Site Assessment Report

Sarasota County Central County Solid Waste Disposal Complex

Prepared for:

Sarasota County

July 3, 2009

Prepared by:

PBS&J

file copy

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Dept. Of Environmental Protection
JUL 07 2009
Southwest District

July 2, 2009

Ms. Susan J. Pelz, P.E.
Solid Waste Program Manager
Southwest District
Florida Department of Environmental Protection
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

RE: Executed Consent Order, OGC Case No. 08-1728
Central County Solid Waste Disposal Complex
Class I Landfill Permit No. 130542-002-SO
Permit No. 231674-001-SO
Sarasota County

Dear Ms. Pelz:

In accordance with Paragraph 9 of the above referenced Consent Order, PBS&J hereby submits two copies of a Site Assessment Report on behalf of Sarasota County. PBS&J has prepared this report at the request of the County and we have provided the County with a draft copy of this report, have received comments back from them, and have incorporated appropriate comments into this final report.

We look forward to your review of this report. If you have any questions or comments regarding this matter, please do not hesitate to contact me by phone at 407-806-4104 or by email at DEDeans@pbsj.com.

Very truly yours,

David E. Deans

David E. Deans, P.E., BCEE
Vice President
Florida P.E. No. 31095

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SITE ASSESSMENT REPORT

Sarasota County Central County Solid Waste Disposal Complex
Nokomis, Florida

FDEP ID# 4058C02034

Prepared for:

SARASOTA COUNTY
Environmental Services
Solid Waste Operations
4000 Knights Trail Road
Nokomis, FL 34275

July 3, 2009

Prepared by:

5300 West Cypress Street
Tampa, FL 33607-1066

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Executive Summary

Sarasota County began operation of its Central County Solid Waste Disposal Complex in 1998. Since that time the County has been conducting a water quality monitoring program in accordance with the conditions of a facility operating permit issued by the Florida Department of Environmental Protection (FDEP). This water quality monitoring program has identified elevated levels of iron, arsenic and ammonia in certain of the groundwater monitoring wells. At the request of FDEP the county installed compliance wells down gradient of these monitoring wells in January 2008 to determine if there were exceedences of groundwater quality criteria at these locations.

Compliance monitoring of these wells confirmed that exceedences were occurring. As a result, FDEP required that the County prepare a Contamination Evaluation Report (CER) to delineate the extent and cause of the contamination in order to predict the likelihood that the Department's water quality standards would be violated outside the zone of discharge.

The CER was completed in October 2008 and concluded that the Department's water quality standards were being violated outside the zone of discharge, but that no spill, leak or discharge of contamination due to the operation of the landfill could be identified. Likely sources of contamination such as yard waste processing, chipped tires used for erosion control, soil excavated from a potential cattle dip vat located on site, and leachate from the lined Class I disposal cell were all investigated and ruled out as a potential source of the iron, arsenic and ammonia present in the groundwater.

What this report did reveal is that in areas of the site where development has occurred such that infiltration and percolation of rain water to the water table has been decreased there has been an associated decrease in the amount of dissolved oxygen at the surface of the water table. This change of conditions appears to be favorable for the establishment of a reductive dissolution environment wherein anaerobic iron-forming bacteria establish, and feeding off of naturally occurring organic matter in the soils, release iron from the soils into the groundwater. As a side effect of this process arsenic and ammonia bound to the iron in the soils are also released.

In pursuit of this possibility of a reductive dissolution process causing the contamination the University of Florida, Department of Environmental Engineering Sciences was engaged to research this matter further. Their testing found that the soils and aquifer sediments naturally contain iron at concentrations typical of Florida soils, and that arsenic and ammonia-nitrogen were found to naturally occur in the soils and aquifer sediments as well. Additional testing found that the iron was of a nature that when the soils were exposed to the reducing conditions (conditions that occur when oxygen is limited), the iron was transformed from a solid phase (soil mineral) to a liquid phase (dissolved iron) in a process referred to as reductive dissolution.

When soils from the site were exposed to environmental conditions in the lab in the absence of oxygen, reductive dissolution of iron occurred. Experiments conducted with site soils found arsenic to be released when iron was released. Similarly, ammonia-nitrogen was found to also enter into the water phase as well. These data suggest that the reductive dissolution process resulting in the iron release is also a plausible explanation for the elevated concentrations of arsenic and ammonia-nitrogen.

To resolve this matter FDEP and the County entered into a Consent Order on October 8, 2009. Paragraph 9 of this order requires the County to submit a Site Assessment Report (SAR) in accordance with Chapter 62-780.600. PBS&J has prepared this SAR after conducting additional field investigations and has addressed each of the Site Assessment Objectives listed in the rule as follows:

1. **Current Exposure and Potential Risk of Exposure to Humans and the Environment:** Groundwater in the surficial aquifer where impacts have occurred is currently not being used for any purpose. Surface water at the site is also not being used. Future land use plans are limited to the further development of the landfill facility. The human population (workers and customers of the landfill) are not exposed to the impacted groundwater, and the groundwater connection to surface water is limited. Migration of the plume to the property line at an estimated rate of 36 feet per year would take decades should this occur.

2. **Contamination Character and Extent of Dissolved Groundwater:** The contaminants of concern are iron, arsenic and ammonia-nitrogen. The plume of these constituents extends generally from the northwest area of Phase II of the site southeastward into the Phase I, Phase IV and Phase V areas.

3. **Sources of Contamination:** The findings of this Site Assessment support the conclusions presented in the Contamination Evaluation Report that the iron, arsenic and ammonia-nitrogen are naturally occurring chemicals in the soils at the CCSWDC, and that the soils are releasing these constituents into the groundwater in areas of the site favorable to the reductive dissolution process.

4. **Background Concentrations:** Background concentrations of the contaminants of concern during these investigations have been found to be as follows:

Contaminant	Concentration Range
Iron	280 – 6,200 ug/l
Arsenic	Below Detection Limits
Ammonia-Nitrogen	0.12 – 0.534 ug/l

5. **Need for Source Removal:** There is no free product associated with the contaminants of concern. Also, there was no single point source or "hot spot" within the soil acting as a source of the contamination.

6. **Geologic and Hydrogeologic Characteristics That Influence Migration and Transport of Contaminants:** The COC's are in a dissolved state within the groundwater of the surficial aquifer. Therefore, the principal factor influencing the migration and transport of the contaminants is the flow dynamic of the groundwater of the surficial aquifer through the impacted areas towards the southwest and southeast directions.

7. **Mechanisms of Transport of Contaminants in the Immediate Vicinity of the Site:** The COCs originate from the soil and leach into the groundwater through a process of RD. The plume of impacted groundwater then flows with the groundwater of the surficial aquifer. Groundwater on the west side of the impacted area flows in a southwesterly direction and groundwater on the east side of the impacted area flows to the southeast.

8. **Public Supply Well Survey:** According to the files, there are no public supply wells located within one-half mile of the plume of impacted groundwater. There are records for private water supply wells located on the landfill property, one at the landfill administration building complex, approximately 1,500 feet southwest of the leading edge of the plume; and the other at the maintenance building.

9. **Surface Water Exposure to Contamination:** Impacts to surface water from arsenic in the groundwater in the western portion of the site are not expected to occur since arsenic concentrations in the groundwater are below the surface water quality limits for arsenic. On the east side of the site in the Phase IV area, groundwater concentrations exceed surface water standards, but the groundwater is below the ground surface in this area and there is no connection of groundwater to surface water in this area.

   Iron concentrations in the groundwater, including background, exceed the surface water limits.

   Given that the stormwater ponds will not discharge to surface waters until filled to the control elevation with stormwater runoff, dilution of any iron or arsenic from the groundwater in these ponds will reduce the impact to surface water from discharges from these ponds.

10. **Facilitate the Selection of a Remediation Strategy:** There is low risk of exposure to human health and the environment from the contamination from the plume of COC-impacted groundwater at this site and there are no plans to change the current land use at this site. We believe that, once removed from the reductive dissolution environment of anoxic conditions and low ORP values, the iron and arsenic will revert to its oxidized state. Therefore, the most logical remediation strategy is Natural Attenuation with Monitoring, as promulgated at Chapter 62-780.690.

1.0 INTRODUCTION

The historical analytical results of groundwater related constituents at the Sarasota County Central County Solid Waste Disposal Complex (CCSWDC) indicate that elevated levels of some constituents exceed the State's regulatory concentration limits. The most significant analytical results indicated that arsenic, iron, and ammonia exceeded numerical values set forth in the operating permit. Together these constituents are referred to in this report as the Contaminants of Concern (COC).

In October 2007, the Southwest District of the Florida Department of Environmental Protection (FDEP) requested that the County initiate compliance monitoring to evaluate whether the COC exceedances extended to the boundary of the Zone of Discharge (ZOD). When it was confirmed that the COC exceedances did indeed extend to the boundary of the ZOD, the FDEP requested that evaluation monitoring be initiated in accordance with Rule 62-701.510(7)(a), Florida Administrative Code (FAC) to address the possible source(s) of the exceedances. At the request of the County, PBS&J performed a Contamination Evaluation (CE) in 2008. Following review of the results of the CE, the County and FDEP entered into a Consent Order that required that a Site Assessment (SA) be performed in accordance with 62-780, FAC. This report presents the approach to the SA and its findings. This report reiterates some of the methods and results of the CE because the CE and SA activities are interdependent.

1.1 Purpose

The Site Assessment Report (SAR) has been prepared by PBS&J to report the results of the SAR-related activities performed at the CCSWDC site. The purpose of the SAR is to further evaluate the limits of the impact to the potentially affected media on the subject property and surrounding area resulting from the COCs in the groundwater. The SA was performed in general accordance with Chapter 62-780.600, FAC to meet the following ten objectives that are covered in more detail in Chapter 6 of this report.

1. Evaluate the current exposure and potential risk of exposure to humans and the environment.
2. Determine the character and extent of contamination
3. Determine or confirm the sources of contamination
4. Establish the background concentrations
5. Determine whether a source removal is needed
6. Describe relevant geologic and Hydrogeologic characteristics that influence migration and transport of contaminants.
7. Determine other mechanisms of transport in the immediate vicinity of the site
8. Determine whether any public or private wells are present within ½ mile of the site
9. Determine whether any surface water will be exposed to contamination
10. Facilitate the selection of a remediation strategy.

1.2 Organization of This Report

Section 2 of this report provides the history and background of this facility. Discussions include the groundwater monitoring program and contamination investigations previously conducted relating to the contaminants of concern at this site.

Section 3 describes the geology and hydrogeology of the site.

Sections 4 and 5 describe the scope of the field investigations conducted for this site assessment, as well as the previous contamination evaluation investigation. The results of these investigations are presented in an integrated fashion to understand the cause and extent of the contaminants of concern at this site.

Section 6 relies on data and information discussed in the previous chapters to address each of the ten objectives of this site assessment as described above.

A list of references can be found in Section 7.

2.0 BACKGROUND

2.1 Site Description

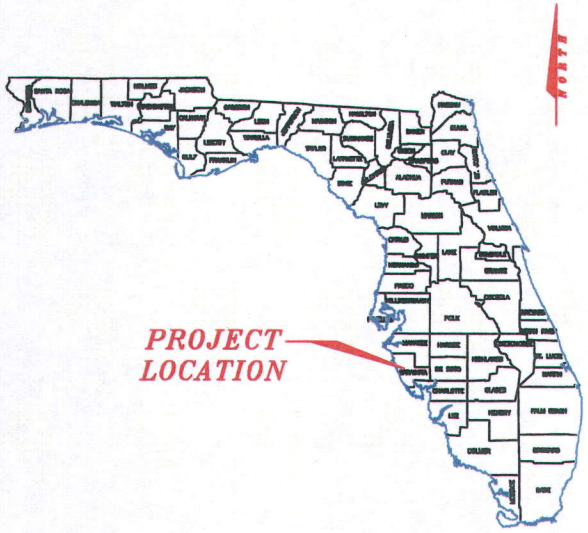
The CCSWDC is located on approximately 6,000 acres of land in the central part of Sarasota County near Nokomis, Florida (Figure 2-1). The facility is located in Sections 1 through 4 and 9 through 16 of Township 38 South, Range 19 East. The landfill is located in north-central part of the approximately 6,000-acre complex. The rest of the land is undeveloped and covered with vegetation, including trees (primarily oak and pine) and shrubs.

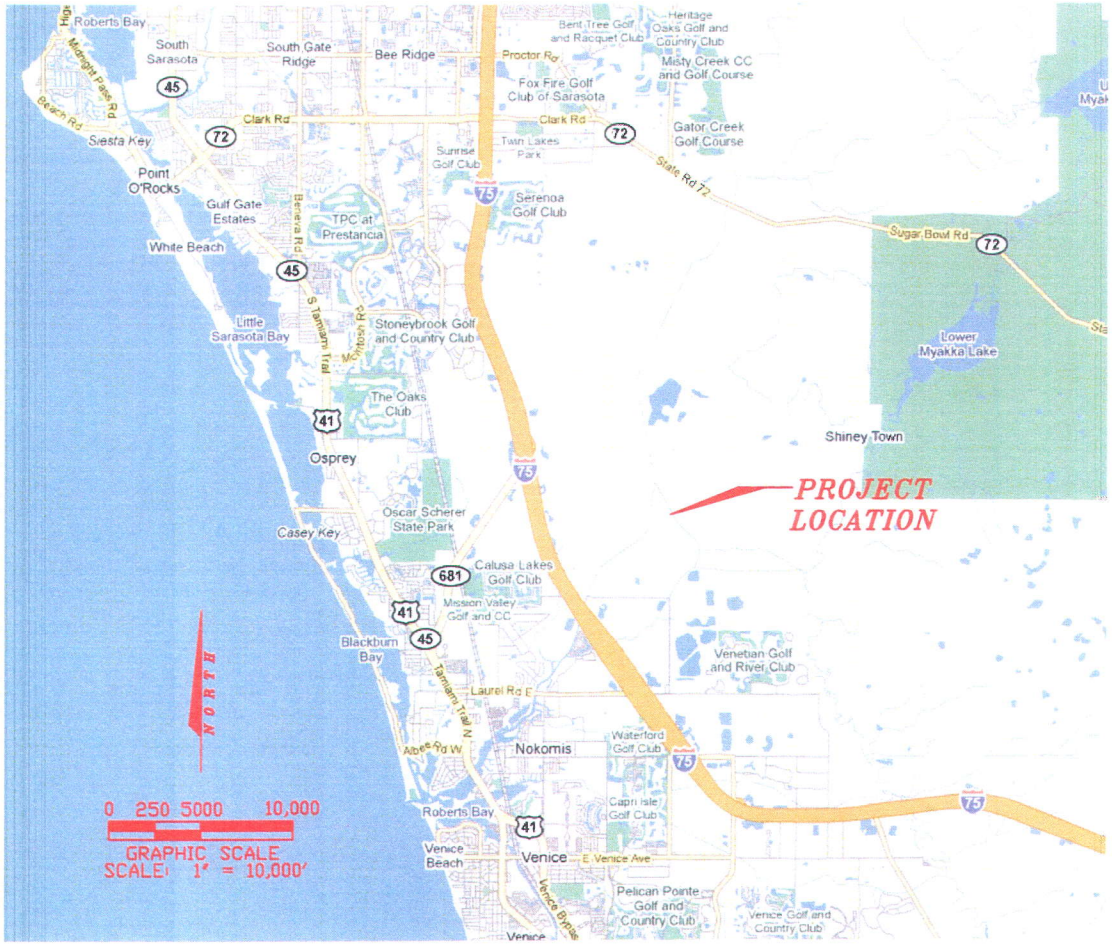
There are number of ponds on the property, as well as two major linear surface water features, the Cow Pen Slough, which traverses from the northern property line to the southern property line on the west side of the property, and the Myakka River, a major regional drainage feature which borders a small segment of the eastern property line. Water in both of these surface water features flows generally toward the Gulf of Mexico. There is small tributary to the Cow Pen Slough which runs along the west side of the landfill area which is referred to as Old Cow Pen Slough. This feature collects the overflow from stormwater ponds located on the west side of the landfill. There are seven stormwater ponds, designated Pond 1 through Pond 7, which are used to store and manage storm water around the facility. There are additional ponds located near the landfill which are borrow areas used to supply fill for landfill construction and operation.

The CCSWDC facility includes both a lined, Class I facility, a construction and demolition debris recycling facility (C&D), a yard waste composting area (YWCA), and a Waste Tire Processing Facility (WTPF). The active part of the Class I facility is located in the Phase I Area. The C&D and YWCA are located in the Phase IV Area. The WTPF is located in the Phase V Area. The layout of the site is illustrated in Figure 2-2.

Prior to January 2009 groundwater samples were collected from a network of monitoring wells around the landfill. This groundwater compliance monitoring network consisted of seven monitoring wells which were located along the perimeter of the Phase I Area, and monitored the groundwater of the shallow (surficial) aquifer. That monitoring well network consisted of six shallow wells, designated MW-1R, MW-8A, MW-9, MW-10R, MW-11R, and MW-12R. All of the wells were screened within the shallow (surficial) aquifer. MW-1R was designated by the permit as a background well, and remaining wells were detection wells. There are also two piezometers, which are designated MW-3 and MW-5. The groundwater monitoring wells and piezometers are also used to measure the elevation of the water table. In addition to the permanent groundwater monitoring well network, four compliance wells were installed as part of the CE investigation and are currently being monitored quarterly until the issues relating to the COC's have been resolved. These wells are designated CW8-A, CW-9, CW-10R, and CW-11R.

In January 2009 monitoring wells MW-11R MW-12R and compliance well CW11R were abandoned so that construction of Phase II of the Class I Landfill could begin. Additional monitoring wells will be added to this network upon the completion of the Phase II landfill construction.





PBSJ	SARASOTA COUNTY CENTRAL COUNTY SOLID WASTE DIPOSAL COMPLEX	SITE LOCATION MAP	FIG. 2-1

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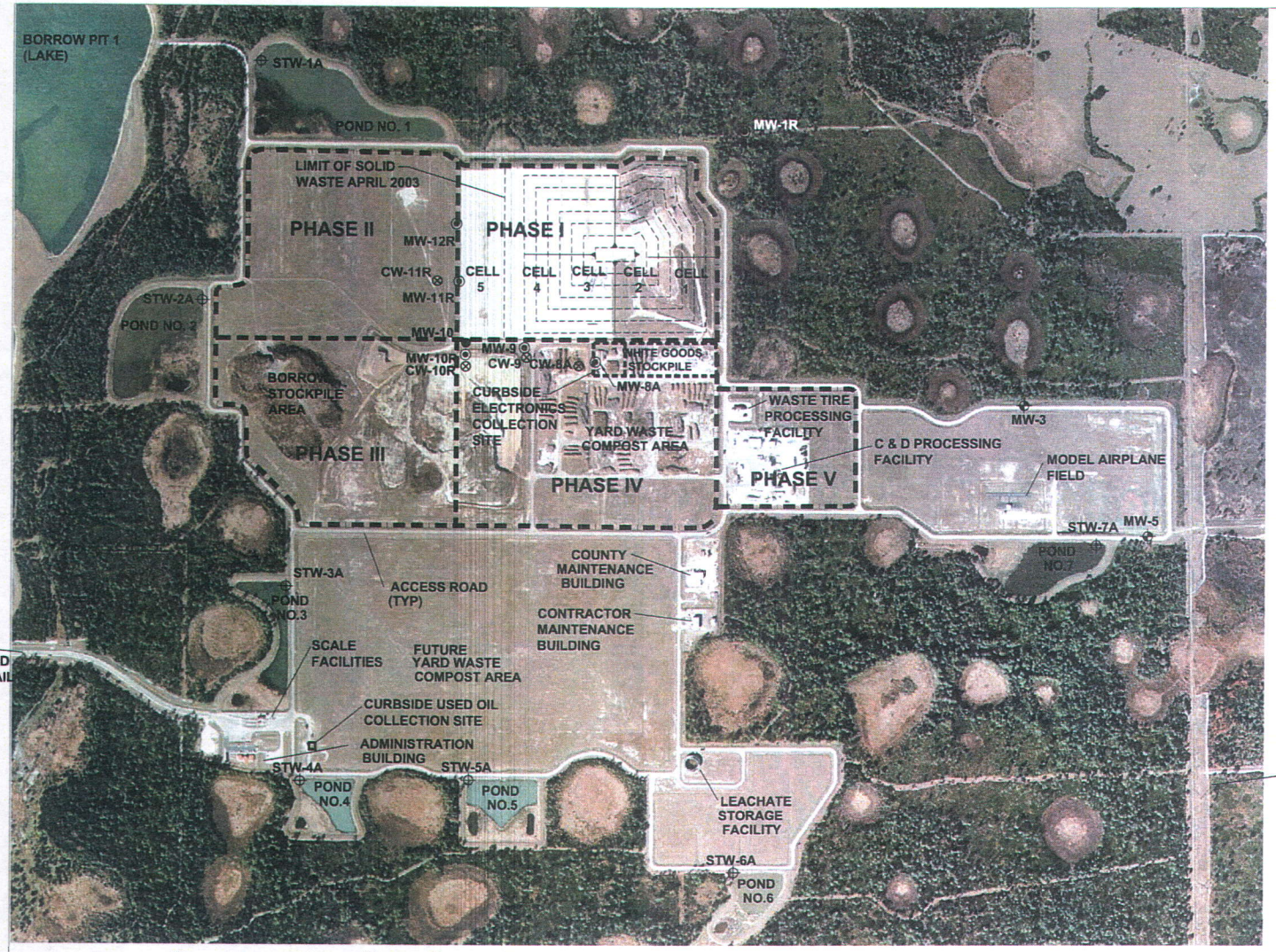

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PBSJ	CENTRAL COUNTY SOLID WASTE DISPOSAL COMPLEX	SITE LAYOUT	FIGURE 2-2

Surface water quality is also monitored as a requirement of the permit. The surface water samples are collected from two points along the Old Cow Pen Slough, one located upstream of the landfill and one located downstream of the landfill. Landfill leachate is also monitored as part of the permit. A list of the components of the landfill's water quality monitoring network is provided in Table 2-1.

