kg)					Organics: Concentration (mg/kg)						
			Total Chromium	Hexavalent Chromium	Trivalent Chromium	Cyanide	Nickel	1,1-Dichloroethene	cis-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride	Benzene	Ethylbenzene	Xylenes (Total)
Soil Delineation Stnd			100	2.0	2.5	20	50	0.7	7.0	0.5	0.2	0.5	70	1,000
Soil Cleanup Stnd			1,200	3.84	3,066,000	412.9	2,665	4.18	7.0	0.5	0.2	0.5	70	1,000
SB-1	0-2	7/27/98	12	NA	NA	< 0.2	2.9	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005
	0-2 D	7/27/98	5.3	NA	NA	< 0.2	2.6	< 0.005	0.015	< 0.005	NA	NA	NA	< 0.005
	28-30	7/27/98	6.7	NA	NA	< 0.2	13	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005
SB-2	0-2[a]	7/25/98	7.6	NA	NA	0.2	4	< 0.005	< 0.005	< 0.005	NA	NA	NA	0.007
	0-2[b]	7/25/98	NA	NA	NA	NA	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005
	29-31[a]	7/25/98	2.7	NA	NA	< 0.2	2.7	< 0.005	< 0.005	< 0.005	NA	NA	NA	0.005
	29-31[b]	7/25/98	NA	NA	NA	NA	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005
	34-36	7/25/98	9.4	NA	NA	0.4	14	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005
SB-3	2-4[a]	7/24/98	4.2	NA	NA	3.7	**300**	< 0.005	< 0.005	< 0.005	NA	NA	NA	0.019
	2-4[b]	7/24/98	NA	NA	NA	NA	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005
	8-10[a]	7/24/98	3.8	NA	NA	< 0.2	**620**	< 0.005	< 0.005	< 0.005	NA	NA	NA	0.017
	8-10[b]	7/24/98	NA	NA	NA	NA	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005
	34-36[a]	7/24/98	12	NA	NA	0.5	23	< 0.005	1 E	0.45 E	NA	NA	NA	0.019
	34-36[b]	7/25/98	NA	NA	NA	NA	NA	< 0.005	0.1	0.04	NA	NA	NA	< 0.005
SB-4	0-2[a]	7/25/98	**530**	NA	NA	0.2	**52**	< 0.005	< 0.005	< 0.005	NA	NA	NA	0.008
	0-2[b]	7/25/98	NA	NA	NA	NA	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA	0.0024 E
	29-31[a]	7/25/98	1.8	NA	NA	< 0.2	< 2	< 0.005	< 0.005	< 0.005	NA	NA	NA	0.01
	29-31[b]	7/25/98	NA	NA	NA	NA	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005
	34-36[a]	7/24/98	8.6	NA	NA	0.3	5.2	< 0.005	< 0.005	< 0.005	NA	NA	NA	0.008
	34-36[b]	7/24/98	NA	NA	NA	NA	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005
MW-5	3-5[a]	7/18/98	4	NA	NA	< 0.2	< 2	< 0.005	< 0.005	< 0.005	NA	NA	NA	0.02
	3-5[b]	7/18/98	NA	NA	NA	NA	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005
	8-10[a]	7/18/98	6.1	NA	NA	< 0.2	< 2	< 0.005	< 0.005	< 0.005	NA	NA	NA	0.018
	8-10[b]	7/18/98	NA	NA	NA	NA	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005
	32-34[a]	7/18/98	< 1	NA	NA	< 0.2	< 2	< 0.005	< 0.005	< 0.005	NA	NA	NA	0.012
	32-34[b]	7/18/98	NA	NA	NA	NA	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005
MW-6	13-15[a]	7/21/98	13	NA	NA	< 0.2	< 1	< 0.005	< 0.005	< 0.005	NA	NA	NA	0.023
	13-15[b]	7/21/98	NA	NA	NA	NA	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005
SB-5	0-2	10/23/98	6.8	NA	NA	NA	< 2	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005
	8-10	10/23/98	5.5	NA	NA	NA	< 2	NA	NA	NA	NA	NA	NA	NA
	34-36	10/23/98	45	NA	NA	NA	28	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005
SB-6	0-2	10/23/98	**650**	NA	NA	NA	**61**	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005
	8-10	10/23/98	7.2	NA	NA	NA	< 2	NA	NA	NA	NA	NA	NA	NA
	20-22	10/23/98	NA	NA	NA	NA	NA	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005
	34-36	10/23/98	30	NA	NA	NA	24	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.005
SB-7	0-2	6/24/99	9.9	NA	NA	< 1.1	< 4.3	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.01
	8-10	6/24/99	7.1	NA	NA	< 1.1	< 4.3	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.009
	18-20	6/24/99	2.6	NA	NA	< 1.1	< 4.4	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.0096
SB-8	0-2	6/24/99	10	NA	NA	< 1.1	< 4.3	< 0.004	< 0.004	< 0.004	NA	NA	NA	< 0.0084
	8-10	6/24/99	6.3	NA	NA	< 1.1	< 4.3	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.0092
	18-20	6/24/99	4.7	NA	NA	< 1.1	< 4.3	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.0094
SB-9	0-2	6/24/99	14	NA	NA	< 1.1	< 4.4	< 0.004	< 0.004	< 0.004	NA	NA	NA	< 0.0087
	8-10	6/24/99	10	NA	NA	< 1.1	< 4.3	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.0094
	18-20	6/24/99	2.6	NA	NA	< 1.1	< 4.3	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.009
SB-10	0-2	6/24/99	8.3	NA	NA	< 1.1	< 4.5	< 0.004	< 0.004	< 0.004	NA	NA	NA	< 0.0086
	8-10	6/24/99	7.8	NA	NA	< 1.1	< 4.4	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.009
	18-20	6/24/99	3.9	NA	NA	< 1.1	< 4.5	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.0094

Table 2. Historical Soil Detections of Site COCs

Former MacGregor Golf Company

Albany, Georgia

Location	Sample Depth (feet)	Sampling Date	Inorganics: Concentration (mg/kg)					Organics: Concentration (mg/kg)						
			Total Chromium	Hexavalent Chromium	Trivalent Chromium	Cyanide	Nickel	1,1-Dichloroethene	cis-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride	Benzene	Ethylbenzene	Xylenes (total)
Soil Delineation Stnd			100	2.0	2.5	20	50	0.7	7.0	0.5	0.2	0.5	70	1,000
Soil Cleanup Stnd			1,200	3.84	3,066,000	412.9	2,665	4.18	7.0	0.5	0.2	0.5	70	1,000
SB-11	0-2	6/24/99	8.1	NA	NA	< 1.1	4.9	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.0093
	8-10	6/24/99	12	NA	NA	< 1.1	< 4.5	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.0094
	18-20	6/24/99	8.4	NA	NA	< 1.1	< 4.5	< 0.004	< 0.004	< 0.004	NA	NA	NA	< 0.0089
SB-12	0-2	6/24/99	7.9	NA	NA	< 1.1	< 4.3	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.01
	8-10	6/24/99	6.9	NA	NA	< 1.1	< 4.6	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.0094
	18-20	6/24/99	23	NA	NA	< 1.1	< 4.4	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.0091
SB-13	0-2	6/24/99	17	NA	NA	< 1.1	6.3	< 0.004	< 0.004	< 0.004	NA	NA	NA	< 0.0089
	8-10	6/24/99	22	NA	NA	< 1.1	< 4.4	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.01
	18-20	6/24/99	5.2	NA	NA	< 1.1	< 4.4	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.0096
SB-14	0-2	6/24/99	7.8	NA	NA	< 1.1	< 8.7	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.01
	8-10	6/24/99	9.9	NA	NA	< 1.1	< 4.3	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.0093
	18-20	6/24/99	9	NA	NA	< 1.1	< 4.4	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.0092
SB-15	0-2	6/25/99	60	NA	NA	< 1.1	< 4.5	< 0.004	< 0.004	< 0.004	NA	NA	NA	< 0.0089
	8-10	6/25/99	**280**	NA	NA	< 1.3	39	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.01
	18-20	6/25/99	2	NA	NA	< 1.1	< 4.2	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.0094
SB-16	0-2	6/25/99	**390**	NA	NA	< 1.2	**68**	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.011
	8-10	6/25/99	15	NA	NA	< 1.1	< 4.4	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.0092
	18-20	6/25/99	2.8	NA	NA	< 1.1	< 4.3	< 0.005	< 0.005	< 0.005	NA	NA	NA	< 0.009
SB-17	0-2	8/5/99	74	NA	NA	NA	6.4	NA	NA	NA	NA	NA	NA	NA
	8-10	8/5/99	88	NA	NA	NA	**82**	NA	NA	NA	NA	NA	NA	NA
	18-20	8/5/99	8.9	NA	NA	NA	22	NA	NA	NA	NA	NA	NA	NA
SB-17A	18-20	9/3/99	8.7	NA	NA	NA	7.7	NA	NA	NA	NA	NA	NA	NA
	23-25	9/3/99	31	NA	NA	NA	**61**	NA	NA	NA	NA	NA	NA	NA
SB-18	0-2	8/5/99	**730**	NA	NA	NA	39	NA	NA	NA	NA	NA	NA	NA
	8-10	8/5/99	29	NA	NA	NA	6.7	NA	NA	NA	NA	NA	NA	NA
	18-20	8/5/99	4.9	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA
SB-19	0-2	8/5/99	32	NA	NA	NA	8.6	NA	NA	NA	NA	NA	NA	NA
	8-10	8/5/99	9.3	NA	NA	NA	< 4.5	NA	NA	NA	NA	NA	NA	NA
	18-20	8/5/99	3.8	NA	NA	NA	< 4	NA	NA	NA	NA	NA	NA	NA
SB-20	0-2	8/5/99	7.2	NA	NA	NA	< 8.5	NA	NA	NA	NA	NA	NA	NA
	8-10	8/5/99	11	NA	NA	NA	< 4.5	NA	NA	NA	NA	NA	NA	NA
	18-20	8/5/99	9.8	NA	NA	NA	< 4.7	NA	NA	NA	NA	NA	NA	NA
SB-21	0-2	8/5/99	5.3	NA	NA	NA	< 3.9	NA	NA	NA	NA	NA	NA	NA
	8-10	8/5/99	22	NA	NA	NA	< 4.4	NA	NA	NA	NA	NA	NA	NA
	18-20	8/5/99	12	NA	NA	NA	< 4.7	NA	NA	NA	NA	NA	NA	NA
SB-22	0-2	8/5/99	13	NA	NA	NA	< 3.9	NA	NA	NA	NA	NA	NA	NA
	8-10	8/5/99	15	NA	NA	NA	< 4.1	NA	NA	NA	NA	NA	NA	NA
	18-20	8/5/99	6.6	NA	NA	NA	< 4.1	NA	NA	NA	NA	NA	NA	NA
SB-23	0-2	8/5/99	7.5	NA	NA	NA	< 4.3	NA	NA	NA	NA	NA	NA	NA
	8-10	8/5/99	7.8	NA	NA	NA	< 4.3	NA	NA	NA	NA	NA	NA	NA
	18-20	8/5/99	9.2	NA	NA	NA	< 4.5	NA	NA	NA	NA	NA	NA	NA
SB-24	0-2	9/13/00	28	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA
SB-25	0-2	9/13/00	**190**	NA	NA	NA	22	NA	NA	NA	NA	NA	NA	NA
SB-26	0-2	9/13/00	**170**	NA	NA	NA	18	NA	NA	NA	NA	NA	NA	NA
MW-17	0-2	6/16/99	6.6	NA	NA	< 1.1	< 4.2	NA	NA	NA	NA	NA	NA	NA
	8-10	6/17/99	21	NA	NA	< 1.1	< 4.3	NA	NA	NA	NA	NA	NA	NA
	18-20	6/17/99	5.8	NA	NA	< 1.1	< 4.4	NA	NA	NA	NA	NA	NA	NA