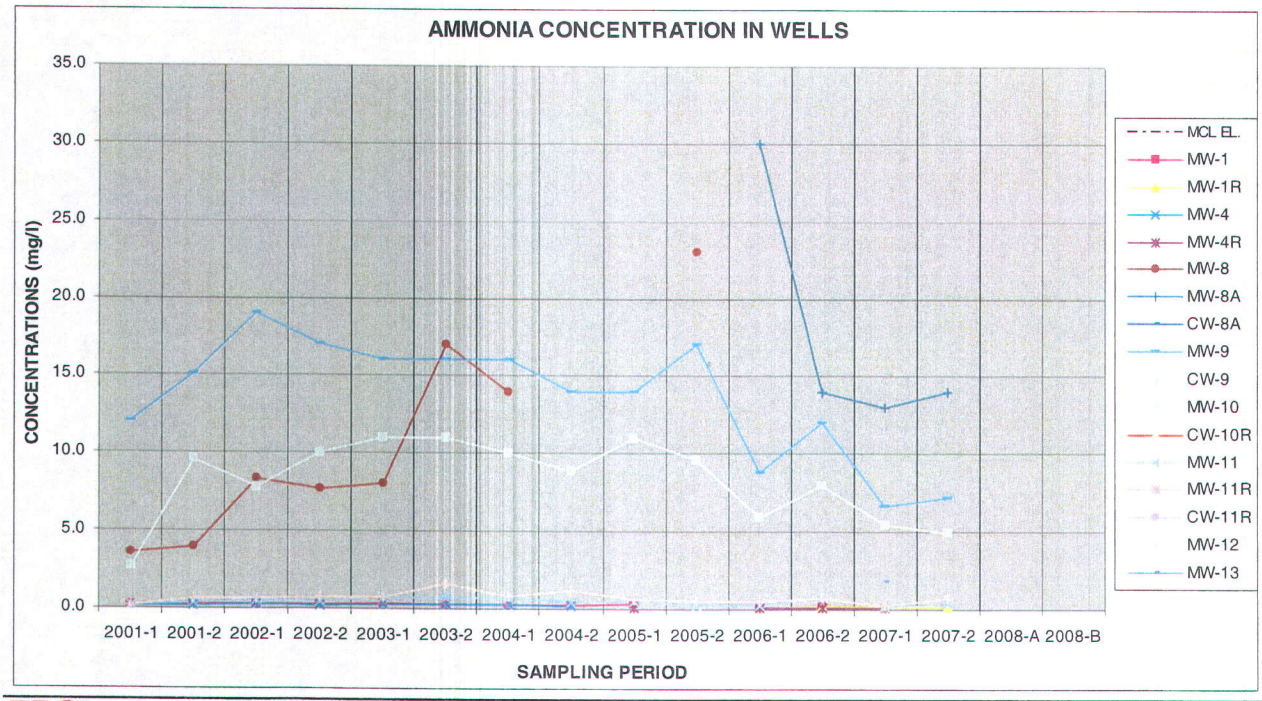
2.2 History and Operations

The CCSWDC began operations in 1998. Activities leading up to the opening of the facility included the construction of the access road to the facility, the clearing, grading and backfilling of land, the construction of 60 acres of lined landfill disposal cells, the creation of a cover material stock pile and site preparation for yard waste, tire and C&D recycling activities. Fill material excavated from Borrow Pit No. 1 (Figure 2-2) was used for this construction activity. Solid waste disposal activities are located principally within the Phase I area, while solid waste management activities such as yard waste composting and C&D recycling are being conducted in the Phase IV, and V areas. Currently these three areas are still active. Additional landfill disposal cells are currently under construction in the Phase II area and are scheduled to begin accepting waste in 2010.

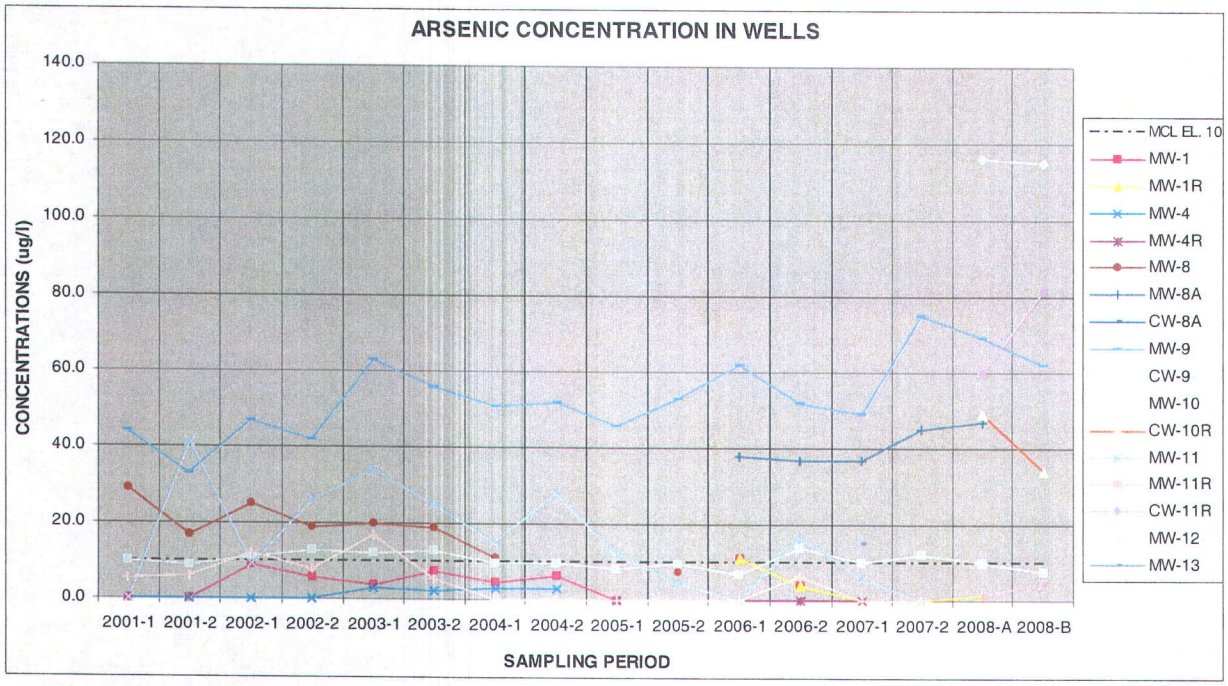
2.3 Previous Monitoring and Evaluation

2.3.1 Historical Groundwater Monitoring

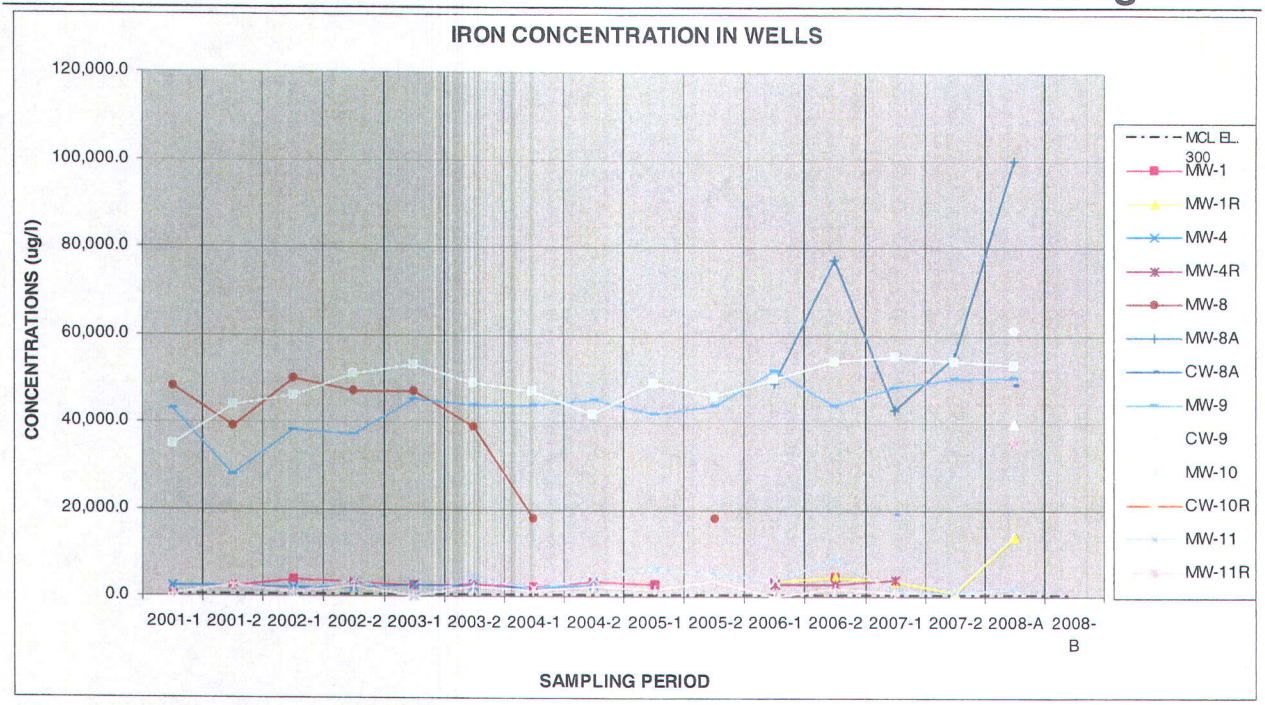
The specific conditions of the facility operating permit have called for periodic sampling of the monitoring well network since operations began in 1998. The historical analytical results from those events indicate consistent elevated detections of the COCs at the monitoring wells located on the downgraident side of the landfill, specifically at monitoring wells MW-8A, MW-9, MW-10 (and its replacement), and MW-11 (and its replacement).



Historic ammonia concentration values detected in the monitoring wells show varying points where the ammonia levels increased and then towards more recent sampling events, start to trend downwards. When examined next to rainfall related data, no specific trends or patterns could be determined to suggest that dry or wet spells from rain related events had any significant effect on the concentration values.



Historic total arsenic concentrations have been relatively low in their respective concentrations at the landfill. The exception to this has been in the areas in and around MW-8, MW-9 and MW-10R. These wells have shown elevated arsenic values since the initial collection of data. Historic record reviews did find that wetland related organic environments were present in this area but were removed and mitigated for during site development.



Historic total iron concentrations have been relatively low in their respective concentrations in most of the wells. The exception to this has been in and around MW-8, MW-9 and MW-10R. These wells have shown elevated iron since the initial collection of data. In looking at recently collected data, iron concentrations appear to be trending upwards.

In 2007, the FDEP requested that compliance wells be installed along the edge of the ZOD at well locations MW-8A, MW-9, MW10, and MW-11. This was completed in 2007. Subsequent sampling of these wells indicated exceedances of some of the COCs at several of the compliance wells.

2.3.2 Contamination Evaluation Plan

Because of the exceedances at the ZOD, the FDEP requested that CE be initiated. A CE Plan (CEP) was developed by PBS&J and issued in June 2008. The CEP was implemented by PBS&J in 2008 to evaluate of the following areas as potential sources or causes for the arsenic and the other COCs in the groundwater:

- The YWCA;
- The soil used as temporary cover for the landfill operation;
- Historical uses of the property prior to construction of the landfill, including the presence of cattle-dipping sites;
- The use of shredded tires for erosion control at the facility which may have leached arsenic; and
- Reductive Dissolution (RD) enhanced by the development of the landfill and other surface structures which can affect groundwater chemistry; specifically

by causing the reduction of arsenic and other metals to a solubilized form and to leach from the soil into the groundwater.

The CEP involved five major tasks of research and field-related investigations to develop a better understanding of the site characteristics and the source of the groundwater impacts at the landfill and is discussed in more detail in the following sections.

1 Research. Research involving reviewing published data concerning the types of constituents that could be derived from surface attributes that may be contributing to the contamination at the site; such as reported nearby cattle dip vat areas, pesticide/herbicide exposures from yard waste, on-site mulching activities in and around the yard compost area in the Phase IV section of the landfill, and constituents that could be derived from chipped tire storage or use on site.

2. Arsenic Speciation. To aid in the identification of a source of arsenic contamination, the speciation of the arsenic was examined in order to relate the arsenic found in site groundwater and soils against possible surface (soil) sources of contamination on the site such as pesticide/herbicides from yard mulch and historical cattle dip vat sources and other on site areas of stockpiled material. The soil sampling results are presented as a breakdown of three primary inorganic arsenic spatial distribution features: total arsenic, arsenic^{V} (arsenate) and arsenic^{III} (arsenite). In conjunction with the three primary inorganic speciation features, two secondary features, dimethylarsinic acid (DMA) and monomethylarsinic acid (MMA), were also evaluated to determine their respective presence in the sample matrices. DMA and MMA are methylated arsenical metabolites found in herbicides to treat lawns and citrus. The detected presence of these constituents (DMA/MMA) would lend this evaluation an ability to trace arsenic sources back to potential (unknown) surface sources such as above-ground storage of yard waste and other received organic waste matter.

Arsenic speciation data from soil samples collected from the vadose zone in the following areas to aid in identifying of potential sources of arsenic contamination:

- The YWCA.
- The borrow material area.
- Cattle Dip Vat area, as based on a review of historical aerial photographs.
- The Phase II Area.
- The background area.

3. Arsenic Delineation. The third major task of the CE involved delineation of arsenic in the soil in the Phase II Area and the YWCA. The need for this task evolved from the results of the arsenic speciation analysis and the need to determine if more specific chemical indicators were required to rule in or rule out the YWCA as a contaminant source. Soil samples were collected from the vadose zone and, in addition to arsenic, were analyzed for total nitrogen, chromium, copper, and lead to aid in determining if Chromated Copper Arsenate (CCA)-treated wood or herbicides and pesticides could be source(s) of the arsenic in the soil and groundwater. An arsenic "hot spot" detected near monitoring well MW-11R during the speciation testing was also evaluated as part of this task. Selected soil samples were also analyzed by the Synthetic

Precipitation Leaching Procedure (SPLP) to evaluate whether naturally-occurring arsenic in the soil may be leaching in to the soil from contact with rain water.

4. Reductive Dissolution Evaluation. The fourth task involved an evaluation of the potential for RD to occur at this site. In the RD process, the formation of reducing conditions results in the transformation of solid phase ferric iron (Fe^{+3}) to dissolved ferrous iron (Fe^{+2}). For the CE, PBS&J obtained the assistance of the University of Florida, Department of Environmental Engineering Sciences (UF) for the collection of samples and to perform bench test-related research. The UF researchers evaluated whether natural site soils and aquifer sediments can serve as the source of iron, arsenic and ammonia-nitrogen being encountered, and whether the soils are of a nature that RD can be the cause of their release into groundwater.

5.Groundwater Assessment. The fifth task of the CE was an assessment of the groundwater chemistry at the site through the installation of 16 shallow temporary monitoring wells and 4 deep temporary monitoring across the site. These wells were used along with the existing permanent monitoring well to develop a profile of the water table elevations, evaluate arsenic (total and speciated) and the other COC concentrations in the groundwater across the site, and to evaluate general groundwater chemistry, including RD parameters and Oxygen Reducing Potential (ORP). ORP is a measure of the relative chemical differences between the oxidizers and the reducers found in groundwater. The evaluation of ORP is important because groundwater does contain concentrations of redox-active species. Thus, ORP indices can be cross compared to track the chemical attributes of adversely affected impacts of ground or surface water. A negative ORP value is a good indication that the water substrate is anaerobic and in a reductive dissolved state.

2.3.3 Contamination Evaluation Report

The findings of the CE were presented in a Contamination Evaluation Report (CER), which was prepared by PBS&J and dated October 2008. The CER reported the following information, as broken down by the major tasks performed during the CE:

1. Research. When compared to the published data, the analytical results from the speciation sampling and the soil sampling in the Phase II area appear to indicate that the soils have not been adversely affected by activities, such as the use of CCA-treated wood or herbicides, which could also release arsenic into the soil.

With regard to the reported cattle dipping site, based on review of aerial photos, an area known to have a dip vat was located approximately 1,800 feet southwest of the active landfill. The immediate vicinity of the suspected cattle dip vat had been used to obtain borrow material for the landfill site. Soil testing in cattle dip vat/borrow pit area was performed as part of the arsenic speciation studies, with no significant arsenic concentrations found to suggest that that area was a significant source of arsenic.

With regard to the WTPF, the County has in the past used chipped tires as erosion control material in stormwater ditches on the landfill itself. There was concern that these practices might be contributing to the high concentrations of metals found on site. Industry tends to promote that waste tire rubber is considered non-toxic from a leachability point of view. Based on published studies and the results of Toxicity Characteristic Leaching Procedure (TCLP) tests conducted on

scrap tire chips, the metal constituents that would be expected to leach out of these materials were determined to be significantly lower than regulatory threshold limits. The literature also reported that the concentrations of metals detected were below levels of concern and posed no hazards to water quality. The metal zinc, which had been detected as leaching from scrap tires, was determined not to pose any potential harm to the environment. The review of published data suggested that the potential for waste tire chip stockpiling or use activities to be a source of surface-related arsenic contamination was considered low.

The historical groundwater analytical data indicated elevated concentrations of a number of parameters, including the COCs, in the groundwater monitoring network on the south and west sides of Phase I of the landfill. The historical groundwater flow patterns across the site suggested that the direction of groundwater in the surficial aquifer varied with the amount of rainfall that the site received, and that the groundwater flow on the west side of the landfill area flowed in a southwest direction, and that the groundwater beneath the east side of the landfill flowed to the southeast.

2. Arsenic Speciation. The speciation results indicated that the predominant species of arsenic in the soil samples was of the arsenic (V) arsenate type. This particular species of arsenic is the type that tends to sorb to soil/sediment particles and does not readily desorb or migrate while in solution in the groundwater. Dimethylarsinic acid (DMA) and monomethylarsinic acid (MMA), typically found in herbicides used to treat lawns, were not detected in significant concentrations.

3. Arsenic Soil Delineation. Arsenic concentrations in the soil at the Phase II Area were greater than the State Residential Soil Cleanup Target Level (SCTL) at approximately 10% of the sampling points. None of the arsenic concentrations exceeded the Commercial/Industrial SCTL. The iron concentrations in the samples did not exceed Residential SCTL. The same was true for the concentrations of chromium, copper, and lead. The concentrations of total nitrogen in the soil ranged from 32.8 milligrams per kilogram (mg/kg) to 375 mg/kg.

The SPLP analytical results did not indicate any significant concentrations of constituents that would indicate that these constituents could be leaching into the groundwater as a result of contact with precipitation.

4. Reductive Dissolution Evaluation. Soil samples collected from a number of areas at the site show that iron, arsenic, and ammonia are naturally-occurring constituents of the soil at the CCSWDC. The Department of Environmental Engineering Sciences at the University of Florida (UF) has been evaluating the role of a process known as reductive dissolution in the release of dissolved iron into groundwater at landfill sites. In this process, the formation of reducing conditions results in the transformation of solid phase ferric iron (Fe^{+3}) to dissolved ferrous iron (Fe^{+2}).

In the study for this site, UF researchers have evaluated whether natural site soils and aquifer sediments can serve as the source of iron, arsenic and ammonia-nitrogen being encountered, and whether the soils are of a nature that reductive dissolution can be the cause of their release into groundwater. Florida soils are known to naturally contain iron minerals such as hematite and goethite. In these minerals, the iron is the oxidized form, referred to as the Fe^{+3} form or the ferric

form; these mineral are in the solid phase. In a surficial aquifer and the overlying vadose, sufficient oxygen is normally present such that the dominant pathway for microbial respiration of organic matter is through aerobic biodegradation (oxygen is used as the electron acceptor aerobic organisms). When oxygen becomes sufficiently diminished, other organisms can utilize the organic matter for respiration by using other electron acceptors. A notable group among these is "iron reducing bacteria," (IRB) which use Fe+3 as an electron acceptor. Iron reducing bacteria were measured in the site soils, with greater concentration in soils near areas where the highest iron concentrations occurred.

For IRB to release solid-phase iron into solution, they require a source of organic matter. Measurement for site soils found that organic matter was naturally present and that when iron is released through RD, organic matter is released. Though the arsenic concentrations in the soil were within typical range of most Florida soils, tests on many of the samples found that arsenic was released into solution during the RD process of iron. Arsenic is known to bind to iron oxide minerals in soil; when the naturally-occurring iron is released through the action of the iron reducing bacteria, naturally-occurring arsenic can be released as well. The fact that organic matter is associated with the iron minerals suggests that an external source of organic matter, such as leachate, is not required for the reaction to occur.

Ammonia nitrogen (more specifically ammonium ions) was found to be naturally present in the soil. Preliminary experimental results suggest that ammonium is also bound to the iron oxide minerals to an extent, and when these minerals dissolve through RD, ammonia nitrogen is release into solution.

5. Groundwater Assessment

The results of the groundwater assessment indicated that arsenic, iron, manganese, ammonia (as Nitrogen), chloride, sodium, sulfate, and pH were detected in at least one sampling point at concentrations in excess of their respective GCTL or Secondary Drinking Water Standard (SDWS). Arsenic was detected at 13 of the well locations, with the highest concentrations detected at wells located in the Phase IV Area of the landfill. The concentration of iron exceeded the SDWS at all but one of the sampling points. TDS exceeded groundwater standards and pH was outside the groundwater standard range on the lower side at the majority of the wells. With regard to the other constituents, they were detected at concentrations in excess of the standards at only a few well locations.

With regard to the ORP values, with the exception of two well locations, GW-3 and GW-10, all of the ORP readings collected in the groundwater within the footprint of the landfill exhibited high-negative milivolt ORP value numbers. The ORP values were all within the range where iron dissolution will, according to studies, take place. The highest-negative ORP values were found along the junction line between Phase I and Phase IV areas and along the southern end of the Phase III and Phase IV areas. At the time of the CEP Assessment these locations generally corresponded to the locations where elevated arsenic concentrations were detected.

Based on these results, PBS&J concluded that iron, arsenic and ammonia are naturally-occurring chemicals in the soils at the CCSWDC. The results of the speciation testing suggested that the

arsenic in the soil could not have originated from CCA-treated wood or herbicides. The SPLP results suggested that mobility by contact with stormwater itself is not a mechanism for leachate migration. Therefore, there did not appear to be any significant arsenic-contaminated soil which might serve as a source of the groundwater contamination. Tests designed to measure the propensity of a soil to undergo RD of iron minerals, however, found that the site soils do, in fact, release iron when exposed to RD. It was hypothesized in the CER that the construction of the lined landfill cell, along with associated site development and other site activities (e.g., storage piles of cover soil), have sufficiently decreased vadose zone oxygen content in some areas of the site resulting in conditions suitable for accelerated growth of iron reducing bacteria have developed. The proliferation of the iron reducing bacteria has in turn resulted in the release of iron, arsenic, and ammonia-nitrogen into the surficial groundwater.

As a whole, the results of the CE suggested that a plausible explanation of the groundwater exceedances for iron, arsenic and ammonia-nitrogen is that RD of iron minerals in the site soils facilitates the release of these chemicals into the groundwater. The fact that organic matter is associated with the iron minerals as well suggests that an external source of organic matter, such as leachate, is not required for the reaction to occur.

3.0 GEOLOGY AND HYDROGEOLOGY

The following information was gathered from technical publications of the U.S. Geological Survey and the Florida Geological Survey regarding the geology and hydrogeology of the Sarasota County area and from the site-specific information presented in the technical evaluation of the landfill site prior to construction (Ardaman & Associates, Inc., 1992).

3.1 Regional Geology and Hydrogeology

Sarasota County lies within the Gulf Coastal Lowlands physiographic province. Land surface elevations within the County range from sea level along the coast to over 100 feet above the National Geodetic Vertical Datum (NGVD) in the northeast part of the County. The land surface is generally flat in most areas of the County.

The majority of the County is poorly drained. The Myakka River and its tributaries are the major streams in the County. The Myakka River flows generally from northeast to southwest. The river is located approximately one mile southeast of the CCSWDC.

The sediments and lithified materials underlying the upper part of the subsurface beneath the County include sand, silt, clay, consolidated and unconsolidated shell beds, and limestone and dolomite. These materials are divided into several geologic units which range in age from the Oligocene to the Holocene.

The oldest unit of consequence in the subsurface below Sarasota County is the Oligocene age Suwannee Limestone. The Suwannee is generally divided into two units, an upper light colored limestone with interbedded dark colored dolomite, and the lower unit is a light gray limestone. The top of the Suwannee can be found at an approximate elevation of 350 feet below the NGVD in the northern part of the County, and dips southward to point where upper surface is located at elevation of 650 feet NGVD in the south. The Suwannee ranges in thickness from 150 feet to 350 feet. It is at its thickest on the east side of the County.

The next unit up in the sequence is the Miocene age Hawthorn Group. In this part of the Florida, the Hawthorn consists of two units, the Arcadia Formation and the Peace River Formation. The Arcadia is further divided into the Tampa Member an unnamed Upper Member. The Tampa Member is comprised of a light colored sandy limestone with a mud matrix and varying amounts of clay. The Upper Member is comprised of sandy, clayey, dolomite and limestone interbedded with thin beds of sand and clay. The top of the Arcadia Formation is present throughout the County, and is encountered at an approximate depth of 0 feet NGVD beneath the north part of the County and approximately 100 feet below the National Geodetic Vertical Datum in the south. The Arcadia ranges in thickness from 300 feet to 500 feet.

The Peace River Formation is comprised of light gray and green phosphate-rich sands, clayey sands, clay, and dolomite stringers. The Peace River ranges from 0 feet near Sarasota, to over 100 feet in the east part of the County. The upper surface of the unit can be found at or near the NGVD throughout the County.

The next unit up in the sequence is the Holocene age sands, silts, clays, and organic materials that are found in present day flood plains, beaches, intertidal swamps and marshes, inland swamps, marshes and lakes.

The upper-most unit in the sequence outside of the Holocene age sediments at the surficial deposits of Pliocene-Pleistocene age which blanket the entire County. These sediments consist of sands, silts, and clays which are variably indurated with shell beds. The thickness of the surficial sediments typically ranges from 15 to 30 feet.

There are three hydrogeologic units in Sarasota County, the surficial aquifer, the intermediate aquifer, and the Floridan aquifer. The surficial aquifer is unconfined and is contained within the pore spaces of the Holocene age sediments which blanket the County. The intermediate aquifer system/confining unit consists of the Hawthorn Group rocks and sediments. The Hawthorn Group sediments include limestone, dolostone, quartz and phosphate sand, clayey sand, clay, sandy clay, and chert. Within Sarasota County, the intermediate aquifer system contains three water-producing permeable zones, which are known as PZ1, PZ2, and PZ3. The Floridan aquifer system lies within the cracks, fissures, and bedding planes of the Suwannee Limestone. This hydrogeologic unit comprises water-bearing limestone and dolomite zones within several formations that, taken together, are more than 3,500 feet thick.

3.2 Site-Specific Geology and Hydrogeology

3.2.1 Geology

The Holocene age sediments beneath the CCSWDC extend to an approximate depth of 18 feet below land surface (BLS) and generally consist of gray to brown fine sand with organic material and roots from the surface to a depth of 5 feet BLS. Gray to brown, calcareous silty to clayey fine sand is present from a depth of 5 feet BLS to depths ranging from 13.5 to 18 feet BLS, including some areas with dark phosphate nodules.

The top of the Hawthorn Group sediments range in depth from approximately 18 feet BLS to more than 40 feet BLS, and include interbedded zones of gray-brown (calcareous) clayey fine sand, hard rock layers, and layers of gray to gray-green clay. The hard rock layers generally consist of cemented and consolidated silty sand, silt, clayey sand, and clay. Limestone or rock fragments are present in many of the hard layers, and some predominantly limestone layers are present.

Based on studies by Ardaman & Associates, Inc. (2008), the average hydraulic gradient in the Phase II area ranged from approximately 0.0005 to 0.0011. The groundwater flow direction typically ranged from west to south-southwest. The hydraulic conductivity from site-specific field tests in the piezometers ranged from 0.25 to 4.1 feet per day. Considering an effective porosity of 0.25, the maximum groundwater flow velocity in the surficial aquifer would range from 0.003 to 0.098 feet per day or 1.1 to 36 feet per year. The Ardaman & Associates study also

found that there is typically a downward gradient from the surficial aquifer to the PZ2 zone of the intermediate aquifer. However, there is an upward gradient from PZ3 to PZ2 within the intermediate aquifer, which effectively prevents recharge from the surficial aquifer system to the Floridan aquifer system at this site.

The Suwannee Limestone is located beneath the Hawthorn Group sediments. The Floridan aquifer system reportedly lies at a depth of more than 470 feet at this site, and is more than 3,500 feet thick. The potentiometric surface elevation of the upper Floridan aquifer is reportedly higher than the water table in the surficial aquifer system in this area. Therefore, there is no recharge from the surficial aquifer system to the Floridan aquifer system in the Phase II area. The Floridan aquifer was not sampled or investigated as part of this investigation.

All of the shallow permanent monitoring wells and piezometers in the landfill monitoring network, and the temporary monitoring wells installed as part of CE and this study (as described in Section 5) appear to be screened within the surficial aquifer. Groundwater produced from the deeper temporary monitoring wells appears to come from the zone representing the bottom of the surficial aquifer and the top of the intermediate aquifer. Based on review of geologic cross sections of the site, these temporary wells appear to be screened just above the estimated depth of PZ1.

3.2.2 Hydrogeology

In the hydrogeological evaluation report, Ardaman and Associates Inc. reported that the groundwater in the surficial aquifer beneath the west side of the landfill site was flowing towards the southwest, and that the groundwater beneath the east side was flowing to the southeast. Ardaman & Associates, Inc. also collected monthly groundwater level data from October 2006 through October 2007 at eight monitoring well locations, six piezometers, and two surface water locations located primarily in the Phase I and Phase II areas of the facility. During a typical month during the dry season (April 2007, for example), groundwater flow was generally toward the north across the Phase I area, but the flow was from north to south across the northern portion of Phase II, then westward from the central portion of Phase II. During a typical month during the wet season (August 2007, for example), the groundwater appears to flow from northwest to southeast across the Phase I area, but flows from the north and east toward the southwest across the Phase II area.

From July 28 through July 31, 2008, PBS&J collected water level data for all of the existing monitoring wells, compliance wells, and temporary monitoring wells in the Phase I, Phase II, Phase III, and Phase IV portions of the site. Groundwater flow direction was generally toward the west and southwest, with localized areas of depressed water table elevations in the Phase II area and localized zones of higher water table elevations elsewhere.

In June 2009 additional staff gauges were installed in the deeper ends of the seven storm water management ponds on site where the pond bottoms are below the water table. On June 12, 2009 groundwater and surface water elevations were measured (Table 3-1). This data was evaluated to determine if the stormwater ponds might be significantly dewatering the site. Table 3-1 contains

as-built data on these ponds. Generally, each pond intercepts the surficial aquifer at its deep end. The control structure for the pond retains water within the pond for recharge to the aquifer until water levels reach the control elevation of the bleed down orifice. Should water elevations reach the elevation of the overflow weir, then discharge over the top of this weir occurs.

Sources of water for these ponds include stormwater drainage into the pond from the landfill areas, interception of the water table and incident rainfall onto the pond surfaces. Discharges from the ponds include evaporation off the pond surface, recharge to the water table and discharges through the control structure to surface water.

Since average annual precipitation (54 inches/year) exceeds evaporation (52 inches/year) by two inches and the bleed down orifices are set above the average water table elevations found on site, it does not appear that these ponds are significantly dewatering the site.

These ponds have only a local effect on the water regime at the site. They are simply a surface reflection of the overall groundwater flow pattern at the site. They do not appear to be dramatically effecting the overall groundwater flow direction, which is toward the west (at Phase 2 and 3) and toward the southeast (at Phase 1 and 4).

4.0 FIELD INVESTIGATION

The Site Assessment being conducted at this time is a continuation of on-going investigations at this site relating to the contaminants of concern. Previous activities related to this investigation include the following:

- Compliance Monitoring
  -Compliance well installation, January 2008
  -Quarterly monitoring since well installation
- Contamination Evaluation
  -Speciation of groundwater and soils, April 2008
  -Soil sampling for delineation in Phase II, May 2008
  -Groundwater sampling of on-site wells, July 2008
- Site Assessment
  -Surface Water sampling, April 2009
  -Groundwater sampling in Phases II and IV, April 2009
  -Soil sampling in Phase IV, April 2009

The field investigation plan developed for this SA is based on the information learned during the Contamination Evaluation investigation conducted in 2008. The activities of the two investigations (contamination evaluation and site assessment) and their results are discussed together in this report to present a more comprehensive picture of the nature and extent of the impacts by the COCs at this site. The scope of the SA involved the following major field tasks:

1 Delineate the limits of the COC-impacted groundwater through the installation and sampling of addition temporary monitoring wells.

2 Collect and analyze additional soil samples from the Phase II and Phase IV areas to further evaluate any impacts from the COCs, and to further evaluate arsenic speciation.

3 Collect soil and groundwater samples from areas within and adjacent to some of the natural wetlands on the CCSWDC site to determine whether the soils and groundwater in the natural wetland areas exhibit elevated iron and arsenic concentrations.

4 Collect surface water samples from the ponds and ditches in the immediate vicinity of the landfill, and to collect surface water samples from the Myakka River at points located upgradient and downgradient of the landfill.

A detailed description of these tasks is presented below. It is again noted that the sections below include discussions of the CE activities performed in 2008 because the SA activities were dependant on CE Activities. The results of the SA were incorporated with those of the CE to present a more comprehensive picture of the nature and extent of impact at the CCSWDC site from the COCs and other constituents.

4.1 Soil Sampling

To aid in identifying possible sources of arsenic that could leach into the groundwater, soil investigations were performed at background locations and in areas that exhibited elevated arsenic concentrations in the groundwater. Three primary investigations were completed with regard to soil. The scope and methodology of each of these investigations are described separately below.

4.1.1 Soil Sampling Methodology

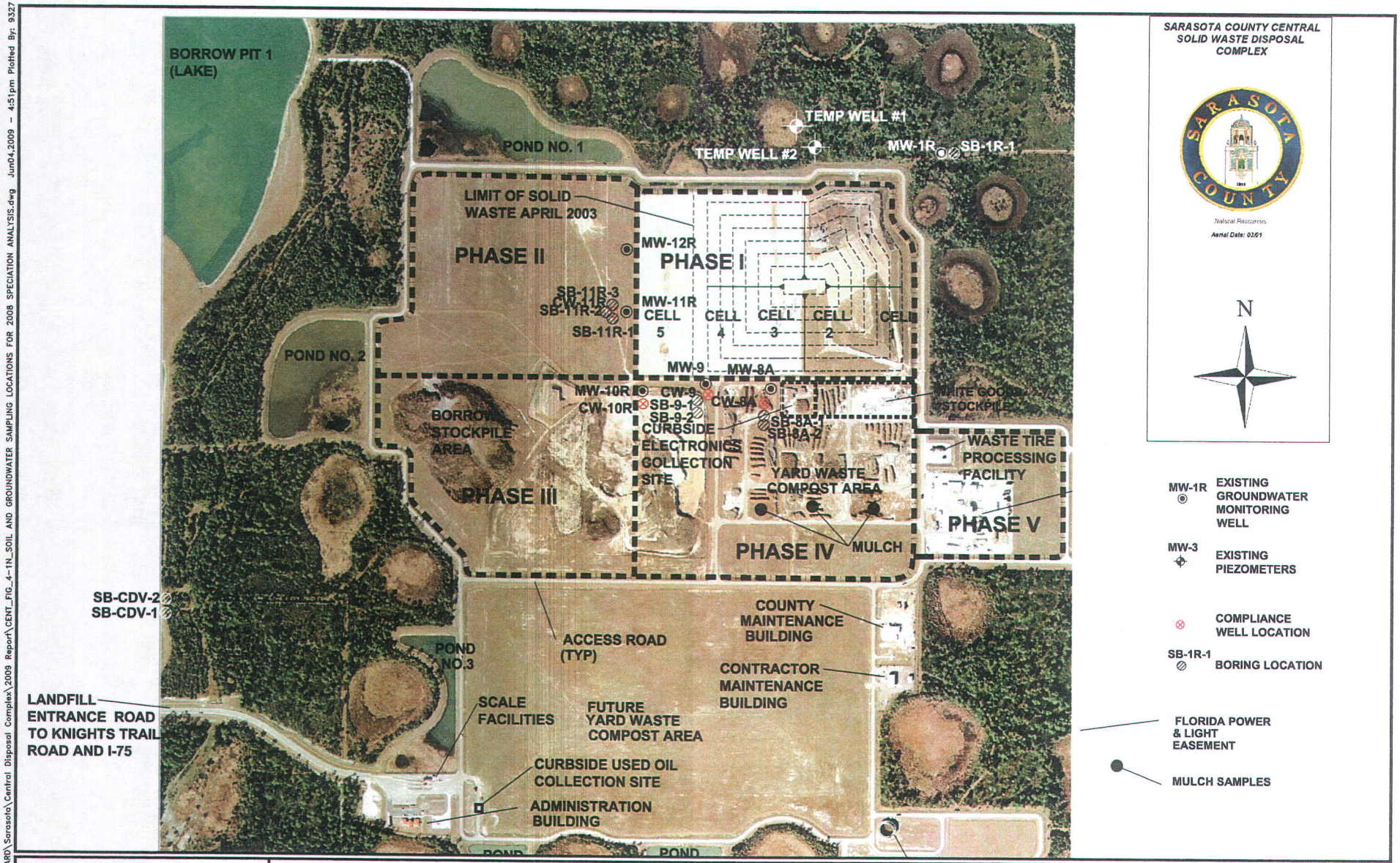
Sampling of Soil for Arsenic Speciation Analysis

To further the objectives of the Site Assessment, determination of the chemical nature (i.e., speciation) of the arsenic was recommended in order to relate the arsenic found in site groundwater to possible soil and sediment sources. The general scope of this soil investigation was to provide for sampling, to determine arsenic speciation, of soil samples at the site in the areas affected by arsenic impacts.

Discrete (grab) soil samples were analyzed to determine inorganic arsenic speciation. Composite soil samples were also analyzed for total arsenic. The sampling locations were divided into specific areas of interest, as follows:

1. Collect 1 soil sample from near MW-1R (representative background sample);
2. Collect 2 soil samples from the former mulch/yard waste area near CW-8A;
3. Collect 1 composite sample of on-site mulch material from four representative mulch "piles";
4. Collect 2 soil samples from native soil and borrow soil near CW-9;
5. Collect 3 soil samples north, south, and west of CW-11R (landfill expansion Phase II area); and
6. Collect 2 soil samples from suspected a cattle dip vat area at a borrow pit immediately west of the site.

PBS&J conducted these soil sampling activities at the CCSWDC on April 22 and 23, 2008. The locations of the soil borings, compliance wells, and monitoring wells are depicted on the attached Figure 4-1. Soil samples for laboratory analysis were collected using a 3-inch diameter stainless steel hand auger from the locations described above. The mulch sample was collected by hand from four piles of soil that were representative of some of the older mulch material located in the mulch staging area (also shown on Figure 4-1). Except for the mulch sample and the samples from the suspected cattle dip vat locations, the soil samples were named for the respective nearby compliance well. For example, SB-8A-1 was located in the vicinity of CW-8A.



U:\SO\Oldg\HAZARD\Sarasota\Central Disposal Complex\2009 Report\CENT_FIG_4-1N_SOIL AND GROUNDWATER SAMPLING LOCATIONS FOR 2008 SPECIATION ANALYSIS.dwg Jun04,2009 - 4:51pm Plotted By: 9327

PBSJ	SARASOTA COUNTY CENTRAL COUNTY SOLID WASTE DISPOSAL COMPLEX	SOIL AND GROUNDWATER SAMPLING LOCATIONS FOR 2008 SPECIATION ANALYSIS	FIGURE 4-1

The sample of mulch and the samples of the soil from the suspected cattle dip vat area were named "Mulch A" and "SB-CDV", respectively.

Each soil boring was completed to the depth of the water table. The depth to water ranged from 4.5 feet below surface to 8.5 feet below surface. Soils at the site were primarily fine sand or silty fine sand. Thin zones of clayey sand, sandy clay, or sand with lime rock pieces were encountered at selected locations near CW-8A, CW-9, and the suspected cattle dip vat area. Soil boring logs, including references to their specific locations, are provided as Appendix A.

At each soil boring location, composite soil samples for analysis of total arsenic were collected from the depths of 2 feet, 4 feet, and just above the water table. The soil samples for total arsenic were composited in a stainless steel bowl. The soil samples for arsenic speciation were collected as discrete grab samples from inside the auger bucket from just above the water table. After each sample was collected, the auger and stainless steel collection bowl were cleaned in compliance with FDEP Standard Operating Procedures. The auger and bowl were then rinsed with distilled water. All samples were stored with wet ice and were sent to the Applied Speciation and Consulting, LLC laboratory under chain-of-custody procedure.

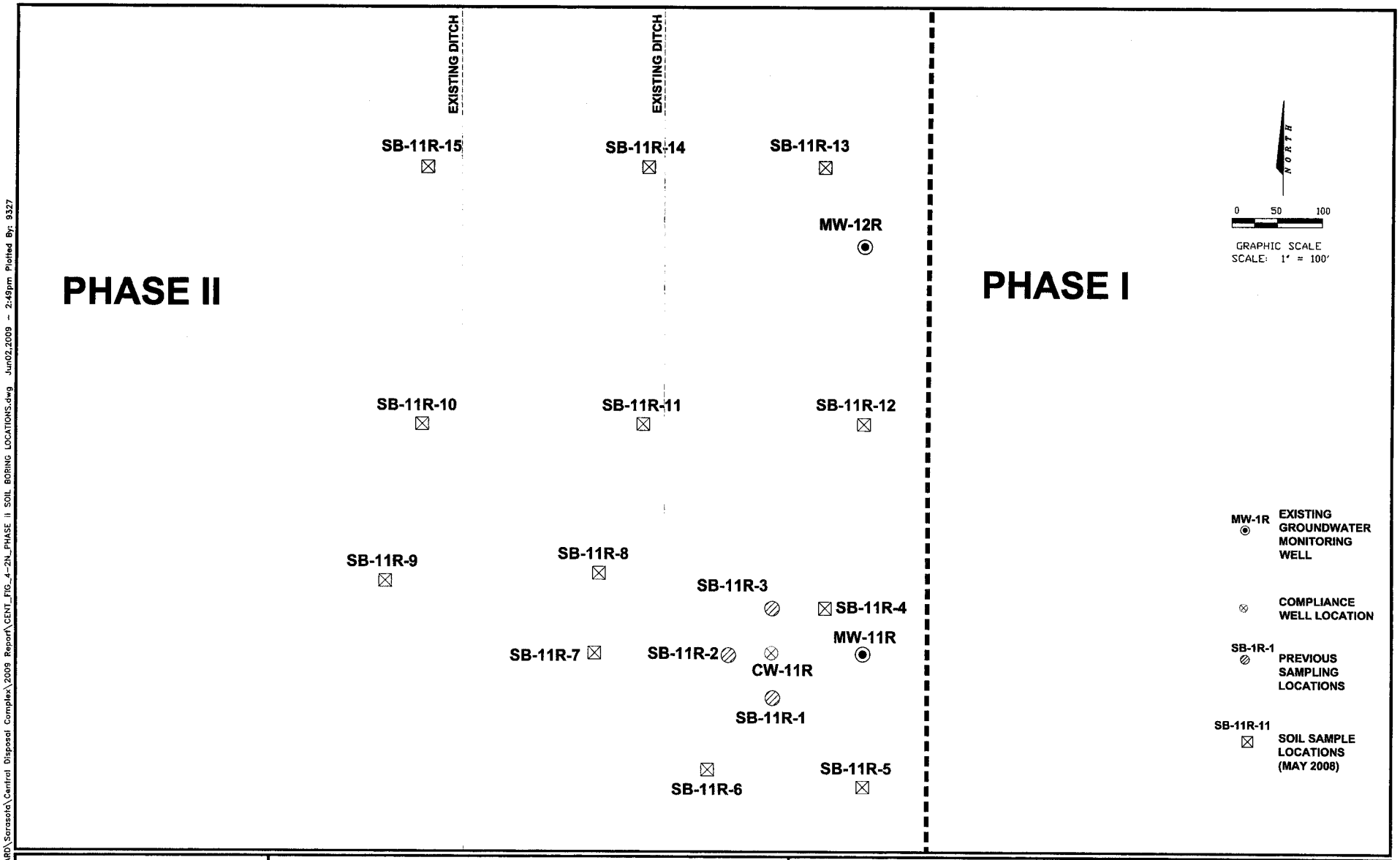
Sampling of Soil in the Phase II Area (Arsenic Soil Delineation)

During performance of the soil sampling for arsenic speciation at soil boring SB-11R-3, elevated concentrations of total arsenic were detected. This boring location was 50 feet north of compliance well CW-11R. The elevated concentration (27.8 mg/kg) in the composite sample from this location indicated that this area may have the potential to act as a source of arsenic that could leach into the groundwater. Further soil sampling and delineation was necessary to determine if the elevated concentration of arsenic at this location could be considered an isolated occurrence or a portion of a much larger area of arsenic-impacted soil (which could possibly be contributing to the presence of arsenic in the groundwater). The specific scope of work for the arsenic soil delineation effort was as follows:

- Soil was sampled at 12 representative locations surrounding the location of SB-11R-3. The selected sampling locations were focused primarily on areas to the north and west of SB-11R-3, because prior sampling activities to the south and, the presence of the landfill to the east, limited the need for sampling points in those directions. However, all directions from the boring location received some level of investigative scrutiny.

- Soil samples were collected with a hand auger to a depth of approximately 6 to 6.5 feet below surface (just above the water table). At each location, discrete (grab) samples were collected at the following depths: 2-feet, 4-feet, and 6-feet, in order to delineate the soil impacts both vertically and laterally.