Table 2. Historical Soil Detections of Site COCs

Former MacGregor Golf Company

Albany, Georgia

Location	Sample Depth (feet)	Sampling Date	Inorganics: Concentration (mg/kg)					Organics: Concentration (mg/kg)						
			Total Chromium	Hexavalent Chromium	Trivalent Chromium	Cyanide	Nickel	1,1-Dichloroethene	cis-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride	Benzene	Ethylbenzene	Xylenes (Total)
Soil Delineation Stnd			100	2.0	2.5	20	50	0.7	7.0	0.5	0.2	0.5	70	1,000
Soil Cleanup Stnd			1,200	3.84	3,066,000	412.9	2,665	4.18	7.0	0.5	0.2	0.5	70	1,000
MW-18	0-2	6/16/99	16	NA	NA	< 1.1	6.2	NA	NA	NA	NA	NA	NA	NA
	8-10	6/16/99	19	NA	NA	< 1.2	< 4.7	NA	NA	NA	NA	NA	NA	NA
	18-20	6/16/99	7.1	NA	NA	< 1.1	< 4.4	NA	NA	NA	NA	NA	NA	NA
MW-20	0-2	8/5/99	18	NA	NA	NA	5.4	NA	NA	NA	NA	NA	NA	NA
	8-10	8/5/99	16	NA	NA	NA	< 5.1	NA	NA	NA	NA	NA	NA	NA
	18-20	8/5/99	2.1	NA	NA	NA	< 4.2	NA	NA	NA	NA	NA	NA	NA
B-1	10-15	5/24/05	NA	NA	NA	NA	NA	< 0.0032	0.0062	< 0.0036	< 0.0071	< 0.0036	< 0.0036	< 0.0036
	20-25	5/24/05	NA	NA	NA	NA	NA	< 0.0032	< 0.0036	< 0.0036	< 0.0071	< 0.0036	< 0.0036	< 0.0036
	35-40	5/24/05	NA	NA	NA	NA	NA	< 0.0032	0.12	0.01	< 0.0071	0.0042	< 0.0036	< 0.0036
B-2	5-10	5/24/05	NA	NA	NA	NA	NA	< 0.0032	< 0.0036	< 0.0036	< 0.0071	< 0.0036	< 0.0036	< 0.0036
	25-30	5/24/05	NA	NA	NA	NA	NA	< 0.0032	0.11	< 0.0036	< 0.0071	< 0.0036	< 0.0036	< 0.0036
B-3	5-10	5/24/05	NA	NA	NA	NA	NA	< 0.0034	< 0.0034	< 0.0034	< 0.0069	< 0.0034	32	130
	15-20	5/24/05	NA	NA	NA	NA	NA	< 0.0032	0.018	< 0.0036	< 0.0071	< 0.0036	< 0.0036	< 0.0036
B-4	5-10	5/24/05	NA	NA	NA	NA	NA	0.013	**11**	< 0.0036	**1.5**	0.0098	4.00	16.6
	15-20	5/24/05	NA	NA	NA	NA	NA	0.025	0.32	0.0056	< 0.0071	< 0.0036	0.0061	0.028
	25-30	5/24/05	NA	NA	NA	NA	NA	0.025	2.1	0.014	< 0.0071	< 0.0036	0.67	3.21
B-5	15-20	5/25/05	NA	NA	NA	NA	NA	< 0.0032	< 0.0036	< 0.0036	< 0.0071	< 0.0036	< 0.0036	< 0.0036
	25-30	5/25/05	NA	NA	NA	NA	NA	< 0.0032	< 0.0036	< 0.0036	< 0.0071	< 0.0036	< 0.0036	< 0.0036
B-6	5-10	5/25/05	NA	NA	NA	NA	NA	< 0.0032	< 0.0036	< 0.0036	< 0.0071	< 0.0036	< 0.0036	< 0.0036
	25-30	5/25/05	NA	NA	NA	NA	NA	< 0.0032	< 0.0036	< 0.0036	< 0.0071	< 0.0036	< 0.0036	< 0.0036
B-7	5-10	5/25/05	NA	NA	NA	NA	NA	< 0.0032	< 0.0036	< 0.0036	< 0.0071	< 0.0036	< 0.0036	< 0.0036
	15-20	5/25/05	NA	NA	NA	NA	NA	< 0.0032	< 0.0036	< 0.0036	< 0.0071	< 0.0036	< 0.0036	< 0.0036
B-8	0-5	5/25/05	NA	NA	NA	NA	NA	< 0.0032	< 0.0036	< 0.0036	< 0.0071	< 0.0036	< 0.0036	< 0.0036
	15-20	5/25/05	NA	NA	NA	NA	NA	< 0.0032	< 0.0036	< 0.0036	< 0.0071	< 0.0036	< 0.0036	< 0.0036
B-10	5-10	5/25/05	NA	NA	NA	NA	NA	< 0.0032	< 0.0036	< 0.0036	< 0.0071	< 0.0036	< 0.0036	< 0.0036
SB-27	0-2	2/20/08	58.60	NA	NA	NA	13.10	NA	NA	NA	NA	NA	NA	NA
	2-4	2/20/08	52.90	NA	NA	NA	11.50	NA	NA	NA	NA	NA	NA	NA
SB-28	0-2	2/20/08	89.60	NA	NA	NA	15.70	NA	NA	NA	NA	NA	NA	NA
	2-4	2/20/08	49.60	NA	NA	NA	18.20	NA	NA	NA	NA	NA	NA	NA
SB-29	0-2	2/20/08	**133**	NA	NA	NA	11.10	NA	NA	NA	NA	NA	NA	NA
	2-4	2/20/08	16.70	NA	NA	NA	< 4.34	NA	NA	NA	NA	NA	NA	NA
SB-30	0-2	2/20/08	5.47	NA	NA	NA	< 5.80	NA	NA	NA	NA	NA	NA	NA
SB-31	0-2	2/20/08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8-10	2/20/08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-31	23-25	2/20/08	< 2.20	NA	NA	NA	< 4.41	NA	NA	NA	NA	NA	NA	NA
	30-32	2/20/08	5.72	NA	NA	NA	< 5.30	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.019	< 0.0095	< 0.0095
SB-32	0-2	2/20/08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8-10	2/20/08	13.00	NA	NA	NA	< 5.32	NA	NA	NA	NA	NA	NA	NA
	23-25	2/20/08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-33	0-2	2/20/08	NA	NA	NA	< 1.08	NA	NA	NA	NA	NA	NA	NA	NA
	34-36	2/20/08	6.53	NA	NA	NA	< 4.5	NA	NA	NA	NA	NA	NA	NA
	40-42	2/20/08	8.70	NA	NA	NA	< 5.73	NA	NA	NA	NA	NA	NA	NA
SB-34	34-36	2/20/08	22.50	NA	NA	NA	7.31	NA	NA	NA	NA	NA	NA	NA
SB-35	0-2	2/20/08	9.21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-36	0-2	4/8/08	8.56	NA	NA	NA	< 5.14	NA	NA	NA	NA	NA	NA	NA
SB-37	0--2	4/8/08	9.46	NA	NA	NA	< 4.41	NA	NA	NA	NA	NA	NA	NA
SB-38	0-2	4/8/08	6.39	NA	NA	NA	< 5.06	NA	NA	NA	NA	NA	NA	NA
	0-2 D	4/8/08	3.4	NA	NA	NA	< 5.06	NA	NA	NA	NA	NA	NA	NA
SB-39	34-36	4/8/08	12	NA	NA	NA	< 4.60	NA	NA	NA	NA	NA	NA	NA
DB-S1	0-1	10/20/09	5.9	< 0.37	**5.9**	NA	1.3	NA	NA	NA	NA	NA	NA	NA
DB-S2	0-1	10/20/09	45.0	< 0.75	**45.0**	NA	8.0	NA	NA	NA	NA	NA	NA	NA
	0-1 D	10/20/09	40.0	< 0.60	**40.0**	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 2. Historical Soil Detections of Site COCs
Former MacGregor Golf Company
Albany, Georgia

Location	Sample Depth (feet)	Sampling Date	Inorganics: Concentration (mg/kg)					Organics: Concentration (mg/kg)						
			Total Chromium	Hexavalent Chromium	Trivalent Chromium	Cyanide	Nickel	1,1-Dichloroethene	cis-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride	Benzene	Ethylbenzene	Xylenes (total)
Soil Delineation Stnd			100	2.0	2.5	20	50	0.7	7.0	0.5	0.2	0.5	70	1,000
Soil Cleanup Stnd			1,200	3.84	3,066,000	412.9	2,665	4.18	7.0	0.5	0.2	0.5	70	1,000
SED-1	0-3"	2000	**3300**[c]	NA	NA	NA	**210**	NA	NA	NA	NA	NA	NA	NA
SED-2	0-3"	2000	**500**[c]	NA	NA	NA	**240**	NA	NA	NA	NA	NA	NA	NA
	0-3" D	2000	**490**[c]	NA	NA	NA	**270**	NA	NA	NA	NA	NA	NA	NA
SED-3	0-1	10/20/09	**1,400**[d]	< 0.36	**1,400**	NA	NA	NA	NA	NA	NA	NA	NA	NA
SED-4	0-1	10/20/09	**2,900**[d]	< 0.42	**2,900**	NA	NA	NA	NA	NA	NA	NA	NA	NA
SED-5	0-1	10/20/09	**2,400**[d]	< 0.36	**2,400**	NA	NA	NA	NA	NA	NA	NA	NA	NA
SED-6	0-1	10/20/09	**880**	< 0.35	**880**	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA - Sample not analyzed for this parameter.

D - Duplicate sample.

J - Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.

[a] Soil from lab-contaminated Encore samplers run for 8260 VOCs.

[b] Soil from soil jars run for 8260 VOCs.

[c] The area immediately surrounding SED-1 and SED-2 was resampled in 2009. Based on the speciation of samples SED-3 through SED-6, the chromium in SED-1 and SED-2 was assumed to be in trivalent form.

[d] Based on the speciation of samples SED-3 through SED-6, the chromium is in trivalent form.

Purple and Highlight - Indicates concentration is greater than delineation criteria.

Orange and Highlight- Indicates concentration is greater than delineation and cleanup standard.

Table 3. Recent Groundwater Detections of Site COCs
Former MacGregor Golf Company
Albany, Georgia

Monitoring Well	Sampling Date	Inorganics[a]: Concentration (mg/L)			Organics[a]: Concentration (mg/L)		
		Total Chromium	Hexalent Chromium	Nickel	cis-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride
GW Delineation Standard		0.10	0.01	0.10	0.07	0.005	0.002
GW Cleanup Standard		0.10	0.01	2.04	0.204	0.038	0.0033
MW-4	3/29/2011	NA	NA	NA	**0.410**	**0.110**	**0.0048**
	1/11/2012	NA	NA	0.0725	NA	NA	NA
MW-11	3/29/2011	**0.0285**	**0.0243**	NA	NA	NA	NA
MW-12	3/28/2011	NA	NA	NA	<0.005	<0.005	<0.002
MW-13	3/29/2011	< 0.01	< 0.01	NA	<0.005	<0.005	<0.002
MW-19	3/29/2011	< 0.01	< 0.01	NA	<0.005	<0.005	<0.002
MW-22	3/31/2011	NA	NA	NA	<0.005	<0.005	<0.002
MW-23	3/29/2011	NA	NA	NA	<0.005	<0.005	<0.002
MW-24	3/30/2011	**0.12**	**0.0945**	NA	NA	NA	NA
	1/11/2012	**0.153**[b]	**0.125**[c]	NA	NA	NA	NA
MW-25	3/29/2011	NA	NA	NA	**0.0083**	<0.005	<0.002

[a] Only those analytes with at least one detection in groundwater are shown in this table. Refer to the historical groundwater results table for a complete list of site COCs.

NA - Sample not analyzed for this parameter.

Purple and Highlight - Indicates concentration is greater than delineation criteria.

Orange and Highlight- Indicates concentration is greater than delineation and cleanup standard.

Table 4. Historical Groundwater Detections of Site COCs

Former MacGregor Golf Company

Albany, Georgia

Well ID	Sampling Date	Inorganics: Concentration (mg/L)				Organics: Concentration (mg/L)						
		Total Chromium	Hexavalent Chromium	Cyanide	Nickel	1,1-Dichloroethene	cis-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride	Benzene	Ethylbenzene	Xylenes (Total)
GW Delineation Stnd		0.10	0.01	0.20	0.10	0.007	0.07	0.005	0.002	0.005	0.7	10
GW Cleanup Stnd		0.10	0.01	2.04	2.04	0.58	0.204	0.038	0.0033	0.0088	0.70	10
MW-1	6/30/95	0.05	NA	NA	NA	<0.005	<0.005	<0.005	<0.002	<0.002	<0.002	<0.005
	6/10/98	NA	NA	NA	NA	<0.005	<0.005	<0.005	<0.002	<0.002	<0.002	<0.005
	7/31/98	<0.01	NA	<0.02	<0.02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
	6/30/99	NA	NA	NA	NA	0.0017	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002
	8/6/99	NA	NA	NA	NA	<0.001	<0.001	<0.001	NA	NA	NA	NA
	3/12/03	NA	NA	NA	NA	<0.0002	<0.0004	<0.0002	<0.0001	<0.0002	<0.0003	<0.0015
MW-2	6/30/95	0.04	NA	NA	NA	<0.005	<0.005	<0.005	<0.002	<0.002	<0.002	<0.005
	6/10/98	NA	NA	NA	NA	<0.005	0.0059	<0.005	<0.002	<0.002	<0.002	<0.005
	7/31/98	<0.01	NA	<0.02	<0.02	<0.002	0.004	<0.002	<0.002	<0.002	<0.002	<0.005
MW-3	6/30/95	0.05	NA	NA	NA	<0.005	<0.005	<0.005	<0.002	<0.002	<0.002	<0.005
	6/10/98	NA	NA	NA	NA	**0.0094**	<0.005	0.005	<0.002	<0.002	<0.002	<0.005
	7/31/98	<0.01	NA	<0.02	0.03	0.007	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
	6/30/99	NA	NA	NA	NA	0.0058	0.0019	<0.001	<0.001	<0.001	<0.001	<0.002
	2/26/03	NA	NA	NA	NA	<0.0002	<0.0004	<0.0002	<0.0001	<0.0002	<0.0003	<0.0015
MW-4	6/30/95	<0.01	NA	NA	NA	<0.005	**1.560**	**0.376**	**0.065**	<0.002	<0.002	<0.005
	6/10/98	NA	NA	NA	NA	<0.005	**2.900**	**0.310**	<0.002	<0.002	<0.002	<0.005
	7/29/98	**0.33**	NA	<0.02	**0.39**	<0.002	**2.800**	**0.350**	**0.013**	<0.002	<0.002	<0.005
	6/30/99	NA	NA	NA	NA	<0.025	**3.700**	**0.460**	<0.001	<0.025	<0.025	<0.050
	2/26/03	NA	NA	NA	NA	<0.0002	**2.200**	**0.290**	**0.017**	<0.0002	<0.0003	<0.0015
	5/21/03	NA	NA	NA	NA	<0.0002	**1.300**	**0.200**	**0.0034**	<0.0002	<0.0003	<0.0015
	6/13/03	NA	NA	NA	NA	<0.0002	**2.200**	**0.190**	**0.0022**	<0.0002	<0.0003	<0.0015
	7/18/03	NA	NA	NA	NA	<0.007	**1.500**	**0.200**	**0.0068**	<0.009	<2.300	<10.000
	8/14/03	NA	NA	NA	NA	<0.00022	**1.600**	**0.200**	0.0020	<0.00019	<0.00032	<0.0015
	2/19/04	NA	NA	NA	NA	<0.007	**1.800**	**0.370**	**0.013**	<0.009	<2.300	<10.000
	3/29/04	NA	NA	NA	NA	<0.005	**1.700**	**0.130**	**0.021**	<0.005	<0.005	<0.015
	5/19/04	NA	NA	NA	NA	<0.005	**0.890**	**0.110**	**0.0087**	<0.005	<0.005	<0.015
	8/23/04	NA	NA	NA	NA	<0.005	**1.400**	**0.180**	**0.0074**	<0.005	<0.005	<0.015
	5/30/06	<0.01	NA	NA	**2.83**	<0.005	**1.100**	**0.170**	**0.0088**	<0.005	<0.005	<0.015
	10/22/09	NA	NA	NA	NA	0.00025 J	**0.400**	**0.079**	**0.015**	<0.00028	<0.00025	<0.00068
	7/28/10	NA	NA	NA	NA	<0.005	**0.690**	**0.200**	**0.025**	<0.005	<0.005	<0.015
	3/31/11	NA	NA	NA	NA	<0.005	**0.410**	**0.110**	**0.0048**	<0.005	<0.005	<0.015
	1/11/12	NA	NA	NA	0.0725	NA	NA	NA	NA	NA	NA	NA
MW-5	7/30/98	0.01	NA	<0.02	<0.02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
	6/28/99	NA	NA	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002
	8/9/99	NA	NA	NA	NA	<0.001	<0.001	<0.001	NA	NA	NA	NA
	9/3/99	NA	NA	NA	NA	<0.001	<0.001	<0.001	NA	NA	NA	NA
	3/13/03	NA	NA	NA	NA	<0.0002	0.030	<0.0002	<0.0001	<0.0002	<0.0003	<0.0015
	5/30/06	NA	NA	NA	<0.02	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.015
MW-6	7/30/98	0.01	NA	<0.02	<0.02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
	6/28/99	NA	NA	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002
	2/25/03	NA	NA	NA	NA	<0.0002	<0.0004	<0.0002	<0.0001	<0.0002	<0.0003	<0.0015

Table 4. Historical Groundwater Detections of Site COCs

Former MacGregor Golf Company

Albany, Georgia

Well ID	Sampling Date	Inorganics: Concentration (mg/L)				Organics: Concentration (mg/L)						
		Total Chromium	Hexavalent Chromium	Cyanide	Nickel	1,1-Dichloroethene	cis-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride	Benzene	Ethylbenzene	Xylenes (Total)
GW Delineation Stnd		0.10	0.01	0.20	0.10	0.007	0.07	0.005	0.002	0.005	0.7	10
GW Cleanup Stnd		0.10	0.01	2.04	2.04	0.58	0.204	0.038	0.0033	0.0088	0.70	10
MW-7	7/30/98	<0.01	NA	<0.02	<0.02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
	6/29/99	NA	NA	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002
	3/13/03	NA	NA	NA	NA	<0.0002	<0.0004	<0.0002	<0.0001	<0.0002	<0.0003	<0.0015
MW-8	7/15/98	NA	NA	NA	NA	0.007	<0.002	0.003	<0.002	<0.002	<0.002	<0.005
	7/31/98	<0.01	NA	0.03	<0.02	**0.008**	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
	6/8/99	NA	NA	NA	NA	**0.014**	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
	6/28/99	NA	NA	NA	NA	**0.016**	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.002
MW-8D	6/17/99	NA	NA	NA	NA	<0.001	<0.001	<0.001	NA	NA	NA	NA
MW-9	7/29/98	<0.01	NA	<0.02	<0.02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
	6/28/99	NA	NA	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002
	8/6/99	NA	NA	NA	NA	<0.001	<0.001	<0.001	NA	NA	NA	NA
	2/25/03	NA	NA	NA	NA	<0.0002	<0.0004	<0.0002	<0.0001	<0.0002	<0.0003	<0.0015
	2/21/08	NA	NA	NA	NA	<0.007	NA	NA	NA	NA	NA	NA
MW-10	7/29/98	0.01	NA	<0.02	<0.02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
	6/29/99	NA	NA	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002
	3/13/03	NA	NA	NA	NA	<0.0002	<0.0004	<0.0002	<0.0001	<0.0002	<0.0003	<0.0015
MW-11	7/30/98	0.04	NA	<0.02	<0.04	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
	6/28/99	NA	NA	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002
	9/13/99	**0.37**[a]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/25/03	NA	NA	NA	NA	<0.0002	<0.0004	<0.0002	<0.0001	<0.0002	<0.0003	<0.0015
	2/21/08	0.0404	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/21/09	0.025	**0.030**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/29/10	**0.193**	**0.0322**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/29/11	**0.0285**	**0.0243**	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-12	7/30/98	<0.01	NA	<0.02	<0.02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
	6/28/99	NA	NA	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002
	2/25/03	NA	NA	NA	NA	<0.0002	<0.0004	<0.0002	<0.0001	<0.0002	<0.0003	<0.0015
	7/28/10	NA	NA	NA	NA	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.015
	3/28/11	NA	NA	NA	NA	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.015
MW-13	10/26/98	NA	NA	NA	NA	<0.002	<0.002	<0.002	<0.002	**0.014**	**0.770**	4.5
	6/28/99	NA	NA	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002
	2/25/03	NA	NA	NA	NA	<0.0002	<0.0004	<0.0002	<0.0001	<0.0002	<0.0003	<0.0015
	3/20/10	<0.01	<0.01	NA	NA	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.015
	7/28/10	<0.01	<0.01	NA	NA	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.015
	3/29/11	<0.01	<0.01	NA	NA	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.015
MW-14	10/27/98	NA	NA	NA	NA	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
	6/28/99	NA	NA	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002
	2/25/03	NA	NA	NA	NA	<0.0002	<0.0004	<0.0002	<0.0001	<0.0002	<0.0003	<0.0015
MW-15	10/26/98	NA	NA	NA	NA	**0.057**	<0.002	0.004	<0.002	<0.002	<0.002	<0.005
	6/30/99	NA	NA	NA	NA	**0.340**	<0.002	**0.032**	<0.002	<0.002	<0.002	<0.004
	2/26/03	NA	NA	NA	NA	**0.066**	<0.0004	**0.008**	<0.0001	<0.0002	<0.0003	<0.0015

Table 4. Historical Groundwater Detections of Site COCs

Former MacGregor Golf Company

Albany, Georgia

Well ID	Sampling Date	Inorganics: Concentration (mg/L)				Organics: Concentration (mg/L)						
		Total Chromium	Hexavalent Chromium	Cyanide	Nickel	1,1-Dichloroethene	cis-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride	Benzene	Ethylbenzene	Xylenes (Total)
GW Delineation Stnd		0.10	0.01	0.20	0.10	0.007	0.07	0.005	0.002	0.005	0.7	10
GW Cleanup Stnd		0.10	0.01	2.04	2.04	0.58	0.204	0.038	0.0033	0.0088	0.70	10
MW-16	10/26/98	NA	NA	NA	NA	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005
	6/29/99	NA	NA	NA	NA	<0.001	<0.001	0.0017	<0.001	<0.001	<0.001	<0.002
	8/6/99	NA	NA	NA	NA	<0.001	0.0018	0.004	NA	NA	NA	NA
	9/3/99	NA	NA	NA	NA	<0.001	0.0012	<0.001	NA	NA	NA	NA
	9/13/00	NA	NA	<0.01	NA	<0.001	0.0015	0.0029	<0.001	<0.001	<0.001	<0.002
	2/25/03	NA	NA	NA	NA	<0.0002	<0.0004	<0.0002	<0.0001	<0.0002	<0.0003	<0.0015
MW-17	6/28/99	NA	NA	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002
	8/9/99	NA	NA	NA	NA	<0.001	<0.001	<0.001	NA	NA	NA	NA
	2/25/03	NA	NA	NA	NA	<0.0002	<0.0004	<0.0002	<0.0001	<0.0002	<0.0003	<0.0015
MW-18	6/26/99	NA	NA	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002
	8/9/99	NA	NA	NA	NA	<0.001	<0.001	<0.001	NA	NA	NA	NA
	9/13/99	<0.01	NA	NA	<0.04	NA	NA	NA	NA	NA	NA	NA
MW-19	6/28/99	NA	NA	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002
	8/9/99	NA	NA	NA	NA	<0.001	<0.001	<0.001	NA	NA	NA	NA
	2/26/03	NA	NA	NA	NA	<0.0002	<0.0004	<0.0002	<0.0001	<0.0002	<0.0003	<0.0015
	7/28/10	0.0117	**0.0139**	NA	NA	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.015
	3/29/11	< 0.01	< 0.01	NA	NA	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.015
MW-20	8/17/99	NA	NA	NA	NA	0.0047	<0.001	0.0016	NA	NA	NA	NA
	9/3/99	NA	NA	NA	NA	**0.0073**	<0.001	<0.001	NA	NA	NA	NA
	9/13/00	NA	NA	<0.01	NA	**0.0085**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002
	2/25/03	NA	NA	NA	NA	<0.0002	<0.0004	<0.0002	<0.0001	<0.0002	<0.0003	<0.0015
MW-21	3/13/03	NA	NA	NA	NA	<0.0002	0.030	<0.0002	<0.0001	<0.0002	<0.0003	<0.0015
MW-22	3/13/03	NA	NA	NA	NA	<0.0002	<0.0004	**0.007**	<0.0001	<0.0002	<0.0003	<0.0015
	5/30/06	NA	NA	NA	<0.02	<0.005	0.0084	**0.0090**	<0.002	<0.005	<0.005	<0.015
	10/22/09	NA	NA	NA	NA	<0.00024	0.0062	**0.0053**	<0.00029	<0.00028	<0.00025	<0.00068
	7/28/10	NA	NA	NA	NA	<0.005	0.0095	**0.0089**	<0.002	<0.005	<0.005	<0.015
	3/31/11	NA	NA	NA	NA	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.015
MW-23	3/13/03	NA	NA	NA	NA	<0.0002	0.030	<0.0002	<0.0001	<0.0002	<0.0003	<0.0015
	5/30/06	NA	NA	NA	<0.02	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.015
	2/8/08	**0.33**	NA	NA	<0.02	NA	NA	NA	NA	NA	NA	NA
	10/22/09	NA	NA	NA	NA	<0.00024	0.0012	0.00059J	<0.00029	<0.00028	<0.00025	<0.00068
	7/28/10	NA	NA	NA	NA	<0.005	0.0089	<0.005	<0.002	<0.005	<0.005	<0.015
	3/29/11	NA	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW-24	4/9/08	**0.386**	NA	NA	<0.0200	NA	NA	NA	NA	NA	NA	NA
	10/21/09	**0.11**	**0.11**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/29/10	**0.108**	**0.107**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/29/10 D	**0.109**	**0.110**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/30/11	**0.120**	**0.0945**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1/11/12	**0.153**[b]	**0.125**[c]	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-25	10/22/09	NA	NA	NA	NA	<0.00024	0.004	0.0018	<0.00029	<0.00028	<0.00025	<0.00068
	7/28/10	NA	NA	NA	NA	<0.005	0.011	**0.0055**	<0.002	<0.005	<0.005	<0.015
	3/29/11	NA	NA	NA	NA	<0.005	0.0083	<0.005	<0.002	<0.005	<0.005	<0.015

Table 4. Historical Groundwater Detections of Site COCs
Former MacGregor Golf Company
Albany, Georgia

Well ID	Sampling Date	Inorganics: Concentration (mg/L)				Organics: Concentration (mg/L)						
		Total Chromium	Hexavalent Chromium	Cyanide	Nickel	1,1-Dichloroethene	cis-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride	Benzene	Ethylbenzene	Xylenes (Total)
GW Delineation Stnd		0.10	0.01	0.20	0.10	0.007	0.07	0.005	0.002	0.005	0.7	10
GW Cleanup Stnd		0.10	0.01	2.04	2.04	0.58	0.204	0.038	0.0033	0.0088	0.70	10
Supply Well	9/22/98	NA	NA	NA	NA	0.003	<0.002	0.003	<0.002	<0.002	<0.002	<0.005
	6/15/99	NA	NA	NA	NA	0.0011	<0.001	0.0026	<0.001	<0.001	<0.001	<0.002
	3/12/03	NA	NA	NA	NA	0.006	<0.0004	<0.0002	<0.0001	<0.0002	<0.0003	<0.0015
DB-SW-1 (Surface Water)	10/20/09	0.0027J	NA	NA	<0.0022	NA	NA	NA	NA	NA	NA	NA

NA -Sample not analyzed for this parameter.

J - Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.

D - Duplicate sample.

[a] MW-11 sample was highly turbid at time of sample collection; data not representative of groundwater conditions.

[b] MW-24 samples were highly turbid at time of sample collection. Concentrations of dissolved total chromium and dissolved hexavalent chromium was 0.122 mg/L and 0.115 mg/L, respectively.

Purple and Highlight - Indicates concentration is greater than delineation criteria.

Orange and Highlight- Indicates concentration is greater than delineation and cleanup standard.

Table 5. Potential Ecological Receptors[a]
Former MacGregor Golf Company
Albany, Georgia

Animals Species - Common Name. Habitat	Plants Species - Common Name. Habitat
Haideotriton wallacei - Georgia Blind Salamander. Cave pools.	*Polygala leptostachys* - Georgia Milkwort. Oak-pine scrub.
Ameiurus serracanthus - Spotted Bullhead. Large streams and rivers with moderate current and rock-sand substrate	*Scirpus hallii* - Hall Bulrush. Pond shores in peaty sands.
Cambarus cryptodytes - Dougherty Plain Cave Crayfish. Pool areas of subterranean systems.	*Trillium reliquum* - Relict Trillium. Mesic hardwood forests; limesink forests; usually with Fagus and Tilia.
Elliptio fraterna - Brother Spike. Large to medium sized rivers.	
Geomys pinetis - Southeastern Pocket Gopher. Georgia habitat information not available.	
Heterodon simus - Southern Hognose Snake. Sandhills; fallow fields; longleaf pine-turkey oak.	

[a] Plants and animals of concern identified within the Georgia Natural Heritage Program's listing of "Known Locations of Rare and Other Special Concern Animals, Plants and Natural Communities within Georgia" organized by Topographic Quadrangle. The site is within the Albany West Southwest, Georgia Quadrangle.

Table 6. Delineation Concentrations for Site COCs

Former MacGregor Golf Company

Albany, Georgia

Chemical[a]	12-8-108(1)(A) Background Samples		12-8-108(1)(B) Notification Conc.	12-8-108(1)(C) 2 x LDL		12-8-108(1)(D) Reported Bkgrd	12-8-108(1)(E) Type 1 RRS		Final Delineation Concentration			
									Groundwater, mg/L		Soil, mg/kg	
	GW[b] mg/L	Soil[b] mg/kg	Soil[c] mg/kg	GW[d] mg/L	Soil[d] mg/kg	Soil[e] mg/kg	GW[f] mg/L	Soil[f] mg/kg	Standard	Reference	Standard	Reference
Volatile Organics												
Benzene	0.005	0.005	0.02	0.010	0.01	not listed[g]	0.005	0.5	0.005	Type 1 RRS	0.5	Type 1 RRS
1,1-Dichloroethene	0.005	0.005	0.36	0.010	0.01	not listed	0.007	0.7	0.007	Type 1 RRS	0.7	Type 1 RRS
cis-1,2-Dichloroethene	0.005	0.005	0.53	0.010	0.01	not listed	0.07	7	0.070	Type 1 RRS	7	Type 1 RRS
Ethylbenzene	0.005	0.005	20	0.010	0.01	not listed	0.7	70	0.700	Type 1 RRS	70	Type 1 RRS
Trichloroethene	0.005	0.005	0.13	0.010	0.01	not listed	0.005	0.5	0.005	Type 1 RRS	0.5	Type 1 RRS
Vinyl Chloride	0.002	0.010	0.04	0.004	0.02	not listed	0.002	0.2	0.002	Type 1 RRS	0.2	Type 1 RRS
Xylenes (total)	0.005	0.005	20	0.010	0.01	not listed	10	1,000	10	Type 1 RRS	1000	Type 1 RRS
Metals												
Chromium, Total[h]	< 0.01	21	1,200	0.02	42	100.0	0.10	100	0.10	Type 1 RRS	100	Type 1 RRS
Chromium, Trivalent	0.01	2.5	1,200	0.02	5	not listed	0.01	1	0.01	Type 1 RRS	2.5	Background Samples
Chromium, Hexavalent	0.01	2	1,200	0.02	4	not listed	0.01	1	0.01	Type 1 RRS	2	Background Samples
Cyanide[h]	< 0.02	< 1.1	10	0.04	2	not listed	0.20	20	0.20	Type 1 RRS	20	Type 1 RRS
Nickel[h]	< 0.02	5.4	420	0.04	11	24	0.10	50	0.10	Type 1 RRS	50	Type 1 RRS

[a] Standards provided for site constituents of concern (COCs).

[b] Laboratory Detection Limit (LDL) used to calculate these values is equal to the Practical Quantitation Limit (PQL) for methods SW8260B, SW6010B, SW7196, and SW9014, unless otherwise noted.

[c] Values obtained from table of Regulated Substances and Soil Concentrations that Trigger Notification, Rule 391-3-19-APPENDIX I.

[d] Value is equal to twice the LDL, where the LDL is equal to the PQL for for methods SW8260B, SW8070D, & SW6010B.

[e] Values obtained from Georgia VRP Frequently Asked Questions.

[f] Values are equal to the Residential Cleanup Standards (Type 1 RRS).

[g] "not listed" indicates a value is not listed for the constituent in the given source.

[h] Background concentrations for chromium, cyanide, lead, and nickel were provided in the 2008 CSR/CAP.