PBS&J conducted soil sampling activities in the Phase II area at the CCSWDC on May 21, 2008. The locations of the soil borings, compliance wells, and monitoring wells in the Phase II portion of the landfill property are included on Figure 4-2. The soil samples were named for the nearby



PBSJ

SARASOTA COUNTY
CENTRAL COUNTY SOLID WASTE
DISPOSAL COMPLEX

PHASE II
SOIL BORING LOCATIONS

FIGURE
4-2

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compliance well, CW-11R. However, the boring numbers from the previous speciation activities (SB-11R-1 through SB-11R-3) were not repeated. Therefore, the borings were numbered SB-11R-4 through SB-11R-15. An additional number (-2, -4, or -6) was added to the boring location nomenclature to represent the depth of the sample. For example, SB-11R-4-2 was the sample from the 2-foot depth at SB-11R-4.

Soil samples for laboratory analysis were collected using a 3-inch diameter stainless steel hand auger. Each soil boring was completed to the depth of the water table. The depth to water ranged from 6.0 feet below surface in the central portion of the Phase II area to 6.5 feet below surface in the eastern portion of the Phase II area. Soils encountered at the site were described as primarily fine sand or silty fine sand. Soil boring logs are not provided with this report because the soil profile was essentially the same as documented above for SB-11R-1, SB-11R-2, and SB-11R-3 in the discussion of the speciation soil sampling activities.

At each soil boring location, discrete (grab) soil samples for analysis were collected from the depths of 2 feet, 4 feet, and just above the water table (6 to 6.5 feet). The grab samples were placed in three separate stainless steel bowls for each location. After sampling at each location was completed, the auger and stainless steel collection bowls were cleaned in compliance with FDEP Standard Operating Procedures. The auger and bowls were then rinsed with distilled water. All samples were properly preserved and were sent to the SunLabs, Inc. laboratory in Tampa, FL under chain-of-custody procedure.

The samples were analyzed for total arsenic, chromium, copper, lead, and total nitrogen. In addition, 4 representative samples from the 36 grab samples were analyzed for arsenic, nitrate, and ammonia (aqueous) using the Synthetic Precipitation Leaching Procedure (SPLP) Extraction Method. Since arsenic can be associated with iron compounds in the sediments, the presence of iron and its ability to be a contributory source under a reductive chemistry environment in the groundwater were examined. Therefore, a total of 10 representative samples were collected and analyzed for total iron.

On June 27, 2008, FDEP provided comments on the April 2008 Contamination Evaluation Plan via e-mail. One of the comments recommended re-sampling at the location of SB-11R-3. On July 7, 2008, PBS&J re-sampled the depths of 2-feet, 4-feet, and 6-feet at SB-11R-3 using the same methodology described above.

Sampling of Soil in the Phase IV Area (Identify Areas of Elevated Arsenic)

During the groundwater sampling activities conducted during July 2008, elevated concentrations of arsenic were identified at temporary monitoring wells GW-15 and GW-16. As a result, soil samples were collected for total arsenic analysis at 3 depths at 12 representative locations (for a total of 36 samples) surrounding the locations of temporary monitoring wells GW-14, GW-15, and GW-16. These sample locations were selected to attempt to identify any possible soil arsenic sources in the vicinity of GW-15 and GW-16. The sampling locations included sites located within the mulch handling and storage areas, as well as just outside the southern and eastern

boundaries of Phase IV. Selected, representative locations and depths were also sampled for speciated arsenic and other parameters, as is discussed below.

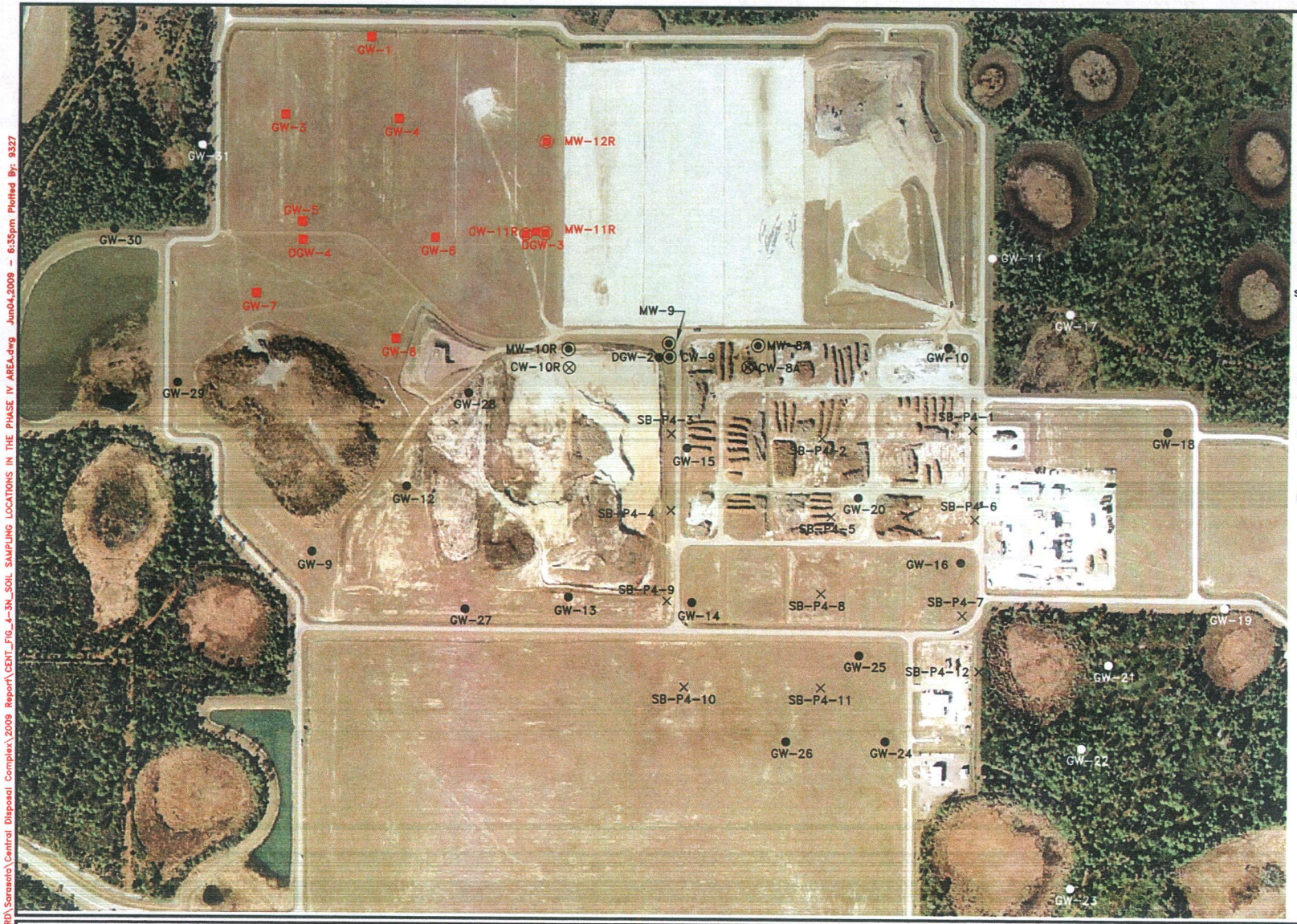
Soil samples were collected with a hand auger to a depth of approximately 6.5 feet (just above the water table). At each location, discrete (grab) samples were collected at the following depth intervals: 2-2.5 feet, 4-4.5 feet, and 6-6.5 feet, in order to delineate the soil impacts both vertically and laterally. All 36 samples, plus four duplicates, were analyzed for total arsenic. In addition, 12 representative samples from among the 36 Total Arsenic samples were analyzed for the following parameters:

- Arsenic (aqueous) using the SPLP Extraction method
- Speciated Arsenic
- Total Iron
- Copper
- Chromium
- Lead,
- Nitrate with SPLP Extraction
- Ammonia with SPLP Extraction.

PBS&J conducted soil sampling activities in the Phase IV area at the CCSWDC on April 28, 2009. The locations of the soil borings, compliance wells, and monitoring wells in the Phase IV portion of the Landfill property are shown on Figure 4-3. The samples were collected following the same methodology described above for the Phase II area samples. The soil samples were named for the Phase IV area (i.e., "P4"). Therefore, the borings were numbered SB-P4-1 through SB-P4-12. An additional number (-2, -4, or -6) was added to the boring location nomenclature to represent the depth of the sample. For example, SB-P4-1-2 was the sample from the 2-foot depth at SB-P4-1. The depth to water ranged from 6.0 feet below surface at locations immediately south of the Phase IV boundary to 6.5 – 7 feet below surface in the north-central portion of the Phase IV area. Soils encountered at the site were described as primarily fine sand or silty fine sand. Soil boring logs are provided in Appendix A. Soil samples were containerized, placed on ice, and delivered under chain-of-custody procedure to SunLabs, Inc. in Tampa, Florida.

Soil Sampling for Evaluation of Wetland Impacts

On April 9, 2009, two soil samples were collected from the vicinity of a wetland located to the north of the Phase I area of the landfill. The wetland investigation was proposed to consist of collecting two groundwater samples and two soil samples. One set of soil/groundwater samples (Temp Well #1) was collected from within a wetland area located due north of the Phase I portion of the landfill. The second set of soil/groundwater samples (Temp Well #2) were collected in an upland area downgradient of the wetland. The soil samples were collected from a depth of two feet and were analyzed for arsenic and iron. The investigation of arsenic/iron soil and groundwater impacts at existing (un-filled) wetlands near the landfill will be compared with the data collected from Phases III and IV, where historical (now filled-in) wetlands were known to exist. The locations of Temp Well #1 and Temp Well #2 are shown on Figure 4-1.



U:\SO\Old\(HAZARD)\Sarasota\Central Disposal Complex\2009 Report\CENT_FIG_4-3N_SOIL SAMPLING LOCATIONS IN THE PHASE IV AREA.dwg Jun04,2009 - 6:35pm Plotted By: 9327

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SOIL SAMPLING LOCATIONS IN THE PHASE IV AREA

FIGURE
4-3

4.2 Groundwater Sampling

Groundwater investigations were conducted with three primary goals: 1) to determine the extent of arsenic impacts to groundwater in the Phase II, Phase III, Phase IV areas, and selected background locations, 2) to sample for other parameters that may be associated with RD (such as iron, ammonia, etc.), and 3) to determine the groundwater flow pattern within the Phase II, Phase III, and Phase IV areas. The groundwater investigations included sampling and analysis of groundwater from existing permanent monitoring wells, installation of temporary monitoring wells, and sampling and analysis of groundwater from the temporary monitoring wells. These groundwater investigations were conducted primarily during two time periods: the initial investigations were conducted primarily in July 2008, while the follow-up investigations were conducted in April 2009. Groundwater flow data are discussed in Section 4.4.

4.2.1 Temporary Monitoring Well Installation Procedures

As of 2008, the CCSWDC had ten existing permanent monitoring wells that were periodically sampled for arsenic and other parameters (MW-1R, MW-8A, MW-9, MW-10R, MW-11R, MW-12R, CW-8A, CW-9, CW-10R, and CW-11R). These wells primarily surrounded the immediate perimeter of the Phase I area (active landfill cells) on its north, south, and west sides. During January 2009, MW-11R, MW-12R, and CW-11R were abandoned due to the need to construct additional landfill cells at Phase II.

In 2008, it was determined that groundwater quality data for the nearby areas of Phase II, Phase III, Phase IV, and selected background locations, would be needed. During the initial groundwater investigation activities in July 2008, twenty temporary monitoring wells were installed at the representative locations shown on Figure 4-4. One piezometer (PZ-2A) was also installed, using a hand auger, to the north of Phase I to a depth of approximately 4.5 feet. Sixteen of the wells installed in July 2008 were shallow temporary wells installed to a depth of approximately 15 feet BLS. Four deeper temporary monitoring wells were installed to a depth of approximately 20 feet BLS.

During the follow-up investigations in April 2009, 15 additional, primarily shallow, temporary monitoring wells were installed. The wells installed during the follow-up phase of investigation are shown in Figure 4-5. The installation methodologies for the shallow and deeper monitoring wells are described separately below.

<u>Shallow Temporary Monitoring Well Installations</u>

From July 15 through July 18, 2008, PBS&J mobilized to the landfill site to install 16 temporary monitoring wells using a truck-mounted hollow-stem auger rig. Each of the shallow monitoring wells except GW-2 was installed to a depth of approximately 15.3 feet below land surface. These monitoring wells consisted of a ten-foot section of a PVC Schedule 40 riser (with five feet sticking up above grade), a ten-foot section of 0.010 PVC Schedule 40 well screen, and a 4-inch

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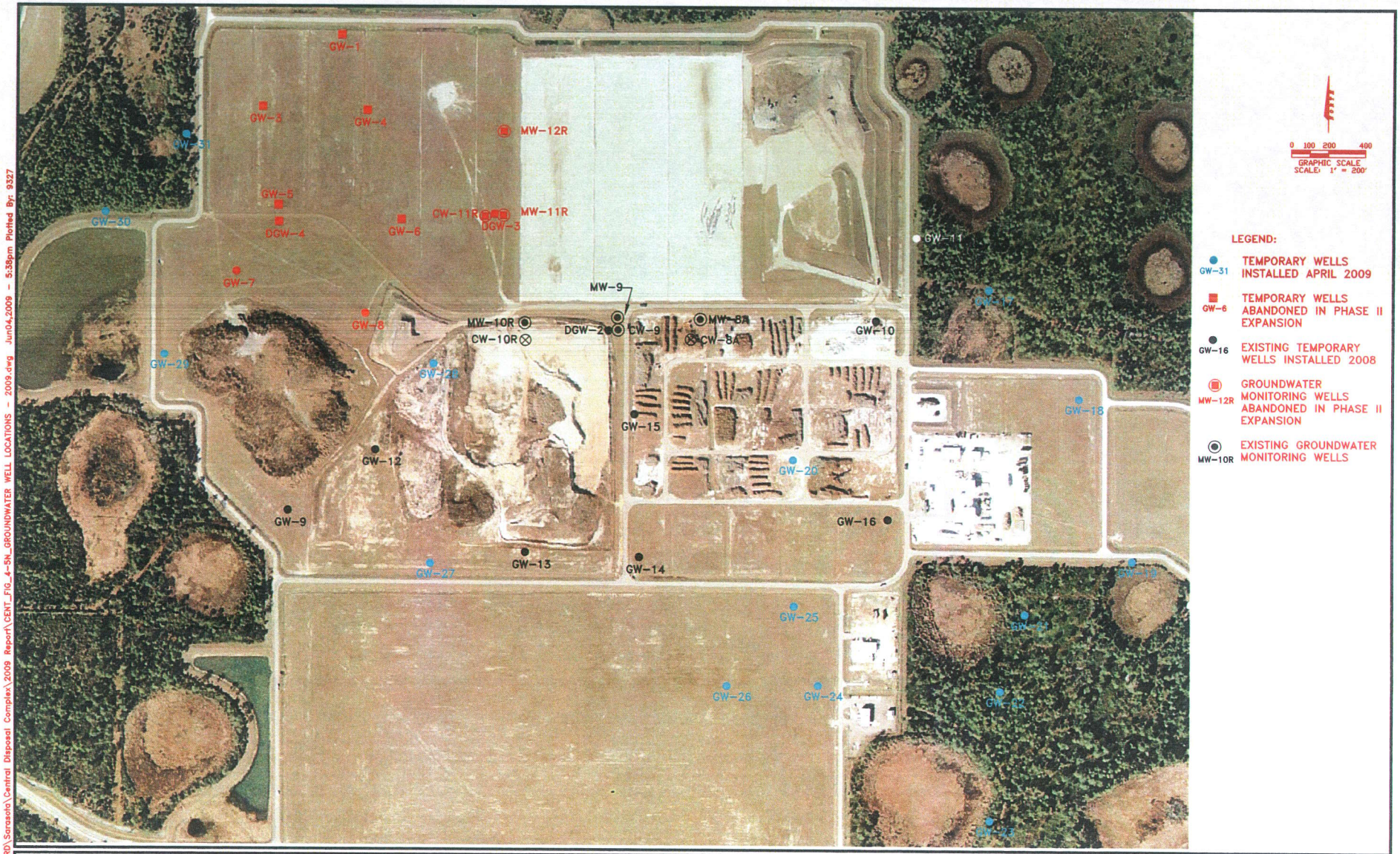
PBSJ

SARASOTA COUNTY
CENTRAL COUNTY SOLID WASTE
DISPOSAL COMPLEX

GROUNDWATER WELL LOCATIONS - 2008

FIGURE
4-4



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SARASOTA COUNTY
CENTRAL COUNTY SOLID WASTE
DISPOSAL COMPLEX

GROUNDWATER WELL LOCATIONS - 2009

FIGURE
4-5

PVC well point at the bottom. 20/30 silica sand was placed into the annulus of the borehole as a filter pack from the bottom of the borehole to a depth of 3 feet. Two feet of fine (30/65) sand was placed over the 20/30 sand pack as a seal, and native soil was used to backfill the well to the surface. Since GW-2 was installed in an area with a substantially higher water table depth (approximately 3.5 feet BLS), this well was completed to a depth of approximately 13.3 feet BLS. The sand filter pack and sand seal in GW-2 are therefore at correspondingly shallower depths.

Each well was completed with a 5-foot section of stick-up PVC riser and a locking well cap. Since these wells are intended to be temporary, no Portland cement was used, no metal cover was installed, and no cement pad was constructed. The well installation equipment was steam cleaned after installation of the temporary monitoring wells. Each temporary monitoring well was developed for approximately 30 minutes to 60 minutes using a Honda surface pump or a Whale submersible pump. Each well was developed until the water produced by the well was relatively clear, with minimal turbidity.

From April 7 through April 10, 2009, PBS&J returned to the landfill to install 15 additional temporary monitoring wells using a truck-mounted hollow-stem auger rig. Due to the wide range of water table depths encountered at the site, the average depth of these wells was 15 feet, but the well depths ranged from 12 feet to 20 feet. Each well was constructed with 10 feet of screen, to the following depths: 12.3 feet (GW-17 and GW-19), 13.3 feet (GW-21, 22, 23, 24, 25, 30, and 31), 15.3 feet (GW-18, 26, 27, and 29), 18.3 feet (GW-28), and 20.3 feet (GW-20). Monitoring well construction diagrams and soil boring logs for all temporary monitoring wells (both shallow and deeper) installed in July 2008 and April 2009 are provided in Appendix B. The monitoring wells were allowed more than three days to stabilize prior to sampling.

Deeper Temporary Monitoring Well Installations

From July 16 through July 18, 2008, PBS&J also installed four deeper temporary monitoring wells using a truck-mounted hollow-stem auger rig. These temporary monitoring wells were installed in response to a comment from FDEP, dated June 27, 2008, which recommended collection of groundwater data representative of the deeper portion of the surficial aquifer. As the surficial aquifer in this area was estimated by Ardaman & Associates, Inc. to be between 15 and 20 feet thick, a separate screen depth of 15 to 20 feet BLS was selected for these wells (to differentiate these wells from the shallower wells). DGW-1, designated as a background deeper well, was located in the area to the north of the active landfill cells. DGW-2 was installed near CW-9, which had the highest concentrations of arsenic detected in the shallower portion of the surficial aquifer (based on pre-July 2008 sampling data). DGW-3 and DGW-4 were installed to obtain representative samples of the deeper surficial aquifer groundwater in the Phase II area.

Each of the deeper temporary monitoring wells was installed to a depth of approximately 20.3 feet below land surface. The deeper temporary monitoring wells consisted of a 20-foot section of a PVC Schedule 40 riser (with five feet sticking up above grade), a five-foot section of 0.010

PVC Schedule 40 well screen, and a 4-inch PVC well point at the bottom. 20/30 silica sand was placed into the annulus of the borehole as a filter pack from the bottom of the borehole to a depth of 13 feet. Two feet of fine (30/65) sand was placed over the 20/30 sand pack as a seal, and native soil was used to backfill the well to the surface. The deeper temporary monitoring wells were completed and developed in the same manner as the shallow wells discussed above.

Table 4-1 provides a summary of well construction information for all of the monitoring wells (permanent and temporary) that were sampled during the CE and SAR field activities. It should be noted that shallow temporary monitoring wells GW-1 through GW-8 and deeper temporary monitoring wells DGW-3 and DGW-4 were abandoned in January 2009, prior to the landfill cell construction activities at Phase II.

4.2.2 Groundwater Sampling Procedures

Four groundwater sampling tasks were conducted at the landfill site as part of the CE and SAR activities. On April 22, 2008, four of the existing monitoring/compliance wells (MW-1R, CW-8A, CW-9, and CW-11R) were sampled and analyzed for speciation of arsenic. From July 28 through July 31, 2008 (the second task), all 10 existing monitoring/compliance wells and all 20 temporary monitoring wells were sampled. These wells were sampled for the following constituents: arsenic, iron, manganese, sodium, chloride, sulfate, ammonia-nitrogen, nitrate-nitrogen, total alkalinity, total organic carbon (TOC), and TDS. Selected temporary monitoring wells were also sampled for speciation of arsenic. For the July 2008 and all subsequent sampling activities, field readings from groundwater samples were taken for ORP and Ferrous Iron (Fe 2+) at all sampled wells.

The third groundwater sampling task was performed on April 15 and 16, 2009. During this sampling event, groundwater samples from temporary wells, including five new temporary monitoring wells, in Phase III and the Western Zone (west of the Phase II construction zone) were collected for analysis of arsenic, iron, ammonia, TDS, ORP, and Fe 2+. These wells were sampled in this manner because the western extent of the groundwater arsenic "plume" was not completely delineated during the 2008 investigations. Specifically, the area west of temporary wells GW-5 and GW-7 within Phase II had not been delineated with respect to the GCTL for arsenic (10 ug/L). In addition, the FDEP was interested in obtaining additional groundwater flow and groundwater quality data from the area of Phase III.

The fourth groundwater sampling task was performed on April 22 and 23, 2009. This sampling event was needed because the elevated arsenic concentrations that were found at temporary monitoring well GW-16 (and, to a much lesser extent, at GW-11) had not been delineated to the east and south of Phase IV. PBS&J collected groundwater elevation data and groundwater samples from the existing temporary wells and from 10 new temporary investigation wells placed at the locations illustrated in Figure 4-5. These wells were sampled to aid in fully delineating the area of arsenic impacts and to obtain ORP data for this area. Each of the temporary monitoring wells in the Phase IV area was sampled for arsenic, iron, TDS, and ammonia-nitrogen. In addition, representative samples were collected from selected temporary monitoring wells in

order to compare the following parameters with the results from 2008: TOC, alkalinity, nitrate-nitrogen, manganese, chloride, sodium, and ssulfate. It should be noted that none of the remaining permanent monitoring wells were sampled during the April 2009 sampling events because these wells are sampled on a regular basis by the County, which provides these data to the FDEP. PBS&J reviewed the County's most recent results for these wells to assist with development of isopleths contours.