Table 7. Cleanup Standards for Site COCs[a]
Former MacGregor Golf Company
Albany, Georgia

Chemical	Groundwater RRS Standards, mg/L				Soil RRS Standards, mg/kg				Final Cleanup Standard[c] Groundwater, mg/L		Soil, mg/kg	
	Type 1	Type 2	Type 3	Type 4	Type 1	Type 2[b]	Type 3	Type 4	Standard	Reference	Standard	Reference
Volatile Organics												
Benzene	0.005	0.0055	0.005	0.0088	0.5	0.056	0.5	0.0902	0.0088	Type 4 RRS	0.5	Type 1/3 RRS
1,1-Dichloroethene	0.007	0.100	0.007	0.58	0.7	0.74	0.7	4.18	0.58	Type 4 RRS	4.18	Type 4 RRS
cis-1,2-Dichloroethene	0.07	0.03	0.07	0.204	7	0.18	7	1.2	0.204	Type 4 RRS	7	Type 1/3 RRS
Ethylbenzene	0.70	0.08	0.7	0.26	70	2.00	70	5.83	0.70	Type 1/3 RRS	70	Type 1/3 RRS
Trichloroethene	0.005	0.026	0.005	0.038	0.5	0.19	0.5	0.27	0.038	Type 4 RRS	0.5	Type 1/3 RRS
Vinyl Chloride	0.002	0.0011	0.002	0.0033	0.2	0.008	0.2	0.023	0.0033	Type 4 RRS	0.2	Type 1/3 RRS
Xylenes (total)	10.0	0.06	10.0	0.29	1,000	1.17	1000	5.75	10.0	Type 1/3 RRS	1,000	Type 1/3 RRS
Metals												
Chromium	0.1	0.10	0.1	0.10	100	38.4	1200	38.4	0.10	Type 1/3 RRS	1,200	Type 3 RRS
Chromium, Trivalent	0.01	23	0.01	153	1	117,321	1	3,066,000	153	Type 4 RRS	3,066,000	Type 4 RRS
Chromium, Hexavalent	0.01	0.0017	0.010	0.0057	1	3.84	1	3.84	0.01	Type 1/3 RRS	3.84	Type 4 RRS
Cyanide	0.20	0.31	0.20	2.04	20	63.2	20	412.9	2.04	Type 4 RRS	412.9	Type 4 RRS
Nickel	0.10	0.31	0.10	2.04	50	408	420	2,665	2.04	Type 4 RRS	2,665	Type 4 RRS

[a] These RRSs are consistent with those provided in Appendix E, which have been approved by EPD per their letter dated November 29, 2011.

[b] Type 2 RRS for soil is the lower of the calculated soil leaching screening level (protective of groundwater) and the calculated Type 2 RRS for soil.

[c] The designated cleanup standards are the higher of the Types 1, 2, 3, and 4 RRS for groundwater and soil.

Table 8. Summary of Final Delineation & Cleanup Standards
Former MacGregor Golf Company
Albany, Georgia

Chemical[a]	Delineation Standard		Cleanup Standard	
	Groundwater Standard (mg/L)	Soil Standard (mg/kg)	Groundwater Standard (mg/L)	Soil Standard (mg/kg)
Volatile Organics				
Benzene	0.005	0.5	0.0088	0.5
1,1-Dichloroethene	0.007	0.7	0.58	4.18
cis-1,2-Dichloroethene	0.07	7	0.204	7.0
Ethylbenzene	0.7	70	0.7	70
Trichloroethene	0.005	0.5	0.038	0.5
Vinyl Chloride	0.002	0.2	0.0033	0.2
Xylenes (total)	10	1000	10	1,000
Metals				
Chromium, Total	0.1	100	0.1	1,200
Chromium, Trivalent	0.01	2.5	153	3,066,000
Chromium, Hexavalent	0.01	2	0.01	3.84
Cyanide	0.20	20	2.040	412.9
Nickel	0.10	50	2.04	2,665

[a] Standards provided for site constituents of concern (COCs).

Table 9. Summary of Site Status and Proposed Plan to Complete Remediation

Former MacGregor Golf Company

Albany, Georgia

Delineation		Remediation	
Areas Requiring Additional Delineation	Proposed Plans to Complete Delineation	Areas Requiring Cleanup	Proposed Plans to Complete Remediation
Soil			
• SB-17A (23-25 ft bgs) in the drainage ditch: Nickel was not delineated vertically at this location.	• Additional soil sampling at a depth below 25 ft bgs where SB-17A was collected.	• B4 (5-10 ft bgs) in the former waste disposal area: cis-1,2-DCE and VC exceeded cleanup standards.	• Confirmatory sampling to determine current soil concentrations in the vicinity of B4. • If resampling indicates cleanup required, address through modeling, the use of area averaging, or if necessary and feasible, by excavation.
Groundwater			
• MW-24: Chromium (total and hexavalent) has not been delineated to the north of this lower water bearing zone well. • MW-11: Hexavalent chromium has not been delineated to the north of this upper water bearig zone well.	• Additional groundwater sampling at MW-24 and MW-11 using low-flow/low-volume sampling techniques to confirm chromium concentrations. • Based on data obtained, steps to further delineate these constituents, if necessary, will be taken.	• MW-4 (upper water bearing zone, in former waste disposal area): TCE, cis-1,2-DCE, and VC exceed cleanup standards. • MW-23 (lower water bearing zone, in former waste disposal area): Total chromium exceeds cleanup standard. • MW-11 and MW-24 (upper and lower water bearing zones, near northern property boundary): Total and/or hexavalent chromium exceed cleanup standards.	• Modeling to demonstrate compliance with cleanup standards for chromium and organics (TCE, cis-1,2-DCE, and VC) at the designated Point of Exposure and Point of Demonstration wells. • Additional groundwater sampling at MW-23 using low-flow/low-volume sampling techniques to confirm chromium presence and concentration. • Complete delineation of chromium in MW-24 and MW-11 prior to planning remedial strategies in that area.

Appendix A: VRP Application Form and Checklist

Voluntary Investigation and Remediation Plan Application Form and Checklist

VRP APPLICANT INFORMATION					
COMPANY NAME	Albany Partners, LLC				
CONTACT PERSON/TITLE	Eric Gold, Authorized Representative				
ADDRESS	32500 Telegraph Road, #222, Bingham Farms, MI 48025				
PHONE	(248) 203-0011	**FAX**	(249) 203- 1529	**E-MAIL**	EGold@SlavikEnterprises.com

GEORGIA CERTIFIED PROFESSIONAL GEOLOGIST OR PROFESSIONAL ENGINEER OVERSEEING CLEANUP					
NAME	Patricia C. Reifenberger			**GA PE/PG NUMBER**	P.E. 20676
COMPANY	Brown and Caldwell				
ADDRESS	990 Hammond Drive, Suite 400, Atlanta, GA 30328				
PHONE	(770) 673-3630	**FAX**	(770) 396-9495	**E-MAIL**	treifenberger@brwncald.com

APPLICANT'S CERTIFICATION

In order to be considered a qualifying property for the VRP:

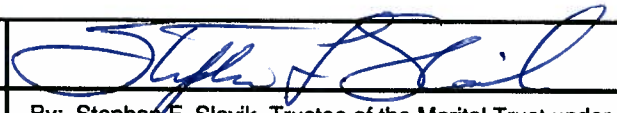
(1) The property must have a release of regulated substances into the environment;
(2) The property shall not be:
- (A) Listed on the federal National Priorities List pursuant to the federal Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. Section 9601.
- (B) Currently undergoing response activities required by an order of the regional administrator of the federal Environmental Protection Agency; or
- (C) A facility required to have a permit under Code Section 12-8-66.

(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.
(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.

In order to be considered a participant under the VRP:
- (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.
- (2) The participant must not be in violation of any order, judgment, statute, rule, or regulation subject to the enforcement authority of the director.

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.

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.

APPLICANT'S SIGNATURE	 for Albany Partners, LLC By: Slavik Enterprises, LLC; Its: Managing Member		
APPLICANT'S NAME/TITLE (PRINT)	By: Stephan F. Slavik, Trustee of the Marital Trust under the Stephan F. Slavik, Sr. Trust Agreement dated May 26, 1987, as amended	**DATE**	4/4/11

Voluntary Investigation and Remediation Plan Application Form and Checklist

VRP APPLICANT INFORMATION					
COMPANY NAME	Albany Sport Co.				
CONTACT PERSON/TITLE	Ray Berens, President				
ADDRESS	8750 W. Bryn Mawr Avenue, Chicago, IL 60631				
PHONE	(773) 714-6456	**FAX**	(773) 714-4557	**E-MAIL**	Ray.Berens@amersports.com

GEORGIA CERTIFIED PROFESSIONAL GEOLOGIST OR PROFESSIONAL ENGINEER OVERSEEING CLEANUP			
NAME	Patricia C. Reifenberger	**GA PE/PG NUMBER**	P.E. 20676
COMPANY	Brown and Caldwell		
ADDRESS	990 Hammond Drive, Suite 400, Atlanta, GA 30328		
PHONE	(770) 673-3630	**FAX**	(770) 396-9495	**E-MAIL**	treifenberger@brwncald.com

APPLICANT'S CERTIFICATION

In order to be considered a qualifying property for the VRP:

(1) The property must have a release of regulated substances into the environment;
(2) The property shall not be:
- (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.
- (B) Currently undergoing response activities required by an order of the regional administrator of the federal Environmental Protection Agency; or
- (C) A facility required to have a permit under Code Section 12-8-66.

(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.
(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.

In order to be considered a participant under the VRP:
- (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.
- (2) The participant must not be in violation of any order, judgment, statute, rule, or regulation subject to the enforcement authority of the director.

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.

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.

APPLICANT'S SIGNATURE	Raymond W. Berens for Albany Sport Co.		
APPLICANT'S NAME/TITLE (PRINT)	Ray Berens, President	**DATE**	April 4, 2011

Voluntary Investigation and Remediation Plan Application Form and Checklist

VRP APPLICANT INFORMATION					
COMPANY NAME	Brunswick Corporation				
CONTACT PERSON/TITLE	David Selig, Director - Environmental, Health and Safety				
ADDRESS	1 N. Field Court, Lake Forest, IL 60045				
PHONE	(847) 735-4436	**FAX**	(847) 735-4359	**E-MAIL**	David.Selig@brunswick.com

GEORGIA CERTIFIED PROFESSIONAL GEOLOGIST OR PROFESSIONAL ENGINEER OVERSEEING CLEANUP					
NAME	Patricia C. Reifenberger			**GA PE/PG NUMBER**	P.E. 20676
COMPANY	Brown and Caldwell				
ADDRESS	990 Hammond Drive, Suite 400, Atlanta, GA 30328				
PHONE	(770) 673-3630	**FAX**	(770) 396-9495	**E-MAIL**	treifenberger@brwncald.com

APPLICANT'S CERTIFICATION

In order to be considered a qualifying property for the VRP:

(1) The property must have a release of regulated substances into the environment;
(2) The property shall not be:
- (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.
- (B) Currently undergoing response activities required by an order of the regional administrator of the federal Environmental Protection Agency; or
- (C) A facility required to have a permit under Code Section 12-8-66.

(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.
(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.

In order to be considered a participant under the VRP:
- (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.
- (2) The participant must not be in violation of any order, judgment, statute, rule, or regulation subject to the enforcement authority of the director.

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.

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.

APPLICANT'S SIGNATURE	David Selig for Brunswick Corporation		
APPLICANT'S NAME/TITLE (PRINT)	David Selig, Director - Environmental, Health and Safety	**DATE**	3-30-2011

QUALIFYING PROPERTY INFORMATION (For additional qualifying properties, please refer to the last page of application form)			
HAZARDOUS SITE INVENTORY INFORMATION (if applicable)			
HSI Number	10398	Date HSI Site listed	9/22/95
HSI Facility Name	MacGregor Golf Company	NAICS CODE	339920
PROPERTY INFORMATION			
TAX PARCEL ID	00212/00001/019	PROPERTY SIZE (ACRES)	49.88
PROPERTY ADDRESS	1601 South Slappey Blvd.		
CITY	Albany	COUNTY	Dougherty
STATE	GA	ZIPCODE	31078
LATITUDE (decimal format)	31.557778	LONGITUDE (decimal format)	-84.178889
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)	Albany Partners, LLC	PHONE #	(248) 203-0011
MAILING ADDRESS	32500 Telegraph Road, #222		
CITY	Bingham Farms	STATE/ZIPCODE	MI 48025

ITEM #	DESCRIPTION OF REQUIREMENT	Location in VRP (i.e. pg., Table #, Figure #, etc.)	For EPD Comment Only (Leave Blank)
1.	**$5,000 APPLICATION FEE** 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.)	Submitted with original VRP Application dated April 5, 2011	
2.	**WARRANTY DEED(S)** FOR QUALIFYING PROPERTY.	Appendix B	
3.	**TAX PLAT** OR OTHER FIGURE INCLUDING QUALIFYING PROPERTY BOUNDARIES, ABUTTING PROPERTIES, AND TAX PARCEL IDENTIFICATION NUMBER(S).	Appendix C	
4.	**ONE (1) PAPER COPY AND TWO (2) COMPACT DISC (CD) COPIES** OF THE VOLUNTARY REMEDIATION PLAN IN A SEARCHABLE PORTABLE DOCUMENT FORMAT (PDF).	Attached	
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 **PROJECTED MILESTONE SCHEDULE** 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	Body of Text Figures 4 - 11 Tables 1 - 9	

	during the preceding period. A Gantt chart format is preferred for the milestone schedule. 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:		
5.a.	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;	Figure 11	
5.b.	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;	Figure 11	
5.c.	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	Figure 11	
5.d.	Within 60 months after enrollment, the participant must submit the compliance status report required under the VRP, including the requisite certifications.	Figure 11	
6.	**SIGNED AND SEALED PE/PG CERTIFICATION** AND SUPPORTING DOCUMENTATION: "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, et seq.). 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. 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. 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." Patricia C. Reifenberger, P.E. 20676 Printed Name and GA PE/PG Number Patricia Reifenberger Signature and Stamp 4/6/11 Date GEORGIA REGISTERED No. 20676 PROFESSIONAL ENGINEER PATRICIA C. REIFENBERGER	Appendix D	

Appendix B: Warranty Deed Information

02037
0337

SEE DEED BOOK 2041 PAGE 19 FOR QCD BOOK 2037 PAGE 337

SEE

FILED

99 DEC -9 PM 2:47

DOUGHERTY COUNTY, GEORGIA
Real Estate Transfer Tax
PAID $ 377.20
DATE Dec 9, 1999
Clerk of Superior Court

DOUGHERTY COUNTY
CLERK OF COURT

AFTER RECORDING RETURN TO:
E. DUNN STAPLETON
WATSON, SPENCE, LOWE AND CHAMBLESS
POST OFFICE BOX 2008
ALBANY, GEORGIA 31702-2008

QUIT CLAIM DEED

MICHIGAN, CITY OF FARMINGTON HILLS.

THIS INDENTURE, made the _____ day of _____, 1999, between STEPHAN F. SLAVIK, SR.; Stephan F. Slavik, Sr. as sole Trustee under Trust Agreement with STEPHAN F. SLAVIK, SR., dated May 26, 1987, as subsequently amended and restated on December 20, 1996 and again on October 18, 1999; SLAVIK ENTERPRISES, L.L.C., a Delaware limited liability company; THE REAL ESTATE VENTURE GROUP, INC., a Michigan corporation; J. RONALD SLAVIK; DEL J. LAURIA; Edna P. Slavik, J. Ronald Slavik and Donald H. Gillis as the duly appointed Personal Representatives under the Will of JOSEPH F. SLAVIK, deceased; Edna P. Slavik, J. Ronald Slavik and Donald H. Gillis as Co-Trustees of the Joseph F. Slavik Trust under Trust Agreement executed by JOSEPH F. SLAVIK, dated June 4, 1987, as amended; MELVIN B. ROSENHAUS, individually and as Partner of ROSENHAUS ENTERPRISES, a Michigan co-partnership; REX A. ROSENHAUS, individually and as Partner of ROSENHAUS ENTERPRISES, a Michigan co-partnership; and RICHARD N. ROSENHAUS, individually and as Partner of ROSENHAUS ENTPRISES, a Michigan co-partnership, of the State of Michigan, as party or parties of the first part, hereinafter called Grantor, and ALBANY PARTNERS, L.L.C., a Michigan limited liability company, as party or parties of the second part, hereinafter called Grantee (the words "Grantor" and "Grantee" to include their respective heirs, personal representatives, successors and assigns where the context requires or permits).

WITNESSETH THAT: Grantor, for and in consideration of the sum of One Dollar ($1.00) and other valuable considerations in hand paid at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged, has bargained, sold and does by these presents bargain, sell, remise, release and forever quit claim to the said Grantee all the right, title, interest, claim or demand which the said Grantor has or may have had in and to the following described property:

All that tract or parcel of land lying and being in the northeast corner of Land Lot 376, First Land District, Albany, Dougherty County, Georgia, and being more particularly described as follows:

To find the true point of beginning, commence at the corner common to Land Lots 361, 362, 375 and 376, First Land District, Dougherty County, which starting point is also located on the centerline of Slappey Boulevard (100' right of way); thence along the north line of Land Lot 376 a distance of 50 feet to the west right of way of Slappey Boulevard to the concrete monument being the true POINT OF BEGINNING; from this true point of beginning thus established, run thence south 01 degree 30 minutes east along the west right of way of Slappey Boulevard a distance of 974.66 feet to a concrete monument; thence south 45 degrees 57 minutes west a distance of 40.67 feet to a concrete monument on the north right of way of Industry Avenue (60' right of way); thence south 87 degrees 05 minutes west 2,137.72 feet to an iron pin on the north right of way of Industry Avenue; thence north 01 degree 50 minutes west a distance of 997.55 feet to an iron pin on the north line of Land Lot 376; thence along said lot line north 86 degrees 51 minutes east a distance of 481.80 feet to an iron pin; thence north 87 degrees 02 minutes east a distance of 1,691.82 feet to a concrete monument, being the point of beginning; said property being shown on that survey for Northern Group Limited Partnership prepared by Dubeau Surveying Company, and dated June 20, 1983, last revised July 13, 1983.

As evidenced by an affidavit executed by Stephan F. Slavik, Sr., J. Ronald Slavik and Del J. Lauria filed simultaneously with the recording hereof (the "Affidavit"), Albany Partners, a Michigan co-partnership comprised initially of Farmington Partners and Stephan F. Slavik, Sr., was subsequently converted into Grantee, a Michigan limited liability company. Albany Partners, the Michigan co-partnership, consisted of several partners, each of whom included other co-partnerships as partners, all as more specifically set out in the Affidavit. Many of the entities have now been dissolved. The undersigned Grantors constitute all of the interests of all of the various partners of Albany Partners during the transition of the ownership interest therein up to and including the conversion of the partnership into Grantee. The purpose of this deed is to convey, pursuant to applicable Georgia partnership law, all right, title and interest in the Property to Grantee.

This conveyance is subject to visible easements; to easements of record; to Deed to Secure Debt, Security Agreement and Assignment of Leases and Rents, dated February 4, 1984, recorded in Deed Book 727, Page 370, as subsequently amended and extended; and to applicable leases. This property has been listed on the state's hazardous site inventory and has been designated as needing corrective action due to the presence of hazardous wastes, hazardous constituents, or hazardous substances regulated under state law. Contact the property owner or the Georgia Environmental Protection Division for further information concerning this property. This notice is provided in compliance with the Georgia Hazardous Site Response Act.

with all rights, members and appurtenances to the said premises in anywise appertaining or belonging.

TO HAVE AND TO HOLD the said described premises unto the said Grantee, so that neither the said Grantor, nor any other person or persons claiming under the Grantor, shall at any time claim or demand any right, title or interest to the above described premises or its appurtenances.

IN WITNESS WHEREOF, the corporate Grantors have caused this instrument to be executed by their duly authorized officers and their corporate seals to be hereunto affixed on the day and year first above written, and the individual Grantors have hereunto set their hands and seals on the day and year first above written.

Stephan F. Slavik, Sr. (SEAL)
STEPHAN F. SLAVIK, SR.

Signed, sealed and delivered
in the presence of:

Sandra A. Sutton
Unofficial Witness

Sandra M. Hedgecough
Notary Public
My Commission Expires: 11-6-2000
(Affix Notary Seal Here)

Stephan F. Slavik, Sr. (SEAL)
Stephan F. Slavik, Sr. as sole Trustee under Trust Agreement with STEPHAN F. SLAVIK, SR., dated May 26, 1987, as subsequently amended and restated on December 20, 1996 and again on December 18, 1999.

Signed, sealed and delivered
in the presence of:

Sandra A. Sutton
Unofficial Witness

Sandra M. Hedgecough
Notary Public
My Commission Expires: 11-6-2000
(Affix Notary Seal Here)

SANDRA M. HEDGECOUGH
Notary Public, Oakland County, MI
My Commission Expires Nov. 6, 2000

(Signatures Continued Next Page)

(Signatures Continued)

SLAVIK ENTERPRISES, L.L.C., a Delaware limited liability company, by its two Members

(1) Stephan F. Slavik, Sr.
SFS, Sr. as Trustee of the Stephan F. Slavik Trust U/A dated May 26, 1987, as amended and restated on December 20, 1996 and on October 18, 1999, Member

(2) Slavik Enterprises Investment Company, Member

By: Stephan F. Slavik, Sr.
President

Attest: Stephan F. Slavik, Sr.
Secretary

(AFFIX CORPORATE SEAL HERE)

Signed, sealed and delivered
in the presence of:

Sandra A. Sutton
Unofficial Witness

Sandra M. Hedgecough
Notary Public
My Commission Expires: 11-6-2000
(Affix Notary Seal Here)

SANDRA M. HEDGECOUGH
Notary Public, Oakland County, MI
My Commission Expires Nov. 6, 2000

THE REAL ESTATE VENTURE GROUP, INC.
a Michigan corporation

By: _____
President

Attest: _____
Secretary

(AFFIX CORPORATE SEAL HERE)

Signed, sealed and delivered
in the presence of:

Sandra A. Sutton
Unofficial Witness

Sandra M. Hedgecough
Notary Public
My Commission Expires: 11-6-2000
(Affix Notary Seal Here)

SANDRA M. HEDGECOUGH
Notary Public, Oakland County, MI
My Commission Expires Nov. 6, 2000

(Signatures Continued Next Page)

(Signatures Continued)

See attached signature counterpart (SEAL)
J. RONALD SLAVIK

Signed, sealed and delivered
in the presence of:

_____
Unofficial Witness

_____
Notary Public
My Commission Expires: _____
(Affix Notary Seal Here)

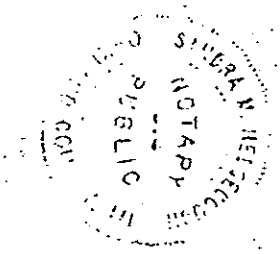
_____ (SEAL)
DEL J. LAURIA, individually and as sole Trustee under that certain Trust Agreement executed by Del J. Lauria as Settlor under dated of March 14, 1989, as subsequently amended

Signed, sealed and delivered
in the presence of:

Sandra A. Sutton
Unofficial Witness

Sandra M. Hedgecough
Notary Public
My Commission Expires: 11-6-2000
(Affix Notary Seal Here)

SANDRA M. HEDGECOUGH
Notary Public, Oakland County, MI
My Commission Expires Nov. 6, 2000



(Signatures Continued Next Page)

(Signatures Continued)

_____ (SEAL)
J. RONALD SLAVIK

Signed, sealed and delivered
in the presence of:

_____
Unofficial Witness

_____
Notary Public
My Commission Expires: 11-6-2000
(Affix Notary Seal Here)

_____ (SEAL)
DEL J. LAURIA, individually and as sole Trustee under that certain Trust Agreement executed by Del J. Lauria as Settlor under dated of March 14, 1989, as subsequently amended

Signed, sealed and delivered
in the presence of:

_____
Unofficial Witness

_____
Notary Public
My Commission Expires: _____
(Affix Notary Seal Here)

(Signatures Continued Next Page)

(Signatures Continued)

Edna P. Slavik, J. Ronald Slavik and Donald H. Gillis as the duly appointed Personal Representatives under the Will of JOSEPH F. SLAVIK, deceased

By: Edna P Slavik (SEAL)
Edna P. Slavik, Personal Representative

Signed, sealed and delivered
in the presence of:

Sandra A. Sutton
Unofficial Witness

Sandra M. McGeough
Notary Public
My Commission Expires: 11-6-2000
(Affix Notary Seal Here)

SANDRA M. MCGEOUGH
Notary Public, [illegible]
My Commission expires Nov. 6, 2000

By: See attached signature counterpart (SEAL)
J. Ronald Slavik, Personal Representative

Signed, sealed and delivered
in the presence of:

Unofficial Witness

Notary Public
My Commission Expires:
(Affix Notary Seal Here)

By: See attached signature counterpart (SEAL)
Donald H. Gillis, Personal Representative

Signed, sealed and delivered
in the presence of:

Unofficial Witness

Notary Public
My Commission Expires:
(Affix Notary Seal Here)

(Signatures Continued Next Page)

(Signatures Continued)

Edna P. Slavik, J. Ronald Slavik and Donald H. Gillis as the duly appointed Personal Representatives under the Will of JOSEPH F. SLAVIK, deceased

By:_____(SEAL)
Edna P. Slavik, Personal Representative

As & J. Ronald Slavik, Personal Rep.,
Signed, sealed and delivered
in the presence of:

Sandra A. Dutton
Unofficial Witness

Sandra M. Hedgecough
Notary Public
My Commission Expires: 11-6-2000
(Affix Notary Seal Here)

SANDRA M. HEDGECOUGH
Notary Public, Cabarrus County, NC
My Commission Expires Nov. 6, 2000

By:_____(SEAL)
J. Ronald Slavik, Personal Representative

Signed, sealed and delivered
in the presence of:

_____
Unofficial Witness

_____
Notary Public
My Commission Expires:_____
(Affix Notary Seal Here)

By:_____(SEAL)
Donald H. Gillis, Personal Representative

Signed, sealed and delivered
in the presence of:

_____
Unofficial Witness

_____
Notary Public
My Commission Expires:_____
(Affix Notary Seal Here)

(Signatures Continued Next Page)

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(Signatures Continued)

Edna P. Slavik, J. Ronald Slavik and Donald H. Gillis as the duly appointed Personal Representatives under the Will of JOSEPH F. SLAVIK, deceased

By:_____(SEAL)
Edna P. Slavik, Personal Representative

Signed, sealed and delivered
in the presence of:

_____
Unofficial Witness

_____
Notary Public
My Commission Expires:_____
(Affix Notary Seal Here)

By:_____(SEAL)
J. Ronald Slavik, Personal Representative

Signed, sealed and delivered
in the presence of:

_____
Unofficial Witness

_____
Notary Public
My Commission Expires:_____
(Affix Notary Seal Here)

By: Donald H Gillis (SEAL)
Donald H. Gillis, Personal Representative

Signed, sealed and delivered
in the presence of:

Mary E Julian
Unofficial Witness MARY E. JULIAN

Notary Public
My Commission Expires:
(Affix Notary Seal Here)

(Signatures Continued Next Page)

(Signatures Continued)

Edna P. Slavik, J. Ronald Slavik and Donald H. Gillis as Co-Trustees of the Joseph F. Slavik Trust under Trust Agreement executed by JOSEPH F. SLAVIK, dated June 4, 1987, as subsequently amended, including both the Marital Trust and the Family Trust created thereunder

By: Edna P. Slavik (SEAL)
Edna P. Slavik, Co-Trustee

Signed, sealed and delivered
in the presence of:

Sandra A. Sutton
Unofficial Witness

Sandra M. Hedgecough
Notary Public
My Commission Expires: 11-6-2000
(Affix Notary Seal Here)

SANDRA M. HEDGECOUGH
Notary Public
My Commission Expires

By: See attached signature counterpart (SEAL)
J. Ronald Slavik, Co-Trustee

Signed, sealed and delivered
in the presence of:

Unofficial Witness

Notary Public
My Commission Expires:
(Affix Notary Seal Here)

By: See attached signature counterpart (SEAL)
Donald H. Gillis, Co-Trustee

Signed, sealed and delivered
in the presence of:

Unofficial Witness

Notary Public
My Commission Expires:
(Affix Notary Seal Here)

(Signatures Continued Next Page)

(Signatures Continued)

Edna P. Slavik, J. Ronald Slavik and Donald H. Gillis as Co-Trustees of the Joseph F. Slavik Trust under Trust Agreement executed by JOSEPH F. SLAVIK, dated June 4, 1987, as subsequently amended, including both the Marital Trust and the Family Trust created thereunder

By: _____ (SEAL)
Edna P. Slavik, Co-Trustee

Signed, sealed and delivered
in the presence of:

Sandra A. Sutton
Unofficial Witness

_____
Notary Public
My Commission Expires: _____
(Affix Notary Seal Here)

By: _____ (SEAL)
J. Ronald Slavik, Co-Trustee

Signed, sealed and delivered
in the presence of:

Sandra A. Sutton
Unofficial Witness

Sandra M. Hedgcough
Notary Public
My Commission Expires: 11-6-2000
(Affix Notary Seal Here)

SANDRA M. HEDGCOUGH
Notary Public, Ottawa County, MI
My Commission Expires Nov. 6, 2000

By: _____ (SEAL)
Donald H. Gillis, Co-Trustee

Signed, sealed and delivered
in the presence of:

_____
Unofficial Witness

_____
Notary Public
My Commission Expires: _____
(Affix Notary Seal Here)

(Signatures Continued Next Page)

(Signatures Continued)

Edna P. Slavik, J. Ronald Slavik and Donald H. Gillis as Co-Trustees of the Joseph F. Slavik Trust under Trust Agreement executed by JOSEPH F. SLAVIK, dated June 4, 1987, as subsequently amended, including both the Marital Trust and the Family Trust created thereunder

By: _____ (SEAL)
Edna P. Slavik, Co-Trustee

Signed, sealed and delivered
in the presence of:

_____
Unofficial Witness

_____
Notary Public
My Commission Expires: _____
(Affix Notary Seal Here)

By: _____ (SEAL)
J. Ronald Slavik, Co-Trustee

Signed, sealed and delivered
in the presence of:

_____
Unofficial Witness

_____
Notary Public
My Commission Expires: _____
(Affix Notary Seal Here)

By: Donald H. Gillis (SEAL)
Donald H. Gillis, Co-Trustee

Signed, sealed and delivered
in the presence of:

Mary E. Fuller
Unofficial Witness Mary E. Fuller

Edward T. Fuller
Notary Public, Cook Cook County, Ill.
My Commission Expires: 6-15-2002
(Affix Notary Seal Here)

(Signatures Continued Next Page)

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(Signatures Continued)

(SEAL)
MELVIN B. ROSENHAUS, individually and as Partner of ROSENHAUS ENTERPRISES, a Michigan co-partnership

Signed, sealed and delivered in the presence of:

Unofficial Witness ELI A. SCHERR

Notary Public Tina M. Helberg
My Commission Expires: 3/15/04
(Affix Notary Seal Here)

(SEAL)
REX A. ROSENHAUS, individually and as Partner of ROSENHAUS ENTERPRISES, a Michigan co-partnership

Signed, sealed and delivered in the presence of:

Unofficial Witness ELI A. SCHERR

Notary Public Tina M. Helberg
My Commission Expires: 3/15/04
(Affix Notary Seal Here)

(SEAL)
RICHARD N. ROSENHAUS, individually and as Partner of ROSENHAUS ENTERPRISES, a Michigan co-partnership