On April 9, 2009, groundwater from shallow, temporary monitoring wells installed in and near the wetlands to the north of the landfill was also sampled. These wells were sampled in order to determine if impacts from native wetlands were contributing to elevated arsenic concentrations in groundwater. Temp Well #1 and Temp Well #2 were sampled for arsenic, iron, ORP, and Fe 2+. The sampling results from these wells were used to determine if a RD environment exists in a naturally occurring area that is not being affected by man-induced surface activities.

During each sampling event, and after water level measurements were obtained, purge volumes were calculated for each of the monitoring wells. Prior to groundwater sample collection at each permanent monitoring well, the wells were purged with dedicated bladder pumps (and dedicated tubing), using the "low flow" technique. Similarly, the temporary monitoring wells were purged with a peristaltic pump (and dedicated tubing), using the "low flow" technique. A minimum of one to three well volumes was purged from each well prior to sample collection. Purging continued until pH, conductivity, temperature, dissolved oxygen, and turbidity values stabilized, indicating recharge from formation water. The groundwater samples were collected by using either the bladder pump or peristaltic pump and dedicated tubing. Groundwater Sampling Logs are provided in Appendix C.

It should also be noted that filtered metals samples were collected at selected monitoring wells if there was a concern that turbidity could impact the metals analytical results. At wells for which the final turbidity reading was greater than 9 – 10 NTU, filtered metals samples were collected in addition to total metals samples. The filtered metals sample was passed through a 1 micron filter prior to collection in the sample bottle. The wells that had final turbidity readings greater than 9-10 NTU during 2008 included: MW-1R, GW-2, GW-4, GW-6, GW-7, GW-11, GW-13, DGW-3, and DGW-4. The wells that had final turbidity readings greater than 9-10 NTU during 2009 included: GW-9, GW-11, GW-20, GW-22, GW-35, GW-27, and GW-30.

Groundwater samples for TOC were collected in 40-ml glass vials. Groundwater samples for all other constituents were collected in plastic bottles (with or without preservative, as dictated by the type of constituent). Duplicate samples were also collected. Groundwater samples for all constituents except speciated arsenic were documented, appropriately preserved, stored on ice, and delivered under chain-of-custody procedure to SunLabs, Inc. in Tampa, Florida, for analysis. Sampling protocol was in general accordance with PBS&J's Quality Manual and with FDEP Standard Operating Procedures. The samples collected for arsenic speciation were appropriately preserved, stored on ice, and delivered under chain-of-custody procedure to Applied Speciation & Consulting, LLC, in Tukwila, Washington, for analysis.

4.3 Surface Water Sampling

In order to examine if groundwater-related arsenic impacts were intercepting or migrating towards surface water bodies, samples from several surface water bodies were collected. In April 2009, surface water samples were collected from nine locations in and around the CCSWDC vicinity. Samples were collected from Ponds 1 through 7 on the landfill site and from two locations along the Myakka River, east of the landfill property. Figure 2-2 shows the locations of the ponds with respect to the phases of the landfill. The surface water samples were analyzed for arsenic and iron.

In general, the surface water samples were collected using a peristaltic pump and dedicated tubing in accordance with FDEP SOP 001/01, Section FS 2110, 1.2.3. The tubing was placed as close to the middle of the pond as possible, at mid-depth. The water was purged at a rate of one liter per minute for 15 minutes. Thereafter, readings of temperature, Ph, conductivity, dissolved oxygen, and turbidity were collected every five minutes. ORP readings and Fe 2+ concentration data were also collected. Once the readings had stabilized, the surface water samples were collected in plastic jars provided by the laboratory. Due to logistical issues, the duplicate samples from Pond 1 and Pond 2 (Grabdup 1 and Grabdup 2) and the samples from the Myakka River (Myakka-1 and Myakka-2) were not collected in the above-referenced manner. These samples were collected by direct transfer of the pond or river water, at mid-level depth, to the laboratory-provided containers. Surface water sampling logs are provided in Appendix D.

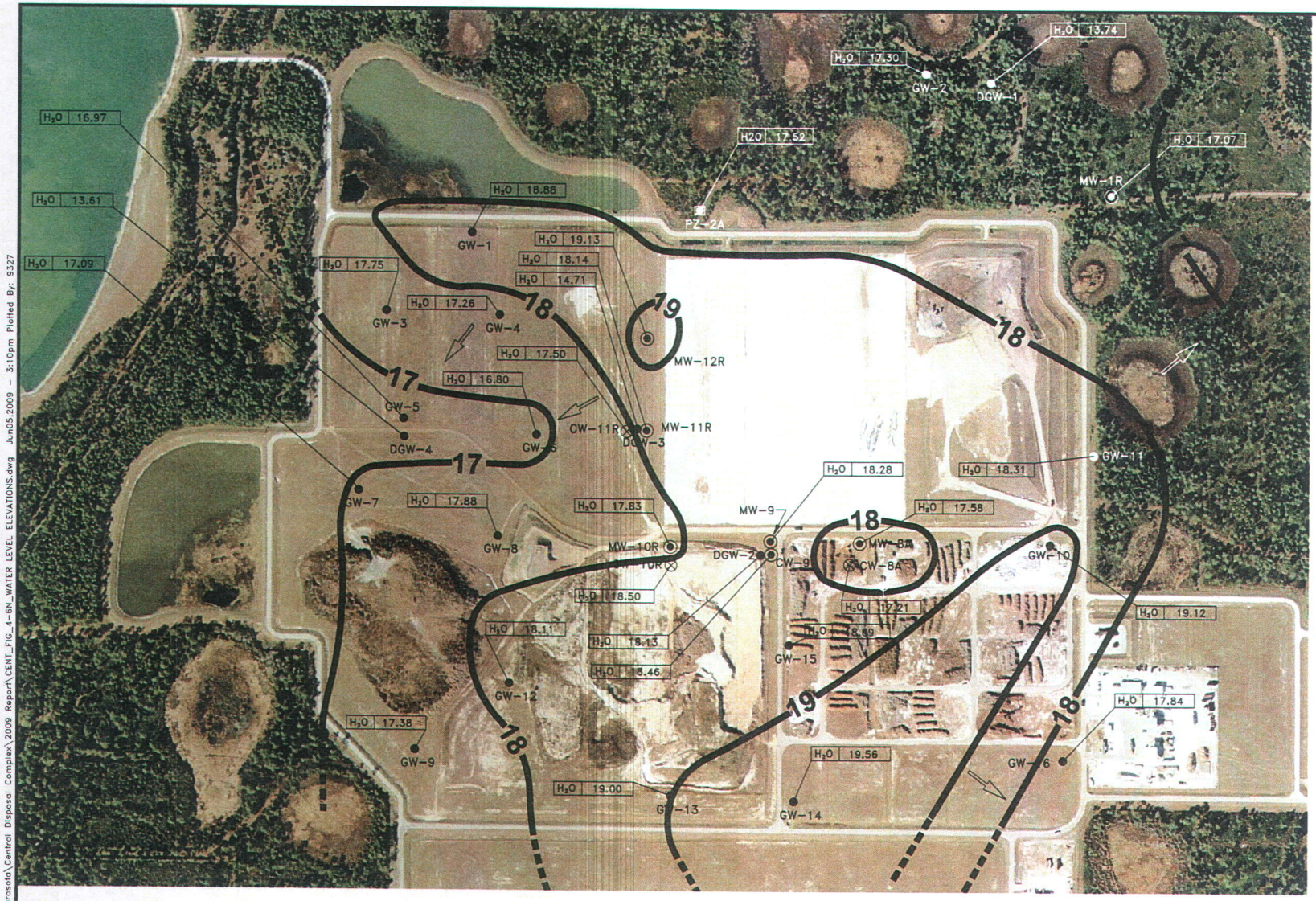
4.4 Groundwater Flow Evaluation

Previous studies of the CCSWDC vicinity have indicated that the general direction of surficial aquifer groundwater flow was toward the southwest or west-southwest. However, within the immediate area of the Phase I and Phase II portions of the landfill site, there are substantial seasonal variations in groundwater flow direction. Ardaman & Associates, Inc. (2008) collected monthly groundwater level data from October 2006 through October 2007 at eight monitoring well locations, six piezometers, and two surface water locations located primarily in the Phase I and Phase II areas. During a typical month during the dry season (April 2007, for example), groundwater flow was generally toward the north across the Phase I area, but the flow was from north to south across the northern portion of Phase II, then westward from the central portion of Phase II. During a typical month during the wet season (August 2007, for example), the groundwater appeared to flow from northwest to southeast across the Phase I area, but flows from the north and east toward the southwest across the Phase II area.

From July 28 through July 31, 2008, PBS&J collected water level data for all of the existing monitoring wells, compliance wells, and temporary monitoring wells in the Phase I, Phase II, Phase III, and Phase IV portions of the site. The temporary monitoring wells were surveyed to obtain the top-of-casing elevations. The survey was conducted with reference to US State Plane Coordinated (Zone – Florida west) and to NGVD of 1929. Water table elevations were also measured on September 12, 2008. The water level contour map based on the July 2008 data is provided as Figure 4-6. Water level data for September 2008 are provided as Figure 4-7. Groundwater flow direction was generally toward the west and southwest, with localized areas of

depressed water table elevations in the Phase II area and localized zones of higher water table elevations elsewhere. Table 4-2 provides the groundwater elevation data for July 2008, and Table 4-3 provides the groundwater elevation data for September 2008.

After the additional 15 temporary monitoring wells were installed in the Phase III and Phase IV areas in April 2009, water level data were collected for these wells and the corresponding nearby temporary and permanent monitoring wells. Top-of-casing elevations for the new wells were surveyed to the same NGVD reference as July 2008. Water level data for April 2009 are provided as Figure 4-8. Table 4-4 provides the groundwater elevation data for April 2009.
In the area of Phase IV, the water table data for April 2009 show a significant groundwater flow direction toward the southeast.



NOTE:

1. WELLS DGW-1 THROUGH DGW-4 ARE NOT CONTOURED DUE TO DIFFERENT SCREEN DEPTH.

LEGEND:

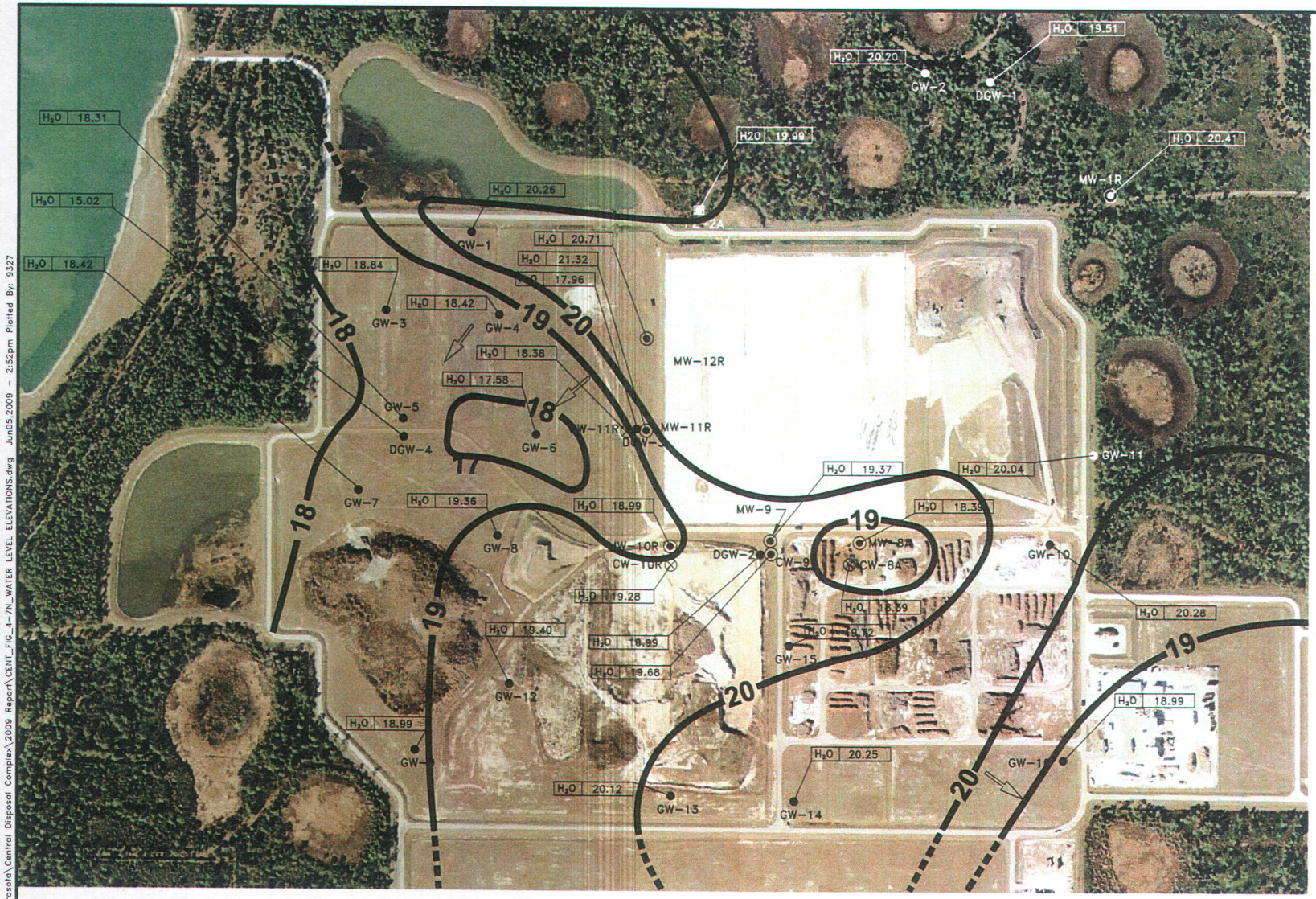
FLOW DIRECTION

GROUNDWATER CONTOURS

GROUNDWATER CONTOURS INFERRED

U:\SQ\Old\HAZARD\Sarasota\Central Disposal Complex\2009 Report\CENT_FIG_4-6N_WATER LEVEL ELEVATIONS.dwg Jun05,2009 - 3:10pm Plotted By: 9327

PBSJ	SARASOTA COUNTY CENTRAL COUNTY SOLID WASTE DISPOSAL COMPLEX	WATER LEVEL ELEVATIONS IN GROUNDWATER WELLS JULY 2008	FIGURE 4-6



NOTE:

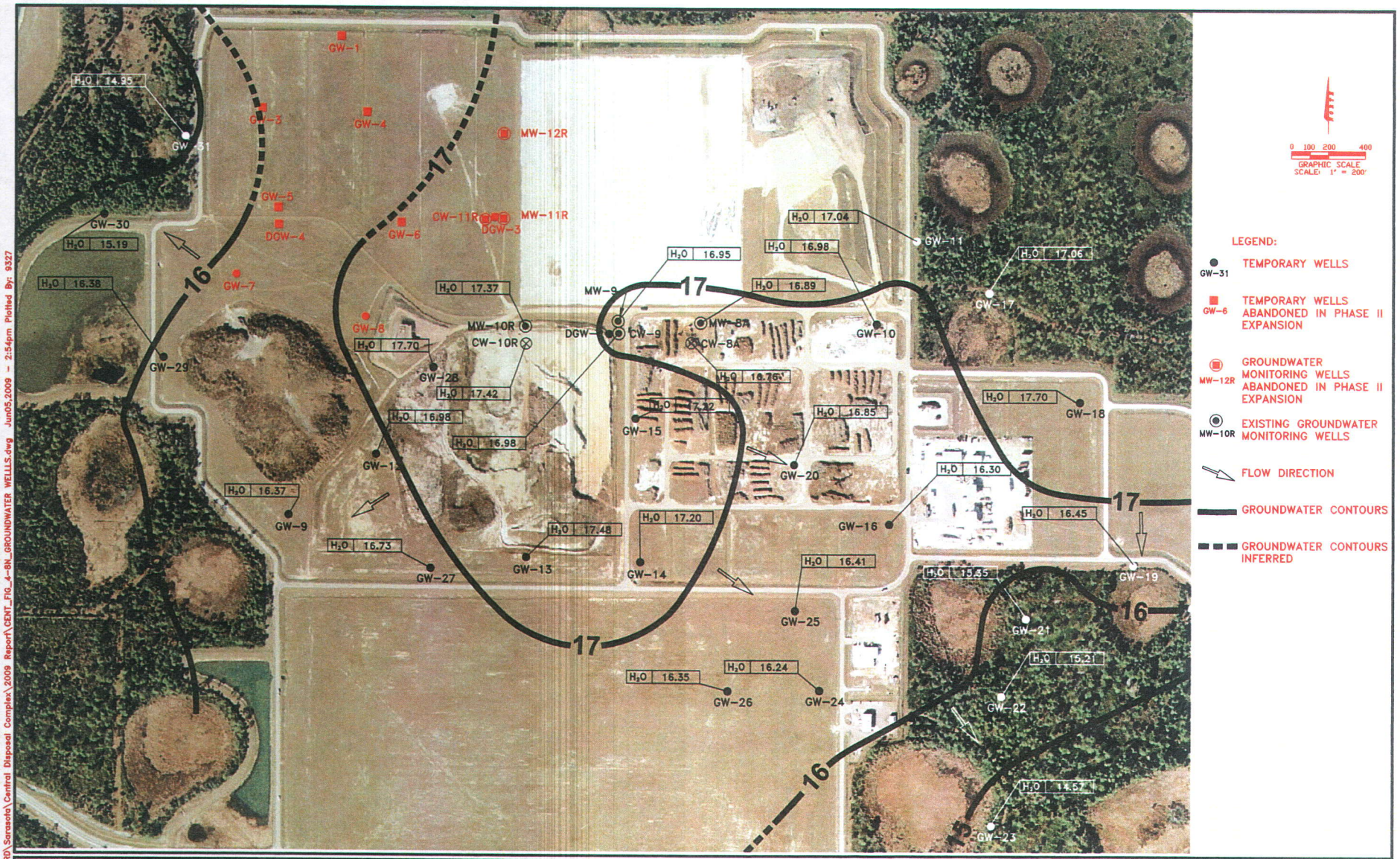
1. WELLS DGW-1 THROUGH DGW-4 ARE NOT CONTOURED DUE TO DIFFERENT SCREEN DEPTH.

LEGEND:

- FLOW DIRECTION
- GROUNDWATER CONTOURS
- GROUNDWATER CONTOURS INFERRED

U:\SO\Oldd\HAZARD\Sarasota\Central Disposal Complex\2009 Report\CENT_FIG_4-7N_WATER LEVEL ELEVATIONS.dwg Jun05,2009 - 2:52pm Plotted By: 9327

PBS&J	SARASOTA COUNTY CENTRAL COUNTY SOLID WASTE DISPOSAL COMPLEX	WATER LEVEL ELEVATIONS IN GROUNDWATER WELLS SEPTEMBER 2008	FIGURE 4-7



U:\SO\Old6\HAZARD\Sarasota\Central Disposal Complex\2009 Report\CENT_FIG_4-8N_GROUNDWATER WELLS.dwg Jun05,2009 - 2:54pm Plotted By: 9327

PBSJ

SARASOTA COUNTY
CENTRAL COUNTY SOLID WASTE
DISPOSAL COMPLEX

WATER TABLE ELEVATIONS
IN GROUNDWATER WELLS
APRIL 2009

FIGURE
4-8

5.0 FIELD INVESTIGATION RESULTS

5.1 Surficial Aquifer Hydrogeology

Groundwater flow data were discussed in detail in Section 4.4. With respect to the dispersal and migration of groundwater contaminants, such as arsenic and ammonia, the landfill area appears to be located on a local groundwater divide. The surficial aquifer appears to flow primarily to the north and east from the Phase I area, and towards the east and southeast from the Phase IV area. The groundwater appears to flow in a prominently westerly direction from the Phase II and Phase III portions of the landfill. The axis of the groundwater divide appears to run from the northeastern portion of Phase III to the central portion of Phase I. Refer to Figure 4-8 for the groundwater elevation data for 2009.

5.2 Degree and Extent of Impact To Soil

5.2.1 Soil Arsenic Speciation Results

The results of the soil sampling activities for arsenic speciation performed in April 2008 are summarized below and in the table on Page 5 of Appendix E. The laboratory analytical report is also provided as Appendix E. Refer to Figure 4-1 for the soil boring locations. The speciation of the arsenic was examined in order to relate the arsenic found in site groundwater and soils against possible surface (soil) sources of contamination on the site such as pesticide/herbicides from yard mulch and historical cattle dip vat sources and other on-site areas of stockpiled material. The soil sampling results are presented as a breakdown of three primary inorganic arsenic spatial distribution features: total arsenic, arsenic^{V} (arsenate) and arsenic^{III} (arsenite). In conjunction with the three primary inorganic speciation features, two secondary features, DMA and MMA, were also evaluated to determine their respective presence in the sample matrices. DMA and MMA are methylated arsenical metabolites found in herbicides to treat lawns and citrus. The detected presence of these constituents (DMA/MMA) would lend this evaluation an ability to trace arsenic sources back to potential (unknown) surface sources such as above-ground storage of yard waste and other received organic waste matter. The soil sampling results indicated that the DMA and MMA were not detected at concentrations greater than their laboratory detection limits (0.030 mg/kg).

The reason to speciate arsenic was to determine what was sorbed (or bound) to the soil particles verses which percentage would be available for desorbing into solution and thus, help identify potential arsenic mobility. It should be noted that, at each soil boring location, the Total Arsenic samples were collected as composite samples from depths of two feet to the depth of the water table, whereas the speciated arsenic samples were collected as grab samples from just above the water table. During the initial soil sampling activities, the sampling depths for the speciated arsenic specifically targeted the area of the soil/groundwater interface, while the Total Arsenic samples were collected only to obtain a general profile of the arsenic concentrations at that location. Therefore, the speciated arsenic concentrations cannot be expected to equal the Total Arsenic concentration at any given location.

The soil samples collected for Total Arsenic during this event indicated the following results:

Sample	Total Arsenic
▪ Mulch A Sample	3.01 mg/kg
▪ SB-1R-1	0.93 mg/kg
▪ SB-8A-1	1.36 mg/kg
▪ SB-8A-2	0.40 mg/kg
▪ SB-9-1	0.76 mg/kg
▪ SB-9-2	2.59 mg/kg
▪ SB-11R-1	0.61 mg/kg
▪ SB-11R-2	1.37 mg/kg
▪ SB-11R-3	27.8 mg/kg
▪ SB-CDV-1	0.53 mg/kg
▪ SB-CDV-2	2.04 mg/kg

Of the soil grab samples collected, the following speciated arsenic results were found:

Sample	Arsenic (III)	Arsenic (V)
▪ Mulch A Sample	<0.022 mg/kg	0.15 mg/kg
▪ SB-1R-1	0.05 mg/kg	0.20 mg/kg
▪ SB-8A-1	0.14 mg/kg	0.19 mg/kg
▪ SB-8A-2	0.09 mg/kg	0.10 mg/kg
▪ SB-9-1	0.27 mg/kg	0.66 mg/kg
▪ SB-9-2	0.69 mg/kg	3.01 mg/kg
▪ SB-11R-1	0.31 mg/kg	0.52 mg/kg
▪ SB-11R-2	0.10 mg/kg	0.16 mg/kg
▪ SB-11R-3	1.87 mg/kg	8.05 mg/kg
▪ SB-CDV-1	<0.022 mg/kg	0.23 mg/kg
▪ SB-CDV-2	<0.022 mg/kg	0.09 mg/kg

The initial speciation results indicated that the predominant species of arsenic in the soil samples was of the arsenic (V) arsenate type (for those soil samples that had more than trace amounts of arsenic). This particular species of arsenic is the type that tends to sorb to soil/sediment particles and does not readily desorb or migrate while in solution in the groundwater.

In April 2009, soil samples from representative locations and depths from the Phase IV area were also submitted for arsenic speciation analysis. The complete sampling results for the samples from the Phase IV area are provided in Table 5-1. The laboratory analytical report is provided as Appendix F. As can be seen from the results listed below, arsenic concentrations were generally so low that no significant conclusions could be made regarding the relative predominance of either form of arsenic.

Sample	Arsenic (III)	Arsenic (V)
SB-P4-1-2	0.029	ND
SB-P4-2-2	0.029	0.71
SB-P4-3-4	ND	ND
SB-P4-4-4	ND	ND
SB-P4-5-2	0.028	ND
SB-P4-5-6	0.125	ND
SB-P4-6-6	0.055	ND
SB-P4-7-6	ND	ND
SB-P4-8-4	0.285	0.22
SB-P4-8-6	0.132	ND
SB-P4-11-6	ND	ND
SB-P4-12-6	0.49	ND

5.2.2 Soil Analytical Results

Standard laboratory analysis (not speciation) was performed on samples from the Phase II and Phase IV areas of the landfill. The primary objective of the soil analytical sampling in the Phase II area was to delineate any areas of elevated arsenic concentrations in the soil near CW-11R. The primary objective of the sampling in the Phase IV area was to identify any areas of elevated arsenic. A secondary objective for sampling in both areas was to determine if other constituents in the soil/sediments could lead to chemically reductive conditions that may result in dissolution of arsenic and other pertinent chemicals in the site's groundwater. To this end, iron and total nitrogen were also analyzed. Chromium, copper, and lead analyses were added to the analytical suites to aid in determining if Chromated Copper Arsenate (CCA) treated wood or herbicides and pesticides could be considered a potential source of the arsenic from the yard waste and mulch piles in the Phase IV area. SPLP extraction and analysis for nitrate and ammonia were added to both the Phase II and Phase IV sampling events to aid in determining if these constituents were present as a result of reductive chemistry conditions, or could be contributing to them.

Soil Sampling Results from the Phase II Area

Sampling of the Phase II area was performed on May 21, 2008. Table 5-2 provides the results (non-SPLP) of the May 21, 2008 soil sampling activities. Table 5-3 provides the results of the analyses using SPLP extraction. Table 5-4 provides the results of re-sampling at the location of SB-11-3, which was conducted separately from the other sampling. Refer to Figure 4-2 for the soil boring locations. The laboratory analytical reports are provided as Appendix G.

Arsenic concentrations detected during the Phase II area soil sampling activities ranged from below detection limits (0.22 mg/kg) to 4.3 mg/kg. At 4 of the 39 locations (10%), the arsenic concentrations were greater than the Residential Soil Cleanup Target Level (SCTL) of 2.1 mg/kg. These locations/depths were SB-11R-3-6 (4.3 mg/kg), SB-11R-8-2 (3.8 mg/kg), SB-11R-10-2 (2.2 mg/kg), and SB-11R-14-6 (3.2 mg/kg). The concentrations slightly exceeded the Residential

SCTL, but did not approach the Commercial/Industrial SCTL of 12 mg/kg. There did not appear to be any trend or pattern associated with these arsenic detections. Therefore, it does not appear that there is any significant or widespread surface "source" of arsenic-contaminated soil in the vicinity of SB-11R-3.

Concentrations of total iron in the soil from the Phase II area ranged from 16 mg/kg to 6,800 mg/kg. None of these samples exceeded the Residential SCTL for iron of 53,000 mg/kg. However, based on the historical background research and understanding of the hydrogeological conditions of this area, the presence of iron in the soil and sediments was recognized as a potential source for arsenic.

Concentrations of chromium in the soil from the Phase II area ranged from below detection levels (0.22 mg/kg) to 25 mg/kg. None of these samples exceeded the Residential SCTL for chromium of 210 mg/kg or the Leachability criteria of 38 mg/kg. Concentrations of copper in the soil ranged from below detection levels (0.066 mg/kg) to 1.3 mg/kg. None of these samples exceeded the Residential SCTL for copper of 150 mg/kg. Concentrations of lead in the soil ranged from below detection levels (0.22 mg/kg) to 3.8 mg/kg. None of these samples exceeded the Residential SCTL for lead of 400 mg/kg. The analytical results for chromium, copper, and lead appear to indicate that the soils in the Phase II area have not been adversely affected by activities, such as the use of CCA-treated wood or herbicides, which could also release arsenic into the soil.

Concentrations of total nitrogen in the soil from the Phase II area ranged from 32.8 mg/kg to 375 mg/kg. Nitrogen does not have SCTL criteria established. However, the presence of dissolved nitrogen can be used as a chemical marker for determining pronounced compositional differences in reductive chemical conditions in the groundwater. Groundwater nitrogen dynamics that proceed with a chemical pathway of denitrification, followed by ammoniafication, can provide empirical evidence in the shift of the speciation within the reductive zones.

As shown on Table 5-3, the SPLP sampling results from the Phase II area did not indicate any significant concentrations of constituents that could be contributing impacts to site groundwater. At one location (SB-11R-4-2), the SPLP leachate concentration for arsenic was 0.011 mg/l, which slightly exceeded the Groundwater Cleanup Target Level (GCTL) for arsenic of 0.01 mg/l. Concentrations of Nitrate in the leachate ranged from 2.0 mg/l to 2.4 mg/l. None of these Nitrate concentrations exceeded the GCTL for Nitrate of 10 mg/l. Concentrations of Ammonia in the leachate ranged from 0.21 mg/l to 0.51 mg/l. None of these Ammonia concentrations exceeded the GCTL for Ammonia (as Nitrogen) of 2.8 mg/l.

Soil Sampling Results from the Phase IV Area

Sampling of the Phase IV area was conducted on April 28, 2009. Table 5-5 provides the results (non-SPLP) of the April 28, 2009 soil sampling activities. Table 5-1 provides the results of the analyses using SPLP extraction, along with the previously-discussed results for arsenic

speciation. Refer to Figure 4-3 for the soil boring locations. The laboratory analytical reports for this sampling event are also provided as Appendix G.

Arsenic concentrations detected during the Phase IV soil sampling activities ranged from below detection limits (0.22 mg/kg) to 8.9 mg/kg. At 3 of the 36 locations (8%), the arsenic concentrations were greater than the Residential Soil Cleanup Target Level (SCTL) of 2.1 mg/kg. These locations/depths were SB-P4-1-6 (3.8 mg/kg), SB-P4-3-2 (3.0 mg/kg), and SB-P4-5-6 (8.9 mg/kg). The concentrations exceeded the Residential SCTL, but did not approach the Commercial/Industrial SCTL of 12 mg/kg. As with the results from the Phase II area, there does not appear to be any trend or pattern associated with these arsenic detections. As with the Phase II area, it did not appear that there was any significant or widespread surface "source" of arsenic-contaminated soil in the Phase IV area.

Concentrations of total iron in the soil from the Phase IV area ranged from 73 mg/kg to 6,800 mg/kg. None of these samples exceeded the Residential SCTL for iron of 53,000 mg/kg. As with the Phase II area, the presence of iron in the soil and sediments was recognized as a potential source for arsenic.

Concentrations of chromium in the soil from the Phase IV area ranged from below detection levels (0.24 mg/kg) to 24 mg/kg. None of these samples exceeded the Residential SCTL for chromium of 210 mg/kg or the Leachability criteria of 38 mg/kg. Concentrations of copper in the soil ranged from below detection levels (0.068 mg/kg) to 1.1 mg/kg. None of these samples exceeded the Residential SCTL for copper of 150 mg/kg. Concentrations of lead in the soil ranged from 0.67 mg/kg to 2.6 mg/kg. None of these samples exceeded the Residential SCTL for lead of 400 mg/kg. As with the Phase II soil sampling results, the analytical results for chromium, copper, and lead appear to indicate that the soils in the Phase IV area have not been adversely affected by activities, such as the use of CCA-treated wood or herbicides, which could also release arsenic into the soil. This is an especially significant result in the Phase IV area due to the immediate proximity of piles of wood mulch.

Concentrations of total nitrogen in the soil from the Phase IV area ranged from 660 mg/kg to 3,700 mg/kg. The nitrogen concentrations in the Phase IV area were roughly an order of magnitude greater than those from the Phase II area. These elevated nitrogen concentrations may be related to the presence of yard waste and mulch being stored (and presumably leaching into) the Phase IV area. The elevated nitrogen concentrations may reflect the contribution of leaching of the mulch piles, which may be causing an increase of nitrogen and other constituents (including organic carbon) in the Phase IV area. This possible additional source of organic carbon in the Phase IV area may explain a more robust RD condition at this locationleading to elevated arsenic groundwater concentrations at GW-15 and GW-16. The County is currently funding additional research by the University of Florida to determine if there is, in fact, a relationship between availability of organic carbon and the rate of the reductive dissolution process.

As shown on Table 5-1, the SPLP sampling results from the Phase IV area did not indicate any significant concentrations of constituents that could be contributing impacts to site groundwater. At one location (SB-P4-12-6), the SPLP leachate concentration for arsenic was 0.010 mg/l, which is equal to the Groundwater Cleanup Target Level (GCTL) for arsenic of 0.01 mg/l. Concentrations of Nitrate in the leachate ranged from 1.8 mg/l to 2.3 mg/l. None of these Nitrate concentrations exceeded the GCTL for Nitrate of 10 mg/l. Concentrations of Ammonia in the leachate ranged from 0.051 mg/l to 0.580 mg/l. None of these Ammonia concentrations exceeded the GCTL for Ammonia (as Nitrogen) of 2.8 mg/l.

When viewed separately, as far as the constituent's individual leaching potential (and its ability to mobilize in groundwater through contact with rainwater runoff and hydraulic mobilization), the SPLP results provide a useful indication that mobility by contact with stormwater itself is not a mechanism for leaching arsenic and iron from the soils. If the pathways and routes of mobility are examined within the context of the hydrogeochemical factors in the landfill's groundwater, the relationship is better understood between the chemical cycling of elements, such as iron, and the reductive speciation of arsenic in an overall reducing environment.

Soil Sampling Results from the Wetland Investigation

Soil samples were collected from two locations on and near a wetland area to the north of the Phase I portion of the landfill (see Figure 4-1). The soil sample results from these samples (Temp Well #1 – in the wetland; and Temp Well #2 – in the upland) did not identify any significant concentrations of arsenic or iron. Arsenic concentrations were less than laboratory detection limits (0.25 mg/kg). Iron concentrations were 240 mg/kg and 550 mg/kg, respectively, for Temp Well #1 and Temp Well #2. These concentrations are well below the Residential SCTL for iron (53,000 mg/kg) and were also in the low range when compared to the results of sampling for iron from the Phase II and Phase IV areas of the landfill. Laboratory analytical data sheets for the Temp Well #1 and Temp Well #2 soil samples are provided in Appendix G.

5.3 Degree and Extent of Impact To Groundwater

5.3.1 Groundwater Arsenic Speciation Results

Groundwater sampling for arsenic speciation was performed in April 2008, July 2008, and April 2009. The groundwater sampling results for arsenic speciation is presented as a breakdown of two primary inorganic arsenic distribution features: $arsenic^{V}$ (arsenate) and $arsenic^{III}$ (arsenite). In conjunction with these two primary inorganic speciation features, two secondary features, dimethylarsinic acid (DMA) and monomethylarsinic acid (MMA), were also evaluated to determine their respective presence in the sample matrices.

DMA and MMA are methylated arsenical metabolites found in herbicides to treat lawns and citrus. The detected presence of these constituents (DMA/MMA) would lend this evaluation an ability to trace arsenic sources back to potential (unknown) surface sources such as above-ground storage of yard waste and other received organic waste matter. The groundwater sampling results indicated that the DMA and MMA were not detected at concentrations greater than their

laboratory detection limits except at CW-11R, GW-5, GW-10, and GW-15. It should be noted that samples for Total Arsenic were not collected during the initial arsenic speciation sampling of the groundwater because Total Arsenic data were available from previous quarterly and semi-annual sampling events (reported to FDEP elsewhere).

The results of the groundwater sampling in April 2008 were as follows:

Sample	Arsenic III (µg/L)	Arsenic V (µg/L)	DMA (µg/L)	MMA (µg/L)
MW-1R	0.28	0.44	<0.087	<0.087
CW-8A	21.7	13.1	<0.087	<0.087
CW-9	36.0	26.6	<0.087	<0.087
CW-11R	16.2	12.4	0.14	<0.087

The results of the groundwater sampling of selected temporary monitoring wells for speciation analysis in July 2008 are provided in Table 5-6. The temporary monitoring wells selected for speciation analysis in July 2008 were chosen based on their proximity to the Phase II area and their close proximity to the southern boundary of Phase I. The laboratory analytical reports for the April 2008 sampling event were included with the soil results in Appendix E. The laboratory reports for the July 2008 sampling event (speciation results only) are provided in Appendix H. As shown in Table 5-6, at the locations sampled that had elevated arsenic concentrations, the form of arsenic tended to favor the Arsenic III species, the form of arsenic more readily available to go into solution. The lack of any significant amount of DMA or MMA leads us to conclude that no man-made source of arsenic is present.

The results of the groundwater sampling of selected temporary monitoring wells for speciation analysis in April 2009 are provided in Table 5-7. The temporary monitoring wells selected for speciation analysis in April 2009 were chosen based on their proximity to GW-15 and GW-16, which had highest arsenic concentrations from the July 2008 sampling event. The laboratory reports for the April 2009 sampling event (speciation results only) are provided in Appendix I. The results from the April 2008, July 2008, and April 2009 sampling events showed a cross section of speciated arsenic (III & V) in the groundwater. However, it should be noted that Arsenic (III) arsenate was the dominant species of arsenic (by roughly a 3:1 margin) in GW-14, GW-15, and GW-16, which had the highest arsenic concentrations from sampling of the Phase IV area.

5.3.2 Groundwater Analytical Results

As discussed in Section 4.2.2, the groundwater sampling effort was divided into four primary tasks. The results from the initial sampling for arsenic speciation (Task 1) were discussed above. The remaining tasks completed were: initial sampling of temporary monitoring wells in July 2008 (Task 2), sampling of existing and additional temporary monitoring wells in the Phase III area in April 2009 (Task 3), and sampling of existing and additional temporary monitoring wells

in the Phase IV area in April 2009 (Task 4). A limited scope task to determine the concentration of arsenic in existing (not filled-in) wetlands was also performed in April 2009.

Results of Initial Groundwater Sampling in 2008

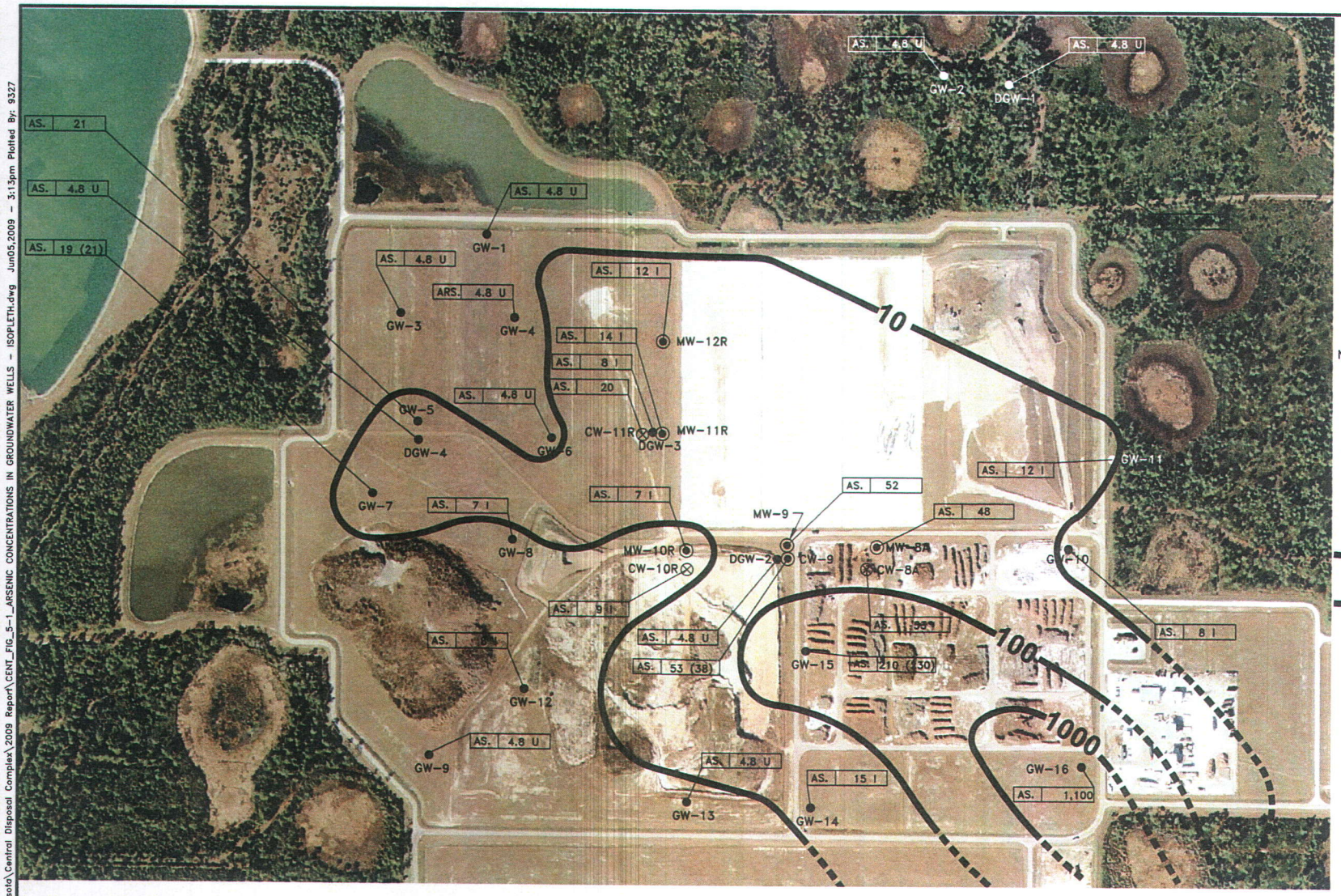
Laboratory analytical reports for the groundwater samples collected in July 2008 are provided in Appendix J. Table 5-6 summarizes the results for all parameters detected in the groundwater samples during July 2008. As shown in Table 5-6, several constituents were detected at concentrations that exceeded their reported detection limits. Of these, the following parameters were found to exceed State groundwater criteria (GCTLs, per Chapter 62-777 FAC and Chapter 62-550 FAC): arsenic, iron, manganese, Ammonia (as Nitrogen), chloride, sodium, sulfate, and pH. Figure 5-1 illustrates the concentrations of arsenic detected during the July 2008 sampling event. Figure 5-2 illustrates the concentrations of iron, arsenic, ammonia, and ORP. The concentrations of ORP and what meaning it has for the SAR are discussed in the next section.

Arsenic concentrations detected during the July 2008 groundwater sampling activities ranged from below detection limits (4.8 ug/l) to 1,100 ug/l. At 13 of the 30 sampling locations, the arsenic concentrations were greater than the GCTL of 10 ug/l. These locations were: MW-8A, MW-9, MW-11R, MW-12R, CW-8A, CW-9, CW-11R, GW-5, GW-7, GW-11, GW-14, GW-15, and GW-16.

Iron concentrations detected during the July 2008 groundwater sampling activities ranged from 190 ug/l (filtered sample for MW-1R) to 150,000 ug/l (at MW-8A). Iron was noted as exceeding State Secondary groundwater criteria of 300 ug/l at all groundwater sampling locations except DGW-1 (280 ug/l) and the filtered sample for MW-1R (190 ug/l). DGW-1 and MW-1R are considered to be "background" locations. Most iron concentrations also exceeded the NASDC for iron of 3,000 ug/l. Iron was noted in all but five of the groundwater samples as "detected in both the sample and the associated method blank". Although this suggests that the results may be adversely affected by laboratory conditions, the high iron concentrations found in most groundwater samples are consistent with the findings from previous groundwater sampling events in the vicinity of the landfill.

Manganese concentrations detected during the July 2008 groundwater sampling activities ranged from 4.6 ug/l to 110 ug/l (at GW-5). At 4 of the 30 sampling locations, the manganese concentrations were greater than the State Secondary groundwater criteria of 50 ug/l. These locations were: CW-10R, GW-5, GW-7 (duplicate), and GW-12.

Ammonia (as Nitrogen) concentrations detected during the July 2008 groundwater sampling activities ranged from 0.115 mg/l to 25.1 mg/l (at GW-16). At 10 of the 30 sampling locations, the Ammonia-N concentrations were greater than the State Secondary groundwater criteria of 2.8 mg/l. These locations were: MW-8A, MW-9, MW-10R, CW-8A, CW-9, CW-11R, GW-7, GW-12, GW-15, and GW-16.