Signed, sealed and delivered in the presence of:

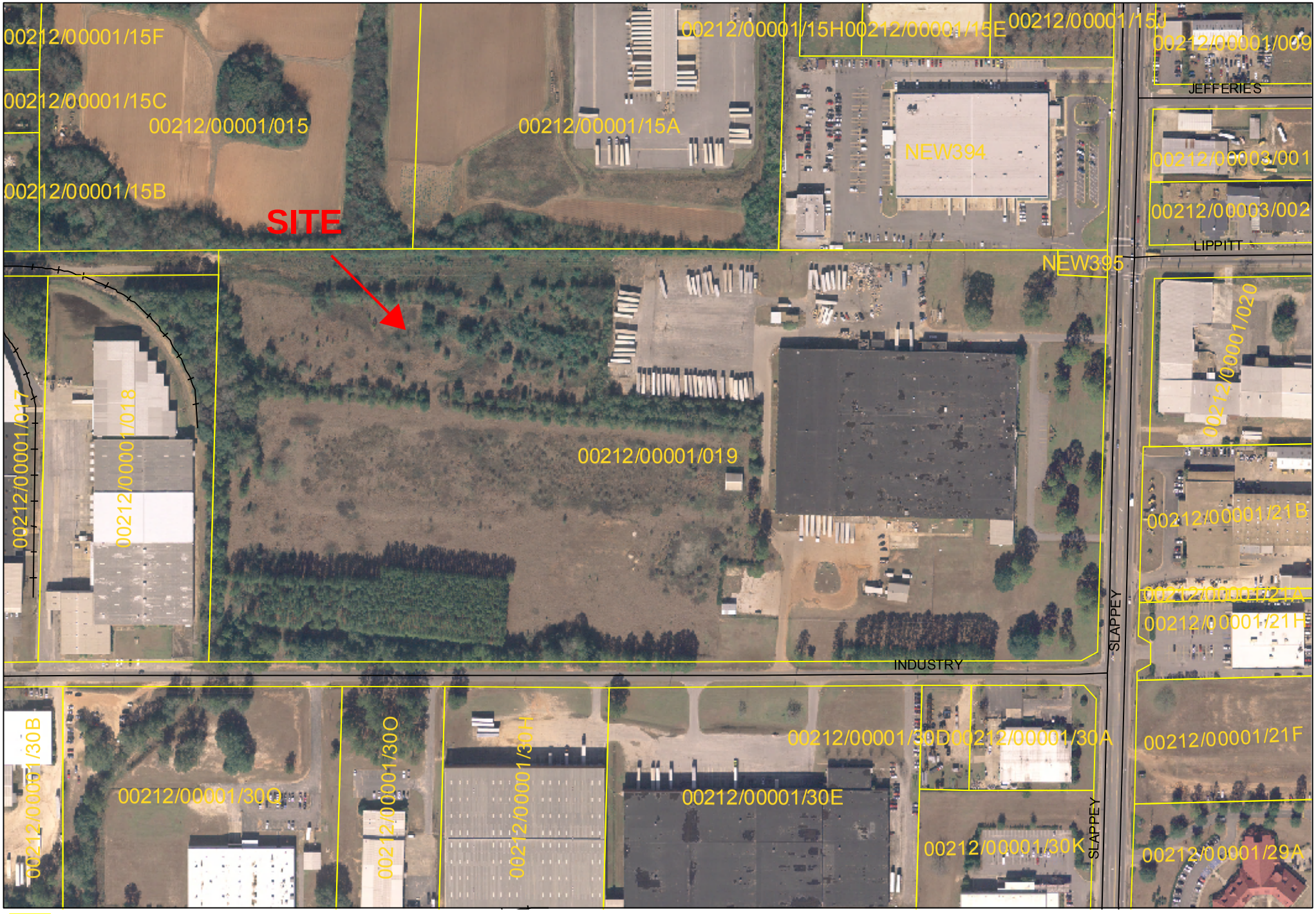
Unofficial Witness ELI A. SCHERR

Notary Public Tina M. Helberg
My Commission Expires: 3/15/04
(Affix Notary Seal Here)

G:\R-ESTATE\DEEDS\DEED-REC\1999\LBPARTN.QC2

RECORDED DATE: 12-10-99
IMANELL GAPLE, CLERK
DOUGHERTY COUNTY, GEORGIA

Appendix C: Tax Parcel Map



Parcels for Photos

Roads

0 200 400 Feet

N W E S

00212/00001/019

Albany Planning & Development Services

Serving the Citizens of Albany & Dougherty County.

March 2011

Mapped by: Dustin Minchew

Disclaimer: Albany GIS makes every effort to produce the most accurate information possible. No warrenties, expressed or implied, are provided for the data herein, its use or interpretation. All data is subject to change.

Appendix D: Summary of PE Hours Invoiced

Monthly Summary of Hours Invoiced by Professional Engineer (PE)
Former MacGregor Golf Company
Albany, Georgia

Certified PE	Month	Hours Invoiced	Description of Services
Trish Reifenberger, PE Georgia PE No. 20676	March 2011	19.00	*Oversight during preparation of Voluntary Remediation Plan (VRP) Application and initial remediation plan *Review of all documents submitted to EPD
	April 2011	2.00	
	May 2011	0.75	*Monitored regulatory and financial status of project *VRP Application under review by EPD
	June 2011	0.25	*Monitored regulatory and financial status of project *VRP Application under review by EPD
	July 2011	0.00	*Monitored regulatory and financial status of project *VRP Application under review by EPD
	August 2011	0.00	*Monitored regulatory and financial status of project *VRP Application under review by EPD
	September 2011	0.50	*Monitored regulatory and financial status of project *VRP Application under review by EPD
	October 2011	1.00	*Monitored regulatory and financial status of project *VRP Application under review by EPD
	November 2011	0.75	*Monitored regulatory and financial status of project *VRP Application under review by EPD
	December 2011	8.00	*Review of EPD's November 29, 2011 comment letter *Conference call with clients to discuss comments
	January 2012	3.50	* Monitored regulatory and financial status of project * Conference call with clients to discuss revisions to VRP Application
	February 2012	8.50	*Review of Revised VRP Application and Response to EPD Comment Letter * Conference call with clients to discuss Final Revised VRP Application
Total Hours Invoiced to date:		44.25	

Appendix E: Site Cleanup Standard Calculations

Table E1. Exposure Factors Used in Risk Reduction Standard Equations

Former MacGregor Golf Company

Albany, Georgia

Exposure Factor	Receptors					
	Residential				Industrial/ Commerical	
	Adult		Child		Adult	
Target Excess Cancer Risk, TR (unitless)	1.0E-05	a	1.0E-05	a	1.0E-05	a
Target Hazard Index, THI (unitless)	1	a,b	1	a	1	a,b
Daily Water Ingestion Rate, IR_w (L/day)	2	a,b	1	c	1	a,b
Daily Indoor Inhalation Rate, IR_a (m^3/day)	15	a,b	15	a,b	20	a,b
Exposure Frequency, EF (days/year)	350	a,b	350	a	250	a,b
Exposure Duration, ED (years)	30	a,b	6	b,c	25	a,b
Body Weight, BW (kg)	70	a,b	15	b,c	70	a,b
Average Time, Carcinogenic, AT_c (years)	70	a,b	70	a,c	70	a,b
Average Time - Noncarcinogenic, AT_{nc} (years)	30	a,b	6	b,c	25	a,b
Daily Soil Ingestion Rate, IR_{soil} (mg/day)	114	a,b	200	b,c	50	a,b

Sources of Data:

a Georgia Chapter 391-3-19, Hazardous Site Response, Appendix III, Table 3.

b USEPA Risk Assessment Guidane for Superfund (RAGS) Volume I Part B, 1991.

c Georgia HSRA exposure parameters via Shannon Lund, EPD Risk Group, personal communication.

Table E2. Chemical-Specific Parameters[a] Used in Risk Reduction Standard Equations

Former MacGregor Golf Company

Albany, Georgia

Chemical	Oral Cancer Slope Factor SF_o 1/(mg/kg/day)	Oral Reference Dose RfD_o (mg/kg/day)	Inhalation Cancer Slope Factor SF_i 1/(mg/kg/day)	Inhalation Reference Dose RfD_i (mg/kg/day)	Molecular Diffusivity In Air D_i (cm^2/s)	Henry's Law Constant H (atm-m^3/mol)	Henry's Law Constant H' (unitless)	Soil-Water Partition Coefficient K_d (cm^3/g)	Organic Carbon Partition Coefficient K_{oc} (cm^3/g)	Water Solubility S (mg/L-water)
Benzene	5.5E-02 b	4.0E-03 b	2.7E-02 b	8.6E-03 b	8.95E-02 b	5.55E-03 b	2.27E-01 b	--------	1.46E+02 b	1.79E+03 b
1,1-Dichloroethene	-------	5.0E-02 b	-------	5.7E-02 b	8.63E-02 b	2.61E-02 b	1.07E+00 b	--------	3.18E+01 b	2.42E+03 b
cis-1,2-Dichloroethene	-------	2.0E-03 b	-------	-------	8.84E-02 b	4.08E-03 b	1.67E-01 b	--------	3.96E+01 b	6.41E+03 b
Ethylbenzene	1.1E-02 b	1.0E-01 b	8.8E-03 b	2.9E-01 b	6.85E-02 b	7.88E-03 b	3.22E-01 b	--------	4.46E+02 b	1.69E+02 b
Trichloroethene	5.9E-03 b	-------	7.0E-03 b	-------	6.87E-02 b	9.85E-03 b	4.03E-01 b	--------	6.07E+01 b	1.28E+03 b
Vinyl Chloride	7.2E-01 b	3.0E-03 b	1.5E-02 b	2.9E-02 b	1.07E-01 b	2.78E-02 b	1.14E+00 b	--------	2.17E+01 b	8.80E+03 b
Xylenes, Total	-------	2.0E-01 b	-------	2.9E-02 b	8.47E-02 b	5.18E-03 b	2.12E-01 b	--------	3.83E+02 b	1.06E+02 b
Chromium, Trivalent	-------	1.5E+00 b	-------	-------	------- e	0 e	0 e	1.8E+06 c,d	---------	0.00E+00 b
Chromium, Total	-------	-------	-------	-------	------- e	0 e	0 e	1.9E+01 c,d	---------	0.00E+00 b
Chromium, Hexavalent	5.0E-01 b	3.0E-03 b	2.9E+02 b	2.9E-05 b	------- e	0 e	0 e	1.9E+01 c,d	---------	1.69E+06 b
Nickel	-------	2.0E-02 b	9.1E-01 b	2.6E-05 b	------- e	0 e	0 e	6.5E+01 c,d	---------	0.00E+00 b
Cyanide, Total	-------	2.0E-02 b	-------	-------	--------- e	0 e	0 e	9.9E+00 c	---------	---------

Sources of Data:

a Parameters are from the following sources in order of usage:

Regional Screening Levels (RSL) for Chemical Contaminants at Superfund Sites (November 2010)

USEPA Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites

USEPA Superfund Chemical Data Matrix (SCDM)

b RSLs for Chemical Contaminants at Superfund Sites, http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm; Cr(VI) RfD_i and RfC_i for chromium mists;

SF_i (kg-day/mg) = URF (m^3/ug) x 70 kg x 1000 ug/mg/ (20 m^3) RfD_i (mg/kg-day) = RfC (mg/m^3) x 20 m^3/70 kg

c USEPA Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites, http://www.epa.gov/superfund/health/conmedia/soil/index.htm. Attachment C, Table C-4.

d A pH of 6.8 was assumed for Kd values for metals

e Not valid since these chemicals are not volatile in these forms.

Table E3. Type 2 Risk Reduction Standards for Soil (Residential)[a]

Former MacGregor Golf Company

Albany, Georgia

Type 2 Cancer Risk Reduction Standard for Soil (mg/kg; risk-based) = $\frac{TR \times BW \times AT_c \times 365\ days/year}{EF \times ED\ [(SF_o \times 10^{-6}\ kg/mg \times IR_{soil}) + (SF_i \times IR_a \times [1/VF + 1/PEF])]}$

Type 2 Noncancer Risk Reduction Standard for Soil (mg/kg; risk-based) = $\frac{THI \times BW \times AT_{nc} \times 365\ days/year}{ED \times EF \times [((1/RfD_o) \times 10^{-6}\ kg/mg \times IR_{soil}) + ((1/RfD_i) \times IR_a \times (1/VF + 1/PEF))]}$

TR = Target Excess Cancer Risk (unitless) =	1.0E-05	AT_c = Average Time - Carcinogenic (years) =	70
THI = Target Hazard Index (unitless) =	1	AT_{nc} = Average Time - Noncarcinogenic, Child (years) =	6
IR_{soil} = Daily Soil Ingestion Rate, Adult (mg/day) =	114	AT_{nc} = Average Time - Noncarcinogenic, Adult (years) =	30
IR_{soil} = Daily Soil Ingestion Rate, Child (mg/day) =	200	VF = Soil to Air Volatilization Factor (m^3/kg) =	Chemical Specific
IR_a = Daily Indoor Inhalation Rate (m^3/day) =	15	SF_o = Oral Cancer Slope Factor (mg/kg/day) =	Chemical Specific
EF = Exposure Frequency (days/year) =	350	SF_i = Inhalation Cancer Slope Factor (mg/kg/day) =	Chemical Specific
ED = Exposure Duration, Child (years) =	6	RfD_o = Oral Chronic Reference Dose (mg/kg/day) =	Chemical Specific
ED = Exposure Duration, Adult (years) =	30	RfD_i = Inhalation Chronic Reference Dose (mg/kg/day) =	Chemical Specific
BW = Body Weight, Child (kg) =	15	PEF = Particulate emission factor (m^3/kg) =	4.63E+04
BW = Body Weight, Adult (kg) =	70		

Chemical	SF_o Oral Cancer Slope Factor 1/(mg/kg/day)	RfD_o Oral Reference Dose (mg/kg/day)	Sf_i Inhalation Cancer Slope Factor 1/(mg/kg/day)	RfD_i Inhalation Reference Dose (mg/kg/day)	VF Soil to Air Volatilization Factor (m^3/kg)	Type 2 Child Carcinogenic RRS for Soil[b] (mg/kg)	Type 2 Child Noncarcinogenic RRS for Soil[b] (mg/kg)	Type 2 Adult Carcinogenic RRS for Soil[b] (mg/kg)	Type 2 Adult Noncarcinogenic RRS for Soil[b] (mg/kg)	Type 2 RRS for Soils (mg/kg)
Benzene	5.5E-02	4.0E-03	2.7E-02	8.6E-03	4.53E+03	18	36	18	177	18
1,1-Dichloroethene	-------	5.0E-02	-------	5.7E-02	864	-------	51	-------	238	51
cis-1,2-Dichloroethene	-------	2.0E-03	-------	-------	2.73E+03	-------	156	-------	1281	156
Ethylbenzene	1.1E-02	1.0E-01	8.8E-03	2.9E-01	7.63E+03	830	1782	1358	9217	830
Trichloroethene	5.9E-03	-------	7.0E-03	-------	2.44E+03	41	-------	39	-------	39
Vinyl Chloride	7.2E-01	3.0E-03	1.5E-02	2.9E-02	5.81E+02	3.44	16	3.63	79	3.44
Xylenes, Total	-------	2.0E-01	-------	2.9E-02	7.85E+03	-------	234	-------	1098	234
Chromium, Trivalent	-------	1.5E+00	-------	-------	--------	-------	117321	-------	960526	117321
Chromium, Total[c]	-------	-------	-------	-------	--------	-------	-------	-------	-------	100
Chromium, Hexavalent	5.0E-01	3.0E-03	2.9E+02	2.9E-05	--------	-------	235	-------	1921	235
Nickel	-------	2.0E-02	9.1E-01	2.6E-05	--------	-------	1564	-------	12807	1564
Cyanide, Total	-------	2.0E-02	-------	-------	--------	-------	1564	-------	12807	1564

[a] Equations for Type 2 Residential Risk Reduction Standards for Soil were obtained from US EPA Risk Assessment Guidance for Superfund (RAGS), Volume I (Part B), Equations 6 and 7 using a residential scenario.