NOTE:

1. WELLS DGW-1 THROUGH DGW-4 ARE NOT CONTOURED DUE TO DIFFERENT SCREEN DEPTH.
2. ARESENIC RESULTS IN (ug/l).

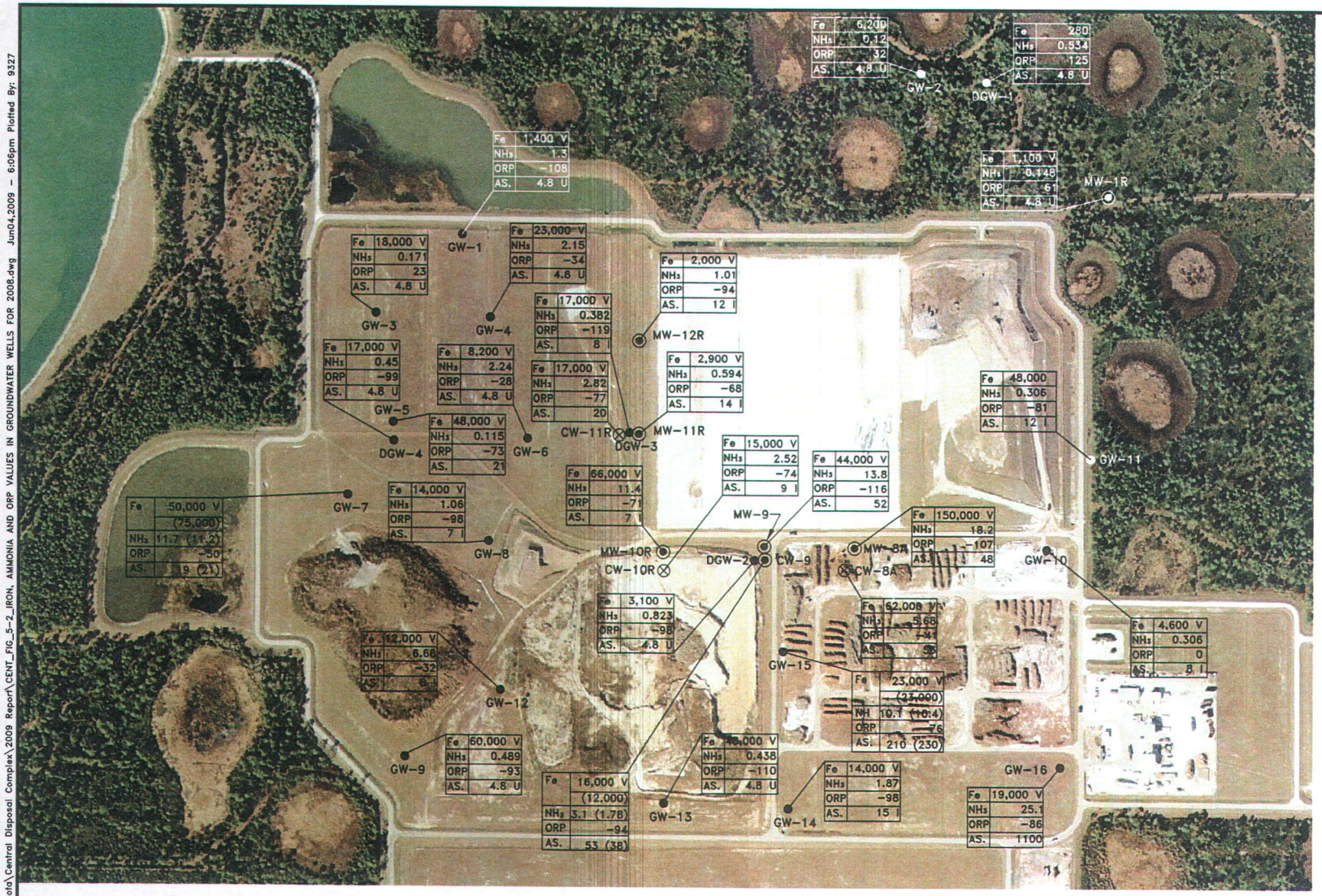
LEGEND:

ISO-CONCENTRATION CONTOURS

ISO-CONCENTRATION CONTOURS INFERRED

PBSJ	SARASOTA COUNTY CENTRAL COUNTY SOLID WASTE DISPOSAL COMPLEX	ARSENIC CONCENTRATION IN GROUNDWATER WELLS ISOPLETH MAP FOR 2008	FIGURE 5-1

U:\SO\Old\HAZARD\Sarasota\Central Disposal Complex\2009 Report\CENT_FIG_5-1_ARSENIC CONCENTRATIONS IN GROUNDWATER WELLS - ISOPLETH.dwg Jun05,2009 - 3:13pm Plotted By: 9327



NOTE:

1. IRON RESULTS IN ug/l
2. NH3 RESULTS IN mg/l
3. ORP RESULTS IN MILLIVOLTS
4. ARSENIC RESULTS IN ug/l

PBSJ

SARASOTA COUNTY
CENTRAL COUNTY SOLID WASTE
DISPOSAL COMPLEX

IRON , AMMONIA, ORP, AND ARSENIC VALUES IN GROUNDWATER WELLS FOR 2008

FIGURE
5-2

U:\SO\Old\HAZARD\Sarasota\Central Disposal Complex\2009 Report\CENT_FIG_5-2_IRON, AMMONIA AND ORP VALUES IN GROUNDWATER WELLS FOR 2008.dwg Jun04,2009 - 6:06pm Plotted By: 9327

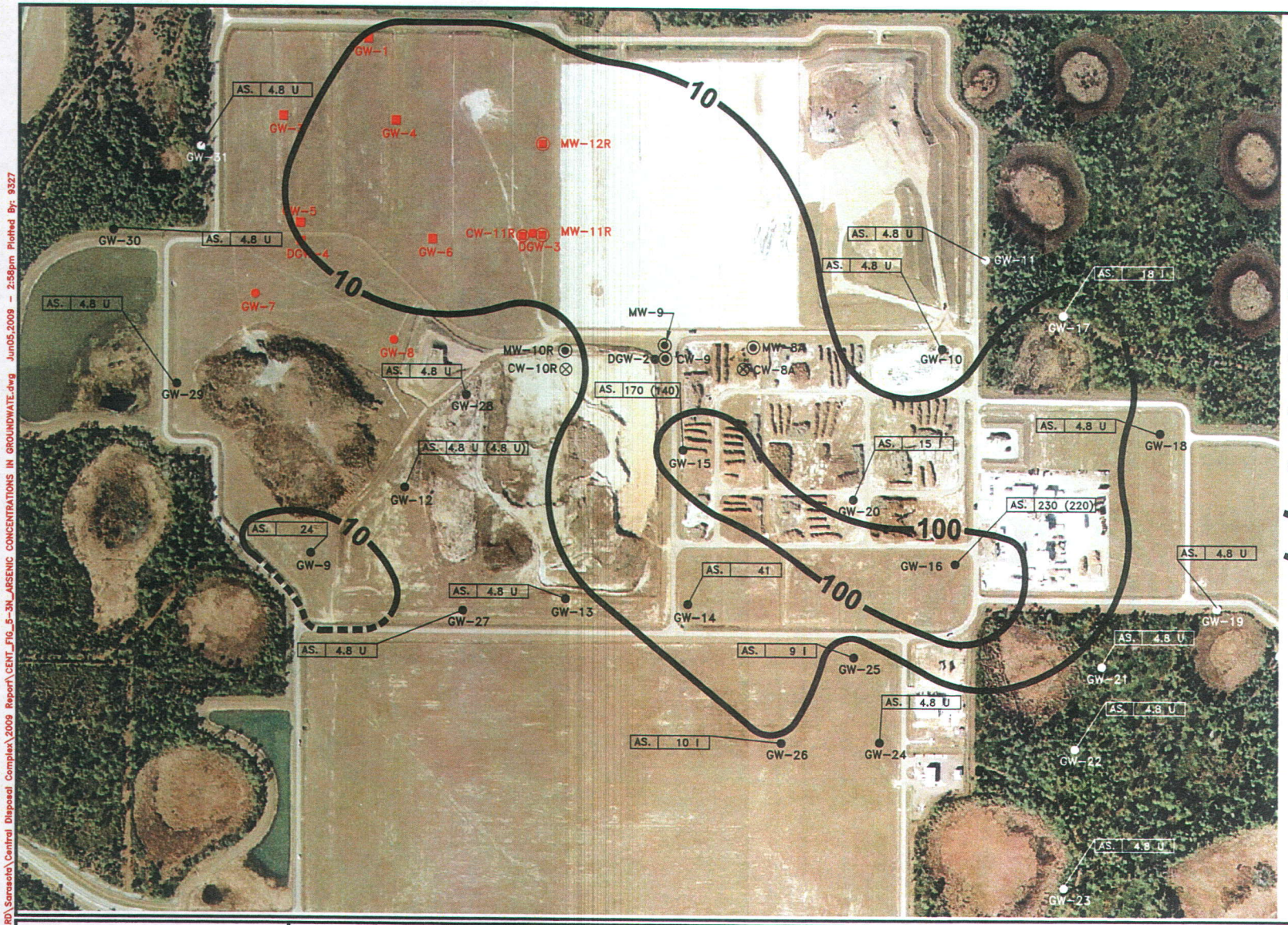
Chloride concentrations ranged from 15 mg/l to 970 mg/l (at DGW-1). The chloride concentrations equaled or exceeded the State Secondary groundwater criteria of 250 mg/l at three locations. Sodium concentrations ranged from 14 mg/l to 460 mg/l (at GW-8). The sodium concentrations exceeded the GCTL of 160 mg/l at four locations. Sulfate concentrations ranged from less than detection limits (0.036 mg/l) to 470 mg/l (at GW-8). The sulfate concentrations exceeded the State Secondary groundwater criteria of 250 mg/l at three locations. The concentrations of Nitrate-N ranged from less than detection limits (0.014 mg/l) to 0.23 mg/l (duplicate for GW-15). These concentrations were less than the GCTL for Nitrate-N of 10 mg/l. Total dissolved solids were detected in all of the monitoring locations, and were greater than State Secondary criteria at 23 of the 30 sampling locations.

Due to the elevated turbidity (greater than 9-10 NTU) in some groundwater samples, filtered metals samples were collected at selected monitoring wells. Table 5-8 provides the results of the filtered metals analyses. In general, the results of the filtered samples were lower in metals concentrations than the unfiltered samples. With the exception of GW-2, Dup GW-7, and GW-11, iron concentrations in the filtered samples were found to be within a 10% to 20% variance of the associated unfiltered samples. At GW-2, Dup GW-7, and GW-11, the filtered iron concentrations were considerably lower then the unfiltered results. However, high iron concentrations were detected at most sampling locations regardless of whether the metals sample was filtered or unfiltered, suggesting a dissolved presence rather than a particulate one. It did not appear that sample turbidity had a significant influence on the overall sampling results.

Overall field measurements for several critical parameters related to RD were also recorded during the July 2008 sampling event. The most critical of these parameters were pH, ORP, and ferrous iron (Fe^{2+}). The pH values were found to be lower than the State Secondary groundwater criteria of 6.5-8.5 Standard Units at 15 of the 30 sampling locations, with CW-8A having the lowest pH (5.44). ORP values ranged from +125 Mv at DGW-1 to -119 Mv at DGW-3. Ferrous iron concentrations ranged from 0.05 mg/l MW-1R and DGW-1 to 4.0 mg/l at GW-4.

Results of Follow-up Sampling in the Phase III and Western Zone Areas

Laboratory analytical reports for all groundwater samples collected in April 2009 are provided in Appendix J. Table 5-9 summarizes the results for all parameters detected in the groundwater samples from temporary wells installed in the Phase III area and west of Phase II. Figure 5-3 illustrates the concentrations of arsenic detected during the April 2009 sampling events. Figure 5-4 illustrates the concentrations of iron, arsenic, ammonia, and ORP. As shown in Table 5-9, only GW-9, located in the southwestern portion of Phase III, had an arsenic concentration greater than laboratory detection limits. The concentration of arsenic in GW-9 was 24 ug/l, which exceeded the GCTL for arsenic of 10 ug/l. It should be noted that GW-9 is separated from the main arsenic-impacted area of the site (Phase IV) by groundwater locations that did not have detections of arsenic. Therefore, it appears that the elevated arsenic levels at GW-9 are an isolated "outlier" of arsenic-impacted groundwater, possibly due to favorable RD conditions at that particular location. It should also be noted that arsenic was not detected in GW-9 during the July 2008 sampling event.



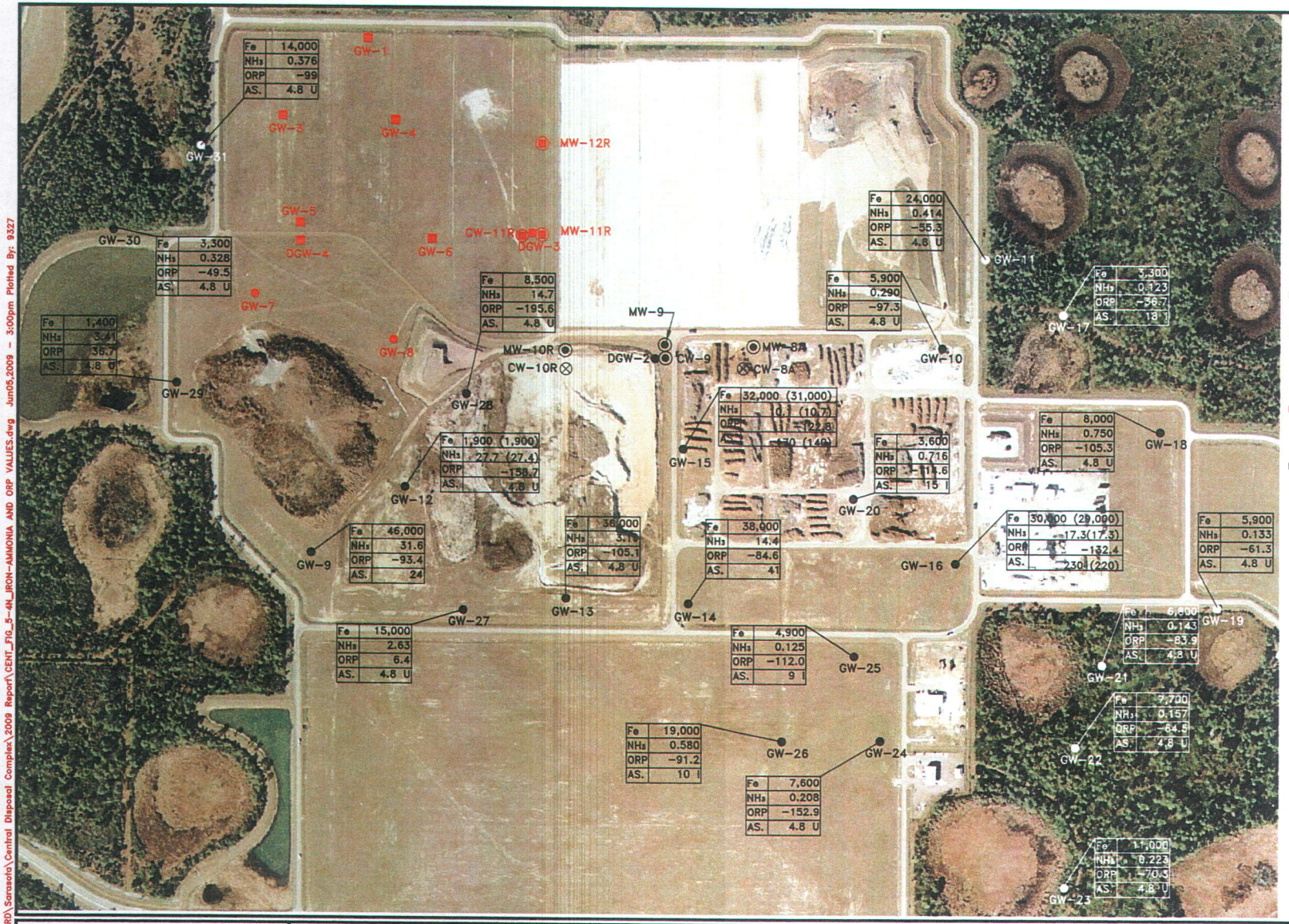
U:\SO\Oldd\HAZARD\Sarasota\Central Disposal Complex\2009 Report\CENT_Fig_5-3N_ARSENIC CONCENTRATIONS IN GROUNDWATE.dwg Jun05,2009 - 2:58pm Plotted By: 9327

PBSJ

SARASOTA COUNTY
CENTRAL COUNTY SOLID WASTE
DISPOSAL COMPLEX

ARSENIC CONCENTRATION IN GROUNDWATER - ISOPLETH MAP FOR 2009

FIGURE
5-3



LEGEND:

- GW-31 — TEMPORARY WELLS
- GW-6 — TEMPORARY WELLS ABANDONED IN PHASE II EXPANSION
- MW-12R — GROUNDWATER MONITORING WELLS ABANDONED IN PHASE II EXPANSION
- MW-10R — EXISTING GROUNDWATER MONITORING WELLS

NOTE:

1. IRON RESULTS IN ug/l
2. NH3 RESULTS IN mg/l
3. ORP RESULTS IN MILLIVOLTS
4. ARSENIC RESULTS IN ug/l

U:\SO\Old6\HAZARD\Sarasota\Central Disposal Complex\2009 Report\CENT_FIG_5-4N_IRON-AMMONIA AND ORP VALUES.dwg Jun05,2009 - 3:00pm Plotted By: 9327

PBSJ

SARASOTA COUNTY
CENTRAL COUNTY SOLID WASTE
DISPOSAL COMPLEX

IRON, AMMONIA, ORP, AND ARSENIC VALUES IN GROUNDWATER WELLS FOR 2009

FIGURE 5-4

Iron was detected in the Phase III area at concentrations ranging from 1,400 ug/l to 46,000 ug/l (at GW-9). TDS was detected at concentrations ranging from 596 mg/l to 1,180 mg/l (at GW-18). At all temporary monitoring wells sampled for this task, the iron and TDS concentrations exceeded their GCTLs of 300 ug/l and 500 mg/l, respectively. Ammonia-nitrogen was detected at concentrations ranging from 0.328 mg/l to 31.6 mg/l (at GW-9). The ammonia concentrations exceeded the GCTL of 2.8 mg/l at all locations except GW-27, GW-30, and GW-31.

Results of Follow-up Sampling in the Phase IV Area

Table 5-7 summarizes the results for all parameters detected in the groundwater samples collected from the Phase IV area. As shown in Table 5-7, several constituents were detected at concentrations that exceeded their reported detection limits. Of these, the following parameters were found to exceed State groundwater criteria (GCTLs, per Chapter 62-777 FAC and Chapter 62-550 FAC): arsenic, iron, manganese, Ammonia (as Nitrogen), chloride, sodium, and Ph. Figure 5-3 illustrates the concentrations of arsenic detected during both April 2009 sampling events. Figure 5-4 illustrates the concentrations of iron, arsenic, ammonia, and ORP.

Arsenic concentrations detected during the groundwater sampling activities in the Phase IV area ranged from below detection limits (4.8 ug/l) to 230 ug/l. At 6 of the 15 sampling locations, the arsenic concentrations were greater than or equal to the GCTL of 10 ug/l. These locations were: GW-14, GW-15, GW-16, GW-17, GW-20, and GW-26. The arsenic concentrations exceeded 100 ug/l at two locations: GW-15 (170 ug/l) and GW-16 (230 ug/l). GW-15 and GW-16 were also the locations with the highest arsenic concentrations from July 2008, although the arsenic concentration at GW-16 was significantly less than the July 2008 result.

Iron concentrations detected during the groundwater sampling activities in the Phase IV area ranged from 3,300 ug/l (at GW-17) to 38,000 ug/l (at GW-14). Iron was noted as exceeding State Secondary groundwater criteria of 300 ug/l at all groundwater sampling locations sampled during April 2009.

Manganese concentrations detected during the groundwater sampling activities in the Phase IV area ranged from 7.0 ug/l to 18 ug/l (at GW-21). The manganese concentrations did not exceed the State Secondary groundwater criteria of 50 ug/l at any location during April 2009.

Ammonia (as Nitrogen) concentrations detected during the groundwater sampling activities in the Phase IV area ranged from 0.123 mg/l to 17.3 mg/l (at GW-16). At 3 of the 15 sampling locations, the Ammonia-N concentrations were greater than the State Secondary groundwater criteria of 2.8 mg/l. These locations were GW-14, GW-15, and GW-16.

Chloride concentrations from the Phase IV sampling activities ranged from 66 mg/l to 370 mg/l (at GW-15). The chloride concentrations equaled or exceeded the State Secondary groundwater criteria of 250 mg/l at two locations. Sodium concentrations ranged from 87 mg/l to 210 mg/l (at GW-20). The sodium concentrations exceeded the GCTL of 160 mg/l at three locations. Sulfate concentrations ranged from less than detection limits (0.036 mg/l) to 37 mg/l (at GW-15). The

sulfate concentrations did not exceed the State Secondary groundwater criteria of 250 mg/l at any locations. The concentrations of Nitrate-N ranged from less than detection limits (0.014 mg/l) to 2.1 mg/l (at GW-21). These concentrations were less than the GCTL for Nitrate-N of 10 mg/l. Total dissolved solids were detected at concentrations greater than State Secondary criteria at all 15 sampling locations.

As with the sampling performed in July 2008, filtered metals samples were collected at selected monitoring wells where turbidity exceeded 9-10 NTU. Table 5-10 provides the results of the filtered metals analyses for all such samples collected in April 2009. The results of the filtered samples were very consistent with the non-filtered results from the same wells. This suggests a dissolved presence for metals in the groundwater. The only exception to this was at GW-30, where the filtered result for iron (3ug/l) was significantly lower than the un-filtered result for iron (3,300 ug/l). Due to the fact that GW-30 purged dry repeatedly prior to and during sampling, the filtered sample may not have been fully representative of site groundwater conditions.

As with the July 2008 sampling event, overall field measurements for several critical parameters related to RD were also recorded during the April 2009 sampling event. The Ph values were found to be lower than the State Secondary groundwater criteria of 6.5-8.5 Standard Units at 11 of the 23 sampling locations (total for April 2009), with GW-27 having the lowest Ph (5.39). ORP values ranged from +36.7 Mv at GW-29 to -195.6 Mv at GW-28. Ferrous iron concentrations ranged from 0.4 mg/l at GW-30 to 3.5 mg/l at GW-15.

Groundwater Sampling at Existing Wetland

As discussed previously, PBS&J installed two, shallow temporary monitoring wells (Temp Well #1 – in the wetland; and Temp Well #2 – in the upland) by hand auger to collect representatives groundwater samples at an undisturbed wetland and a nearby uplands area. The well locations are to the north of Phase I, as shown on Figure 4-1. Arsenic was detected at a concentration of 12 ug/l in Temp Well #1, which slightly exceeded the GCTL for arsenic of 10 ug/l. Arsenic was not detected in the sample from Temp Well #2. This suggests that native conditions in wetlands associated with the landfill area may have natural, slightly elevated concentrations of arsenic in the groundwater. Iron was detected at concentrations of 3,500 ug/l and 2,200 ug/l in Temp Well #1 and Temp Well #2, respectively. These results suggest that iron concentrations in the range of 3,500 ug/l may be a background condition of the area of the landfill.