[b] Per Georgia Rule 391-3-19, where values for only one of the two variable in a variable pair (RfD_o/RdD_i or Sf_o/SF_i) was not available for a particular chemical, the term containing that variable in an equation was ignored or equated to zero. If neither value was available for a variable pair, a concentration could not be calcuated with the equation. Where VF was not available, the term 1/VF was ignored in the equation.

[c] The EPD Regional Screening Levels (RSL) Table does not have toxicity data for total chromium. Therefore, the Type 4 RRS default to the Type 1 RRS per EPD's letter dated November 29, 2011.

Table E4. Type 4 Risk Reduction Standards for Soil (Industrial/Commercial)[a]

Former MacGregor Golf Company

Albany, Georgia

Type 4 Cancer Risk Reduction Standard for Soil (mg/kg; risk-based) =

$$\frac{TR \times BW \times AT_c \times 365\ days/yr}{EF \times ED\ [(SF_o \times 10^{-6}\ kg/mg \times IR_{soil}) + (SF_i \times IR_a \times [1/VF + 1/PEF])]}$$

Type 4 Noncancer Risk Reduction Standard for Soil (mg/kg; risk-based) =

$$\frac{THI \times BW \times AT_{nc} \times 365\ days/yr}{ED \times EF \times [((1/RfD_o) \times 10^{-6}\ kg/mg \times IR_{soil}) + ((1/RfD_i) \times IR_a \times (1/VF + 1/PEF))]}$$

TR = Target Excess Cancer Risk (unitless) =	1.0E-05	AT_c = Average Time - Carcinogenic (years) =	70
THI = Target Hazard Index (unitless) =	1	AT_{nc} = Average Time - Noncarcinogenic (years) =	25
IR_{soil} = Daily Soil Ingestion Rate (mg/day) =	50	VF = Soil to Air Volatilization Factor (m^3/kg) =	Chemical Specific
IR_a = Daily Indoor Inhalation Rate (m^3/day) =	20	SF_o = Oral Cancer Slope Factor (mg/kg/day) =	Chemical Specific
EF = Exposure Frequency (days/year) =	250	SF_i = Inhalation Cancer Slope Factor (mg/kg/day) =	Chemical Specific
ED = Exposure Duration (years) =	25	RfD_o = Oral Chronic Reference Dose (mg/kg/day) =	Chemical Specific
BW = Body Weight (kg) =	70	RfD_i = Inhalation Chronic Reference Dose (mg/kg/day) =	Chemical Specific
		PEF = Particulate emission factor (m^3/kg) =	4.63E+09

Chemical	SF_o Oral Cancer Slope Factor 1/(mg/kg/day)	RfD_o Oral Reference Dose (mg/kg/day)	Sf_i Inhalation Cancer Slope Factor 1/(mg/kg/day)	RfD_i Inhalation Reference Dose (mg/kg/day)	VF Soil to Air Volatilization Factor[b] (m^3/kg)	Type 4 Carcinogenic Risk Reduction Standard for Soil[c] (mg/kg)	Type 4 Noncarcinogenic Risk Reduction Standard for Soil[c] (mg/kg)	Type 4 RRS Soil (mg/kg)
Benzene	5.5E-02	4.0E-03	2.7E-02	8.6E-03	4.53E+03	23	194	23
1,1-Dichloroethene	-------	5.0E-02	-------	5.7E-02	8.64E+02	---------	251	251
cis-1,2-Dichloroethene	-------	2.0E-03	-------	-------	2.73E+03	---------	4088	4088
Ethylbenzene	1.1E-02	1.0E-01	8.8E-03	2.9E-01	7.63E+03	5203	10713	5203
Trichloroethene	5.9E-03	-------	7.0E-03	-------	2.44E+03	50	---------	50
Vinyl Chloride	7.2E-01	3.0E-03	1.5E-02	2.9E-02	5.81E+02	5.18	85	5.18
Xylenes, Total	-------	2.0E-01	-------	2.9E-02	7.85E+03	---------	1160	1160
Chromium, Trivalent	-------	1.5E+00	-------	-------	---------	---------	3066000	3066000
Chromium, Total[d]	-------	-------	-------	-------	---------	---------	---------	100
Chromium, Hexavalent	5.0E-01	3.0E-03	2.9E+02	2.9E-05	---------	---------	6132	6132
Nickel	-------	2.0E-02	9.1E-01	2.6E-05	---------	---------	40880	40880
Cyanide, Total	-------	2.0E-02	-------	-------	---------	---------	40880	40880

[a] Equations for Type 4 Industrial/Commercial Risk Reduction Standards for Soil were obtained from US EPA Risk Assessment Guidance for Superfund (RAGS), Volume I (Part B), Equations 6 and 7.

[b] Calculations of volatilization factors and soil saturation concentrations are provided in Table 15.

[c] Per Georgia Rule 391-3-19, where values for only one of the two variable in a variable pair (RfD_o/RdD_i or Sf_o/SF_i) was not available for a particular chemical, the term containing that variable in an equation was ignored or equated to zero.

[d] The EPD Regional Screening Levels (RSL) Table does not have toxicity data for total chromium. Therefore, the Type 4 RRS default to the Type 1 RRS per EPD's letter dated November 29, 2011.

Table E5. Volatilization Factor[a]

Former MacGregor Golf Company

Albany, Georgia

Derivation of VF values (Soil-to-Air Volatilization Factor) = $\frac{((LS) \times V \times (DH))}{A} \times \frac{(\pi \times \alpha \times T)^{1/2}}{(2 \times D_{ei} \times E \times K_{as} \times 10^{-3}\ kg/g)}$

Where $\alpha\ (cm^2/s) = \frac{(D_{ei} \times E)}{E + (\rho_s)(1-E)/K_{as}}$

D_i = Molecular diffusivity in air (cm^2/s) = Chemical Specific

H' = Dimensionless Henry's Law constant = Chemical Specific

H = Henry's Law Constant (atm-m^3/mol) = Chemical Specific

K_{as} = Soil-air partition coefficient (kg soil / L air) = $(H/K_d) \times 41$

K_d = Soil-water partition coefficient (cm^3/g) = Metals: Chemical Specific; Organics: $K_{oc} \times f_{oc}$

K_{oc} = Organic carbon partition coefficient (cm^3/g) = Chemical Specific

LS = Length of side of contaminated area (m) = 45

E = Total soil porosity (unitless) = 0.35

ρ_s = Density of soil solids (g/cm^3) = 2.65

T = Exposure intervel (sec) = 7.90E+08

V = Wind speed in mixing zone (m/s) = 2.25

D_{ei} = Effective diffusivity (cm^2/s) = $D_i \times E^{0.33}$

f_{oc} = Fraction organic carbon in soil = 0.02

DH = Diffusion height (m) = 2

A = Area of contamination (cm^2) = 2.03E+07

Chemical	D_i (cm^2/s)	H (atm-m^3/mol)	H' (unitless)	K_d (cm^3/g)	K_{oc} (cm^3/g)	D_{ei} (cm^2/s)	K_{as} (kg-soil/ L-air)	α (cm^2/s)	Volatilization Factor (VF)
Benzene	8.95E-02	5.55E-03	2.27E-01	2.92E+00	1.46E+02	6.33E-02	7.79E-02	9.87E-04	4.5E+03
1,1-Dichloroethene	8.63E-02	2.61E-02	1.07E+00	6.36E-01	3.18E+01	6.10E-02	1.68E+00	1.55E-02	8.6E+02
cis-1,2-Dichloroethene	8.84E-02	4.08E-03	1.67E-01	7.92E-01	3.96E+01	6.25E-02	2.11E-01	2.57E-03	2.7E+03
Ethylbenzene	6.85E-02	7.88E-03	3.22E-01	8.92E+00	4.46E+02	4.84E-02	3.62E-02	3.54E-04	7.6E+03
Trichloroethene	6.87E-02	9.85E-03	4.03E-01	1.21E+00	6.07E+01	4.86E-02	3.33E-01	3.08E-03	2.4E+03
Vinyl Chloride	1.07E-01	2.78E-02	1.14E+00	4.34E-01	2.17E+01	7.57E-02	2.63E+00	2.63E-02	5.8E+02
Xylenes, Total	8.47E-02	5.18E-03	2.12E-01	7.66E+00	3.83E+02	5.99E-02	2.77E-02	3.36E-04	7.8E+03
Chromium, Trivalent	-------	0	0	1.80E+06	---------	---------	---------	---------	---------
Chromium, Total	-------	0	0	1.90E+01	---------	---------	---------	---------	---------
Chromium, Hexavalent	-------	0	0	1.90E+01	---------	---------	---------	---------	---------
Nickel	-------	0	0	6.50E+01	---------	---------	---------	---------	---------
Cyanide, Total	---------	0	0	9.9	---------	---------	---------	---------	---------

[a] Equation for the Volatilization Factor was obtained from US EPA Risk Assessment Guidance for Superfund (RAGS), Volume I (Part B), Equation 8.

Table E6. Soil Leaching Screening Level[a]

Former MacGregor Golf Company

Albany, Georgia

Soil Leaching Screening Level (mg/kg; risk-based) = $C_w \times [K_d + (\theta_w + (\theta_a \times H'))/\rho_b]$

C_w = (MCL, MCLG, or HBL) x DAF

C_w = target leachate concentration (mg/L) = Chemical Specific

K_d = Organic carbon partition coefficient (L/kg) = Metals: Chemical Specific
Organics: $K_{oc} \times f_{oc}$

f_{oc} = Organic carbon content of soil (unitless) = 0.002

θ_w = Water filled soil porosity (L_{water}/L_{soil}) = 0.3

θ_a = Air filled soil porosity (L_{air}/L_{soil}) = $n - \theta_w$ = 0.13

n = Total soil porosity (L_{pore}/L_{soil}) = $1 - (\rho_b / \rho_s)$ = 0.43

ρ_s = Density of soil solids (g/cm^3) = 2.65

ρ_b = Dry bulk density (kg/L) = 1.5

DAF = Dilution / Attenuation Factor (unitless) = 20

H' = Dimensionless Henry's Law Constant = Chemical Specific

K_{oc} = Organic carbon partition coefficient (cm^3/g) = Chemical Specific

Chemical	K_{oc} (L/kg)	K_d (L/kg)	H' (unitless)	Groundwater RRS		Soil Leaching Screening Level	
				Type 2 (mg/L)	Type 4 (mg/L)	Type 2 (mg/kg)	Type 4 (mg/kg)
Benzene	1.46E+02	2.92E-01	2.27E-01	5.45E-03	8.80E-03	0.06	0.09
1,1-Dichloroethene	3.18E+01	6.36E-02	1.07E+00	1.03E-01	5.83E-01	0.74	4.18
cis-1,2-Dichloroethene	3.96E+01	7.92E-02	1.67E-01	3.13E-02	2.04E-01	0.18	1.20
Ethylbenzene	4.46E+02	8.92E-01	3.22E-01	7.74E-02	2.60E-01	1.74	5.83
Trichloroethene	6.07E+01	1.21E-01	4.03E-01	2.65E-02	3.77E-02	0.19	0.27
Vinyl Chloride	2.17E+01	4.34E-02	1.14E+00	1.10E-03	3.29E-03	0.008	0.023
Xylenes, Total	3.83E+02	7.66E-01	2.12E-01	5.93E-02	2.92E-01	1.17	5.75
Chromium, Trivalent	--------	1.80E+06	0	2.35E+01	1.53E+02	844,714,380	5,518,800,613
Chromium, Total	--------	1.90E+01	0	1.00E-01	1.00E-01	38.4	38.4
Chromium, Hexavalent	--------	1.90E+01	0	1.00E-02	1.00E-02	3.84	3.84
Nickel	--------	6.50E+01	0	3.13E-01	2.04E+00	408	2665
Cyanide, Total	--------	9.90E+00	0	3.13E-01	2.04E+00	63	413

[a] Equations for Soil Leaching Screening Level was obtained from US EPA Soil Screening Guidance: User's Guide, July 1996.

Table E7. Type 2 Risk Reduction Standards for Groundwater (Residential)[a]

Former MacGregor Golf Company

Albany, Georgia

Type 2 Cancer Risk Reduction Standard for Groundwater (mg/L; risk-based) = $\frac{TR \times BW \times AT_c \times 365\ days/yr}{EF \times ED \times [(SF_i \times K \times IR_a) + (SF_o \times IR_w)]}$

Type 2 Noncancer Risk Reduction Standard for Groundwater (mg/L; risk-based) = $\frac{THI \times BW \times AT_{nc} \times 365\ days/yr}{EF \times ED \times [(1/RfD_i \times K \times IR_a) + (1/RfD_o \times IR_w)]}$

TR = Target Excess Cancer Risk (unitless) =	1.0E-05	AT_c = Average Time - Carcinogenic (years) =	70
THI = Target Hazard Index (unitless) =	1	AT_{nc} = Average Time - Noncarcinogenic, Child (years) =	6
IR_w = Daily Water Ingestion Rate, Child (L/day) =	1	AT_{nc} = Average Time - Noncarcinogenic, Adult (years) =	30
IR_w = Daily Water Ingestion Rate, Adult (L/day) =	2	K = Water-to-Air Volatilization Factor (L/m^3) =	0.5
IR_a = Daily Indoor Inhalation Rate (m^3/day) =	15	SF_o = Oral Cancer Slope Factor (mg/kg/day) =	Chemical Specific
EF = Exposure Frequency (days/year) =	350	SF_i = Inhalation Cancer Slope Factor (mg/kg/day) =	Chemical Specific
ED = Exposure Duration, Child (years) =	6	RfD_o = Oral Chronic Reference Dose (mg/kg/day) =	Chemical Specific
ED = Exposure Duration, Adult (years) =	30	RfD_i = Inhalation Chronic Reference Dose (mg/kg/day) =	Chemical Specific
BW = Body Weight, Child (kg) =	15		
BW = Body Weight, Adult (kg) =	70		

Chemical	SF_o Oral Cancer Slope Factor 1/(mg/kg/day)	RfD_o Oral Reference Dose (mg/kg/day)	Sf_i Inhalation Cancer Slope Factor 1/(mg/kg/day)	RfD_i Inhalation Reference Dose (mg/kg/day)	Type 2 Child Carcinogenic RRS for Groundwater[b] (mg/L)	Type 2 Adult Carcinogenic RRS for Groundwater[b] (mg/L)	Type 2 Child Noncarcinogenic RRS for Groundwater[b] (mg/L)	Type 2 Adult Noncarcinogenic RRS for Groundwater[b] (mg/L)	Type 2 RRS for Groundwater (mg/L)
Benzene	5.5E-02	4.0E-03	2.7E-02	8.6E-03	0.0071	0.0055	0.014	0.053	0.0055
1,1-Dichloroethene	-------	5.0E-02	-------	5.7E-02	-------	-------	0.103	0.43	0.103
cis-1,2-Dichloroethene	-------	2.0E-03	-------	-------	-------	-------	0.031	0.073	0.031
Ethylbenzene	1.1E-02	1.0E-01	8.8E-03	2.9E-01	0.17	0.077	0.436	1.59	0.077
Trichloroethene	5.9E-03	-------	7.0E-03	-------	0.031	0.026	-------	-------	0.026
Vinyl Chloride	7.2E-01	3.0E-03	1.5E-02	2.9E-02	0.0022	0.0011	0.026	0.079	0.0011
Xylenes, Total	-------	2.0E-01	-------	2.9E-02	-------	-------	0.059	0.27	0.059
Chromium, Trivalent	-------	1.5E+00	-------	-------	-------	-------	23	55	23
Chromium, Total[c]	-------	-------	-------	-------	-------	-------	-------	-------	0.1
Chromium, Hexavalent	5.0E-01	3.0E-03	2.9E+02	2.9E-05	0.0037	0.0017	0.047	0.11	0.0017
Nickel	-------	2.0E-02	9.1E-01	2.6E-05	-------	-------	0.31	0.73	0.31
Cyanide, Total	-------	2.0E-02	-------	-------	-------	-------	0.31	0.73	0.31

[a] Equations for Type 2 Residential Risk Reduction Standards for Groundwater were obtained from US EPA Risk Assessment Guidance for Superfund (RAGS), Volume I (Part B), Equations 1 and 2.

[b] Per Georgia Rule 391-3-19, where values for only one of the two variable in a variable pair (RfD_o/RdD_i or Sf_o/SF_i) was not available for a particular chemical, the term containing that variable in an equation was ignored or equated to zero. If neither value was available for a variable pair, a concentration could not be calcuated with the equation.

[c] The EPD Regional Screening Levels (RSL) Table does not have toxicity data for total chromium. Therefore, the Type 2 RRS default to the Type 1 RRS of 0.1 mg/L per EPD's letter dated November 29, 2011.

Table E8. Type 4 Risk Reduction Standards for Groundwater (Industrial/Commercial)[a]

Former MacGregor Golf Company

Albany, Georgia

$$\text{Type 4 Cancer Risk Reduction Standard for Groundwater (mg/l; risk-based)} = \frac{TR \times BW \times AT_c \times 365\ days/yr}{EF \times ED \times [(SF_i \times K \times IR_a) + (SF_o \times IR_w)]}$$

$$\text{Type 4 Noncancer Risk Reduction Standard for Groundwater (mg/l; risk-based)} = \frac{THI \times BW \times AT_{nc} \times 365\ days/yr}{EF \times ED \times [(1/RfD_i \times K \times IR_a) + (1/RfD_o \times IR_w)]}$$

TR = Target Excess Cancer Risk (unitless) =	1.0E-05	AT_c = Average Time - Carcinogenic (years) =	70
THI = Target Hazard Index (unitless) =	1	AT_{nc} = Average Time - Noncarcinogenic (years) =	25
IR_w = Daily Water Ingestion Rate (L/day) =	1	K = Water-to-Air Volatilization Factor (L/m^3) =	0.5
IR_a = Daily Indoor Inhalation Rate (m^3/day) =	20	SF_o = Oral Cancer Slope Factor (mg/kg/day) =	Chemical Specific
EF = Exposure Frequency (days/year) =	250	SF_i = Inhalation Cancer Slope Factor (mg/kg/day) =	Chemical Specific
ED = Exposure Duration (years) =	25	RfD_o = Oral Chronic Reference Dose (mg/kg/day) =	Chemical Specific
BW = Body Weight (kg) =	70	RfD_i = Inhalation Chronic Reference Dose (mg/kg/day) =	Chemical Specific

Chemical	SF_o Oral Cancer Slope Factor 1/(mg/kg/day)	RfD_o Oral Reference Dose (mg/kg/day)	Sf_i Inhalation Cancer Slope Factor 1/(mg/kg/day)	RfD_i Inhalation Reference Dose (mg/kg/day)	Type 4 Carcinogenic RRS for Groundwater[b] (mg/L)	Type 4 Noncarcinogenic RRS for Groundwater[b] (mg/L)	Type 4 RRS for Groundwater (mg/L)
Benzene	5.5E-02	4.0E-03	2.7E-02	8.6E-03	0.009	0.072	0.009
1,1-Dichloroethene	-------	5.0E-02	-------	5.7E-02	-------	0.58	0.58
cis-1,2-Dichloroethene	-------	2.0E-03	-------	-------	-------	0.204	0.204
Ethylbenzene	1.1E-02	1.0E-01	8.8E-03	2.9E-01	0.26	2.30	0.26
Trichloroethene	5.9E-03	-------	7.0E-03	-------	0.038	-------	0.038
Vinyl Chloride	7.2E-01	3.0E-03	1.5E-02	2.9E-02	0.0033	0.15	0.0033
Xylenes, Total	-------	2.0E-01	-------	2.9E-02	-------	0.29	0.29
Chromium, Trivalent	-------	1.5E+00	-------	-------	-------	153	153
Chromium, Total[c]	-------	-------	-------	-------	-------	-------	0.1
Chromium, Hexavalent	5.0E-01	3.0E-03	2.9E+02	2.9E-05	0.0057	0.31	0.0057
Nickel	-------	2.0E-02	9.1E-01	2.6E-05	-------	2.04	2.04
Cyanide, Total	-------	2.0E-02	-------	-------	-------	2.04	2.04

[a] Equations for Type 4 Industrial/Commercial Risk Reduction Standards for Groundwater were obtained from US EPA Risk Assessment Guidance for Superfund (RAGS), Volume I (Part B), Equations 1 and 2 using a non-residential scenario.

[b] Per Georgia Rule 391-3-19, where values for only one of the two variable in a variable pair (RfD_o/RdD_i or Sf_o/SF_i) was not available for a particular chemical, the term containing that variable in an equation was ignored or equated to zero. If neither value was available for a variable pair, a concentration could not be calcuated with the equation.

[c] The EPD Regional Screening Levels (RSL) Table does not have toxicity data for total chromium. Therefore, the Type 4 RRS default to the Type 1 RRS of 0.1 mg/L per EPD's letter dated November 29, 2011.

Table E9. Type 1 & 2 Risk Reduction Standards for Soil

Former MacGregor Golf Company

Albany, Georgia

Chemical	Maximum Historical Concentration (mg/kg)	Applicable RRS[a] (mg/kg)	Final Type 2 RRS[b] (mg/kg)	Type 1 RRS (mg/kg)	Soil Leaching Screening Level (mg/kg)	Calculated Type 2 RRS (mg/kg)
Benzene	0.0098	0.5	0.056	0.5	0.056	18
1,1-Dichloroethene	0.025	0.7	0.74	0.7	0.74	51
cis-1,2-Dichloroethene	11	7	0.18	7	0.18	156
Ethylbenzene	32	70	2	70	2	830
Trichloroethene	0.45	0.5	0.19	0.5	0.19	39
Vinyl Chloride	1.5	0.2	0.008	0.2	0.008	3.44
Xylenes, Total	130	1,000	1.17	1,000	1.17	234
Chromium, Trivalent	2,900	117,321	117,321	1	844,714,380	117,321
Chromium, Total	3,300	100	38.4	100	38.4	100[c]
Chromium, Hexavalent	ND[d]	3.84	3.84	1	3.84	235
Nickel	620	408	408	50	408	1,564
Cyanide, Total	3.7	63	63	20	63.20	1,564

[a] The higher of the Type 1 and Final Type 2 Risk Reduction Standards was used.

[b] The Final Type 2 RRS is the lower of the Soil Leaching Screening Level (protective of groundwater) and the Calculated Type 2 RRS.

[c] The EPD Regional Screening Levels (RSL) Table does not have toxicity data for total chromium. Therefore, the Type 2 RRS default to the Type 2 RRS per EPD's letter dated November 29, 2011.

[d] ND = Not Detected.

Highlighted chemicals and concentrations exceed applicable risk reduction standards.

Table E10. Type 3 & 4 Risk Reduction Standards for Soil

Former MacGregor Golf Company

Albany, Georgia

Chemical	Maximum Historical Concentration (mg/kg)	Applicable RRS[a] (mg/kg)	Final Type 4 RRS[b] (mg/kg)	Type 3 RRS (mg/kg)	Soil Leaching Screening Level (mg/kg)	Calculated Type 4 RRS (mg/kg)
Benzene	0.0098	0.5	0.0902	0.5	0.0902	23
1,1-Dichloroethene	0.025	4.18	4.18	0.7	4.18	251
cis-1,2-Dichloroethene	11	7.0	1.20	7.0	1.20	4088
Ethylbenzene	32	70	5.83	70	5.83	5,203
Trichloroethene	0.45	0.5	0.27	0.5	0.27	50
Vinyl Chloride	1.5	0.2	0.023	0.2	0.023	5.2
Xylenes, Total	130	1,000	5.75	1,000	5.75	1,160
Chromium, Trivalent	2,900	3,066,000	3,066,000	1.0	5,518,800,613	3,066,000
Chromium, Total	3,300	1,200	38.4	1,200	38.4	100[c]
Chromium, Hexavalent	ND[c]	3.84	3.84	1.0	3.84	6,132
Nickel	620	2,665	2,665	420	2,665	40,880
Cyanide, Total	3.7	413	413	20	412.9	40,880

[a] The higher of the Type 3 and Final Type 4 Risk Reduction Standards was used.

[b] The Final Type 4 RRS is the lower of the Soil Leaching Screening Level (protective of groundwater) and the Calculated Type 4 RRS.

[c] The EPD Regional Screening Levels (RSL) Table does not have toxicity data for total chromium. Therefore, the Type 4 RRS default to the Type 1 RRS per EPD's letter dated November 29, 2011.

[c] ND = Not Detected.

Highlighted chemicals and concentrations exceed applicable risk reduction standards.

Table E11. Type 1 & 2 Risk Reduction Standards for Groundwater

Former MacGregor Company

Albany, Georgia

Chemical	Maximum Historical Concentration (mg/L)	Applicable RRS[a] (mg/L)	Type 2 RRS (mg/L)	Type 1 RRS (mg/L)
Benzene	0.014	0.0055	0.0055	0.005
1,1-Dichloroethene	0.34	0.10	0.10	0.007
cis-1,2-Dichloroethene[b]	3.7	0.07	0.03	0.07
Ethylbenzene	0.77	0.7	0.08	0.7
Trichloroethene	0.46	0.026	0.026	0.005
Vinyl Chloride	0.065	0.002	0.0011	0.002
Xylenes, Total	4.5	10	0.06	10
Chromium, Trivalent	NR[c]	23	23	0.01
Chromium, Total	0.386	0.1	0.1[d]	0.1
Chromium, Hexavalent	0.11	0.01	0.0017	0.01
Nickel	2.83	0.31	0.31	0.10
Cyanide, Total	0.03	0.31	0.31	0.20

[a] The higher of the Type 1 and calculated Type 2 Risk Reduction Standards was used.

[b] Type 1 RRS for cis-1,2-Dichloroethene per EPD's letter of February 17, 2011

[c] NR = Analyte not analyzed for by the laboratory and therefore not reported.

[d] The EPD Regional Screening Levels (RSL) Table does not have toxicity data for total chromium. Therefore, the Type 2 RRS default to the Type 1 RRS of 0.1 mg/L per EPD's letter dated November 29, 2011.

Highlighted chemicals and concentrations exceed applicable risk reduction standards.

Table E12. Type 3 & 4 Risk Reduction Standards for Groundwater

Former MacGregor Golf Company

Albany, Georgia

Chemical	Maximum Historical Concentration (mg/L)	Applicable RRS[a] (mg/L)	Type 4 RRS (mg/L)	Type 3 RRS (mg/L)
Benzene	0.014	0.0088	0.0088	0.005
1,1-Dichloroethene	0.34	0.58	0.58	0.007
cis-1,2-Dichloroethene[b]	3.7	0.204	0.204	0.07
Ethylbenzene	0.77	0.7	0.26	0.7
Trichloroethene	0.46	0.038	0.038	0.005
Vinyl Chloride	0.065	0.0033	0.0033	0.002
Xylenes, Total	4.5	10	0.29	10
Chromium, Trivalent	NR[c]	153	153	0.01
Chromium, Total	0.386	0.1	0.1[d]	0.1
Chromium, Hexavalent	0.11	0.01	0.0057	0.01
Nickel	2.83	2.04	2.04	0.10
Cyanide, Total	0.03	2.04	2.04	0.20

[a] The higher of the Type 3 and calculated Type 4 Risk Reduction Standards was used.

[b] Type 3 RRS for cis-1,2-Dichloroethene per EPD's letter of February 17, 2011

[c] NR = Analyte not analyzed for by the laboratory and therefore not reported.

[d] The EPD Regional Screening Levels (RSL) Table does not have toxicity data for total chromium. Therefore, the Type 4 RRS default to the Type 1 RRS of 0.1 mg/L per EPD's letter dated November 29, 2011.

Highlighted chemicals and concentrations exceed applicable risk reduction standards.

Table E13. Summary of Final Risk Reduction Standards

Former MacGregor Golf Company
Albany, Georgia

GROUNDWATER			
Chemical	Maximum Historical Concentration (mg/L)	Applicable RRS[a] (mg/L)	Source of RRS
Benzene	0.014	0.0088	Type 4 RRS
1,1-Dichloroethene	0.34	0.58	Type 4 RRS
cis-1,2-Dichloroethene	3.7	0.204	Type 4 RRS
Ethylbenzene	0.77	0.70	Type 1/3 RRS
Trichloroethene	0.46	0.038	Type 4 RRS
Vinyl Chloride	0.065	0.0033	Type 4 RRS
Xylenes, Total	4.5	10	Type 1/3 RRS
Chromium, Trivalent	NR[b]	153	Type 4 RRS
Chromium, Total	0.386	0.1	Type 1/3 RRS
Chromium, Hexavalent	0.11	0.01	Type 1/3 RRS
Nickel	2.83	2.04	Type 4 RRS
Cyanide, Total	0.03	2.04	Type 4 RRS
SOIL			
Chemical	Maximum Historical Concentration (mg/kg)	Applicable RRS[a] (mg/kg)	RRS Type
Benzene	0.0098	0.5	Type 1/3 RRS
1,1-Dichloroethene	0.025	4.18	Type 4 RRS
cis-1,2-Dichloroethene	11	7.0	Type 1/3 RRS
Ethylbenzene	32	70	Type 1/3 RRS
Trichloroethene	0.45	0.50	Type 1/3 RRS
Vinyl Chloride	1.5	0.2	Type 1/3 RRS
Xylenes, Total	130	1,000	Type 1/3 RRS
Chromium, Trivalent	2,900	3,066,000	Type 4 RRS
Chromium, Total	3,300	1,200	Type 3 RRS
Chromium, Hexavalent	ND[c]	3.84	Type 4 RRS
Nickel	620	2,665	Type 4 RRS
Cyanide, Total	3.7	412.9	Type 4 RRS

[a] The higher of the final Type 1, Type 2, Type 3, and Type 4 Risk Reduction Standards was used.

[b] NR = Analyte not analyzed for by the laboratory and therefore not reported.

[c] ND = Not detected.

Highlighted chemicals and concentrations exceed applicable risk reduction standards.