5.3.3 Reductive/Oxidation Potential

Reductive/Oxidation (redox) reactions involve the transfer of electrons from one compound to another. One compound is oxidized (loses electrons) and one is reduced (gains electrons). Redox conditions are important factors controlling contaminant transport and fate in ground-water systems. Redox related reactions, change chemical behavior of both inorganic and organic chemical constituents by affecting solubility, reactivity, and bioavailability.

In association with the groundwater chemistry at this landfill site, there was a need to examine the groundwater environment for understanding redox behavior in the subsurface systems within the footprint of the landfill and immediate adjacent areas.

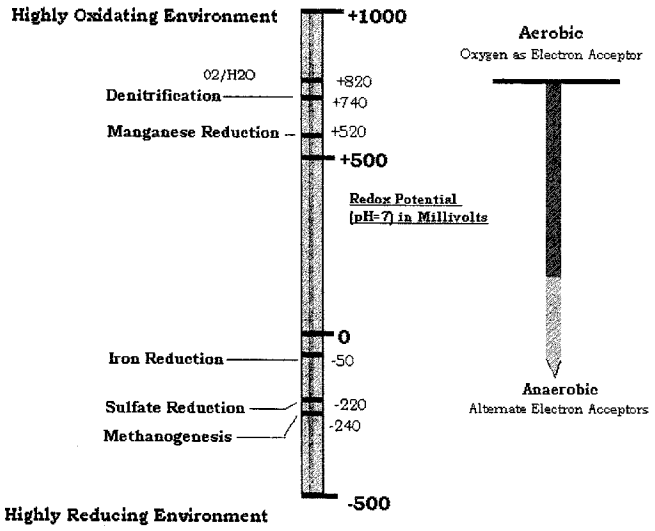
The environmental mobility of metals, such as arsenic, is indirectly related to redox conditions because this metal forms ionic complexes and solid precipitates with redox-sensitive elements (e.g., iron). Carbon may exist in several oxidation states, from +4 (most oxidized) to –4 (most reduced). Therefore, organic contaminants in ground water can also be strongly influenced by redox conditions, especially through the metabolic activity of microorganisms.

Evaluating ORP

ORP is a measure of the relative chemical differences between the oxidizers and the reducers found in groundwater. The evaluation of ORP is a particular worthwhile activity in water that contains redox-active species. Thus, ORP can be utilized to track the chemical attributes of adversely affected impacts of ground or surface water.

ORP measuring and overall groundwater evaluation begins with a measurement of the accumulation or deficiency of charged molecules, particularly electrons, in the groundwater. During microbial metabolism, electrons are produced, which must preferably be removed by oxygen to produce energy by a process called oxidative-phosphorylation. In an absence of oxygen, these electrons accumulate or react with other ions to impart a negative charge, resulting in a negative ORP value. Thus, a negative ORP value is a good indication that the water substrate is anaerobic and in a reductive dissolved state. The biodegradation of the organic substrate portion within the water column will continue to deplete the dissolved oxygen (DO) levels until the groundwater will be driven toward an even more reduced state. Once DO levels are depleted, anaerobic microorganisms will typically use available electron acceptors in the following order: nitrate, manganese (IV), iron (III) hydroxide, sulfate, and carbon dioxide.

The objective of evaluating reductive conditions in the groundwater within the area in and around the landfill is to measure the subsurface ORP levels. It is important to understand ORP values correspond to different geochemical and biological conditions. Every molecule has a specific ORP equilibrium constant, around which it exists in different forms in differing proportions. For example, iron is 50% ferrous and 50% ferric with an ORP value of approximately +120 Mv. As information derived from the USEPA Workshop on Monitoring Oxidation-Reduction Processes in Groundwater Restoration (Dallas, Texas; 2000) shows, at low ORP levels (~ -50 Mv), iron reduction will predominate and dissolved iron levels will rise as Fe^3 hydroxide solid [Fe(OH)3] is transformed to the soluble Fe^2 form by microbial activity:



Under these conditions, Fe (II) levels will tend to increase along the groundwater flow pathways. ORP levels of ~ -220 Mv will promote sulfate reduction to hydrogen sulfide and will result in a noticeable "rotten egg" odor to the groundwater. And under these theoretical conditions, sulfate will tend to decrease and hydrogen sulfide increase along the groundwater flow pathways.

At very low ORP values (~ -240 Mv), methanogenesis will finally occur, this results in the production of methane from carbon dioxide. Under these conditions, methane levels will tend to increase along the groundwater flow pathways and dissolved hydrogen gas will be present.

ORP Values in the Landfill

The ORP values measured in 2008 and 2009 are shown on Figures 5-2 and 5-3, respectively. With two exceptions (GW-3 and GW-10), all of the ORP readings collected during the July 2008 sampling event in the groundwater within the footprint of the landfill exhibited high-negative milivolt ORP value numbers. These ORP values were all noted to be within the range where iron dissolution will take place. When checking the average spread of the negative ORP values, it appeared that the highest-negative ORP values were located along the junction line between Phase I and Phase IV areas (CW-9, MW-9, DGW-2 and MW-8A) and along the southern end of the Phase III and Phase IV areas (GW-13, GW-14, and GW-16). Another location with high-negative ORP values was present to the west of the Phase I area (DGW-3 and MW-12R).

During the April 2009 sampling events, ORP values were also noted to be primarily in the moderate- to high-negative ranges. Notable exceptions, where ORP values were positive, were at GW-27 and GW-29. Prominent areas where ORP values were substantially less than -100 Mv included: 1) the Phase IV area of GW-15, GW-16, and GW-20; 2) the area of GW-24 and GW-25, south of Phase IV; and 3) the Phase III area of GW-12, GW-13, and GW-28.

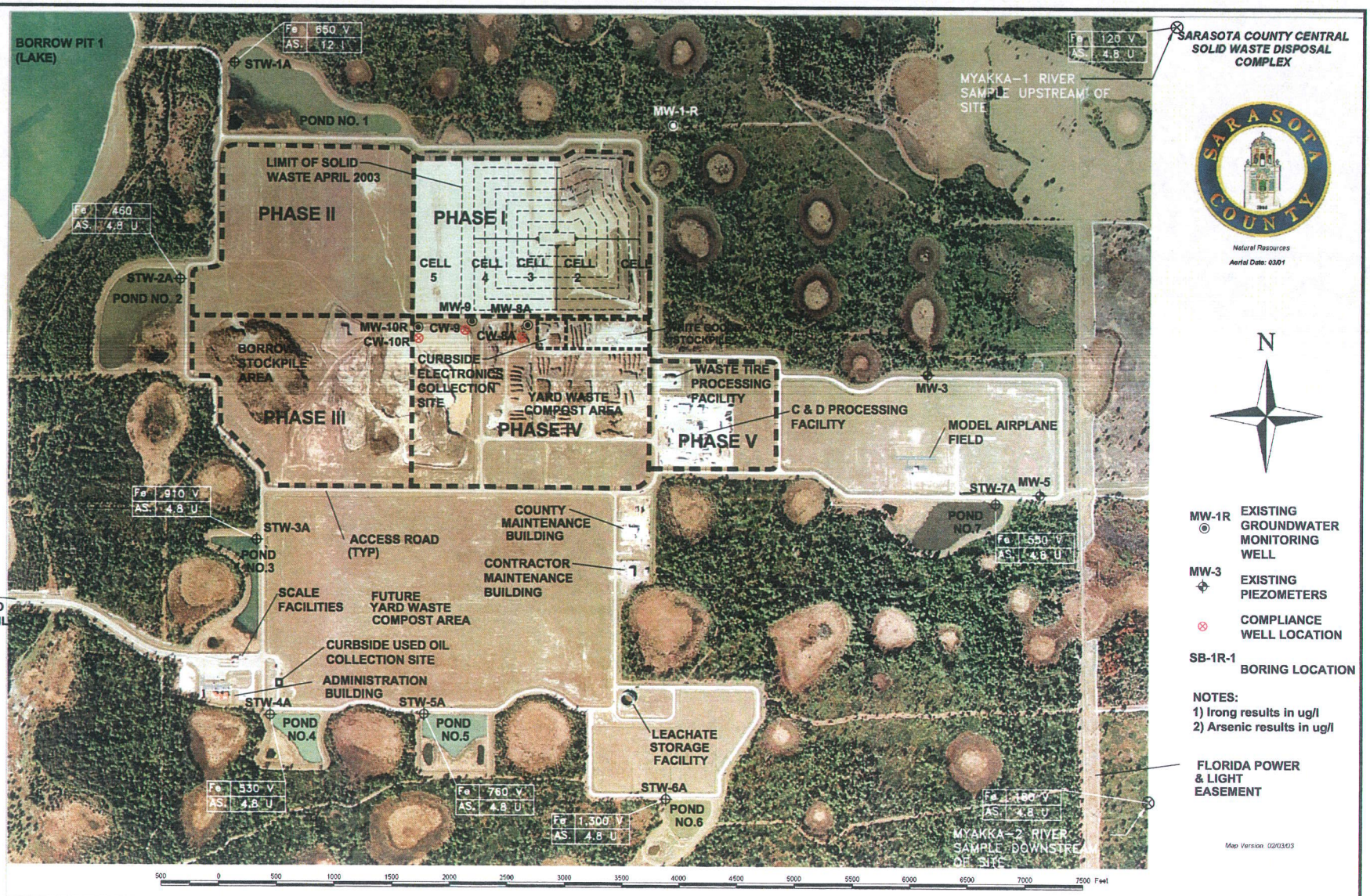
Where ORP values are positive, we found arsenic levels to be below detection limits and iron concentrations also relatively low. Where ORP values are in the moderate- to high-negative range, we also found arsenic and iron concentrations to be high.

5.4 Degree and Extent of Impact to Surface Waters

Surface water samples (plus two duplicate samples) were collected at 7 man-made ponds located within the landfill property. In addition, surface water samples were collected from two locations on the Myakka River, to the east of the landfill property. Figure 5-5 shows the locations of the surface water sampling locations and presents the results from analysis of iron and arsenic concentrations in the samples. Table 5-11 summarizes the analytical data and the field data collected for the surface water sampling locations. The surface water data suggest that arsenic impacts from the groundwater may be affecting Pond 1, which had an arsenic concentration of 12 ug/l. The concentration of arsenic in Pond 1 is comparable to the concentration of arsenic found in groundwater from the nearby wells that formerly existed in Phase II. However, it should be noted that the arsenic concentration (12 ug/l) did not exceed the Surface Water Criteria for arsenic, which is 50 ug/l, based on Class III Fresh Water (per Chapter 302.430 FAC). Also, the configuration of the drainage control structure in this pond is such that there is no direct, continuous discharge of groundwater to surface water at this location. Any groundwater in this pond would mix with stormwater runoff and only discharge to surface waters during major storm events when the control elevation of the structure is exceeded.

Iron concentrations in the surface water are generally well below the concentrations found in the groundwater, but they do reflect the overall high background concentrations of iron found in the vicinity of the landfill. Iron concentrations from the duplicate sample from Pond 1 (Grabdup 1) and from Pond 6 were found to be equal to or greater than the Surface Water Criteria for iron, which is 1,000 ug/l, based on Class III Fresh Water. However, those iron concentrations from Pond 1 (1,000 ug/l) and Pond 6 (1,300 ug/l) represent only slight exceedances of the Surface Water Criteria.

As discussed in Section 3.2 each of these stormwater management ponds detains stormwater runoff to a control elevation above the elevation of the water table. At below control elevations these ponds serve to recharge or discharge (via evaporation) the surficial aquifer during wet or dry periods of the year. Above the control elevation, these ponds will discharge stormwater and residual pond water to surface waters.



U:\SO\OldG\HAZARD\Sarasota\Central Disposal Complex\2009 SAR Report Figures\CENT_FIG_5-5_ARSENIC AND IRON CONCENTRATIONS AT SURFACE WATER LOCATIONS.dwg Jun12,2009 - 5:52pm Plotted By: 9327

PBSJ	SARASOTA COUNTY CENTRAL COUNTY SOLID WASTE DISPOSAL COMPLEX	ARSENIC AND IRON CONCENTRATIONS AT SURFACE WATER LOCATIONS	FIGURE 5-5

6.0 SITE ASSESSMENT OBJECTIVES

The following section addresses in detail the specific objectives of the SA, as promulgated by Chapter 62-78.600(3), FAC.

6.1 Current Exposure and Potential Risk of Exposure to Humans and the Environment

Based on the information gathered during the CE and SA, the contaminants of concern are arsenic, iron and ammonia and are contained in the surficial groundwater aquifer that has interfaces with surface water in the seven stormwater ponds around the site. It is within this context that the following evaluation of exposure and potential risk of exposure to humans and the environment is made.

Current and Projected Use of Groundwater and Surface Water

The impacts at this site appear to be limited to the surficial aquifer. Groundwater in the surficial aquifer is currently not used for any purpose at this site, and the surface water ponds are used only for storm water management. Currently, there are no plans for changes to uses of either the groundwater or surface water at this site.

Land Use Plans for the Area Affected by Contamination

Current plans for use of the areas affected by contamination include construction of additional landfill cells in Phases II, III and IV, and future yard waste composting to the south of the planned disposal cells. There are no plans to change the current use of the land in the area affected by the contamination.

Exposed Human Population and Ecological Receptors

The only potential human receptors at this site are workers that are on-site during the work week and the landfill customers who are on-site significantly less time. The surficial groundwater is not used at the CCSWDC facility either for potable or irrigation purposes. The parties which use this site should be aware, however, of the potential risks for exposure if excavations are created in the impacted areas, and particularly if dewatering occurs. Based on these circumstances, the potential for exposure to humans at this site falls into the low probability of exposure category, as defined by the EPA (1989).

With regard to ecological receptors, the risk with this issue appears to be very low given that the only potential ecological receptors to the impacted groundwater would be the surface water bodies, and, as described in Section 5.4, the surface water quality limit for arsenic is well above the concentrations found in the groundwater. Iron concentrations met or just exceeded the surface water criteria limit only in Ponds 1 and 6.

Location, Degree and Extent of Plume

As shown on Figures 5-3 and 6-1, the COCs are present in a dissolved state in the groundwater of the surficial aquifer in the area from the northwest area of Phase II southeastward into the Phase I and Phase V areas. The impacted groundwater occupies the upper part of the aquifer.

Rate and Direction of the Plume

As discussed in Section 3.2.1, studies by Ardaman & Associates, Inc. (2008), found the average hydraulic gradient in the Phase II area ranged from approximately 0.0005 to 0.0011. The groundwater flow direction typically ranged from west to south-southwest. The hydraulic conductivity from site-specific field tests in the piezometers ranged from 0.25 to 4.1 feet per day. Considering an effective porosity of 0.25, the maximum groundwater flow velocity in the surficial aquifer would range from 0.003 to 0.098 feet per day or 1.1 to 36 feet per year.

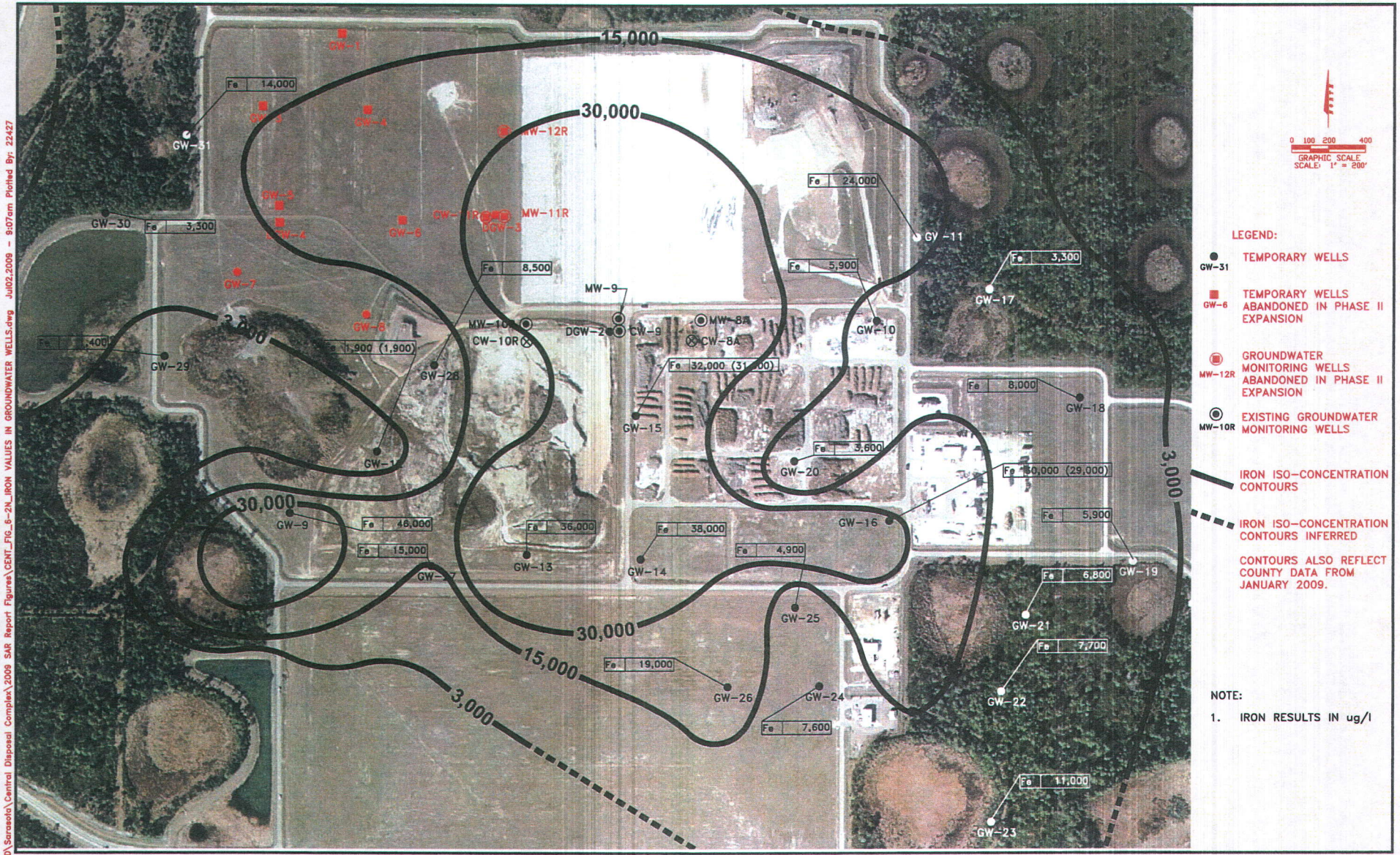
Potential for Further Migration to Source Property Boundary

Given what is currently known regarding the fate and transport mechanisms at play with the plume of impacted groundwater at this site, it is not yet possible to predict whether the plume will migrate to the boundary of the CCSWDC site boundary before attenuation takes a toll on the COC concentrations. Given that the property boundary is approximately one mile south of the leading edge of the plume, and the estimated groundwater flow rate approximately 36 feet per year; it is possible that dispersion and oxidation of the COCs will occur before the many years of travel time necessary for the plume to reach the property boundary.

6.2 Contamination Character and Extent Dissolved In Groundwater

Data derived from CE and SA investigations (Figures 5-1 and 5-3) indicate that the plume of dissolved arsenic in the groundwater extends generally from the northwest area of Phase II southeastward into the Phase I and Phase V areas. This also generally defines the limits of that part of the plume with concentrations in excess of the GCTL. The highest concentrations are located in an area extending generally from Phase IV southeastward for a distance of approximately 100 feet. This area also exhibited the highest ORP values.

With regard to the other two COCs, ammonia (as N) and iron, the area where the ammonia (as N) concentrations exceed the GCTL generally follows that of arsenic. The iron concentrations as shown on Figure 6-1 were relatively high across the entire study area, even in the background area. Like arsenic and ammonia, the highest iron concentrations were detected at the wells located immediately south of the south side of the Phase I areas of the landfill, and extending into the Phase IV Area.



U:\SO\Old0\HAZARD\Sarasota\Central Disposal Complex\2009 SAR Report Figures\CENT_FIG_6-2N_IRON VALUES IN GROUNDWATER WELLS.dwg Jul02,2009 - 9:07am Plotted By: 22427

PBSJ	SARASOTA COUNTY CENTRAL COUNTY SOLID WASTE DISPOSAL COMPLEX	IRON VALUES IN GROUNDWATER WELLS FOR 2009	FIGURE 6-1

It was noted that there were no elevated concentrations of arsenic or ammonia in the wells screened from 15 to 20 feet BLS. This appears to indicate that the arsenic and ammonia impacts are limited to the upper 15 feet of the surficial aquifer at the site. However, the iron and TDS concentrations were higher than the SDWS in the deeper wells, even in the background area.

It should be noted that some of the constituents included in the groundwater sampling program were detected at concentrations in excess of the standards, including chloride and manganese. There is no obvious pattern with these detections that would suggest these constituents are originating from a specific source.

6.3 Sources of Contamination

The Contamination Assessment conducted in 2008 investigated possible sources of contamination, and the following sources were ruled out:

- Yard Waste: The presence of arsenic metabolites associated with pesticides and herbicides in raw yard waste, milled yard waste, and finished compost from yard waste was considered along with the chemical composition of mulch that contained CCA treated wood and no connection to the contaminants of concern was found.
- Cattle Dip Vat soils: Historical use of the site prior to the construction of the landfill was as a cattle ranch. An area of the site in the immediate vicinity of suspected cattle dip vat was used to obtain borrow material for the landfill site. Soil testing in the cattle dip vat/borrow pit area was performed as part of the arsenic speciation studies, with no significant arsenic concentrations found to suggest that the area was a significant source of arsenic.
- Tire processing: The Phase V area of the landfill is the area designated for "Waste Tire Processing", and the County has, in the past, used chipped tires as erosion control material in stormwater ditches on the landfill itself. Based on published studies, Toxicity Characteristic Leaching Procedure (TCLP) conducted on scrap tire chips (method 1311 of USEPA), testing of tire pieces indicated that the metal constituents were determined to be significantly lower than regulatory threshold limits.

The findings of the SA do support the conclusions presented in the CE, that the iron, arsenic, and ammonia are naturally-occurring chemicals in the soils at the CCSWDC, and that the soils are releasing iron into the soil in areas of the site where RD is taking place, specifically in those areas where the DO levels are unusually low because of the lack of recharge from rainfall. This includes the footprint of the landfill and the Phase IV Area. It has been hypothesized that construction of the lined landfill cell, along with associated site development and other site activities (e.g., storage piles of cover soil and yard waste), have sufficiently decreased vadose zone oxygen content in some areas of the site that conditions suitable for accelerated iron reducing bacteria have developed, which has in turn resulted in the release of iron, arsenic, and ammonia-nitrogen into the surficial groundwater.

6.4 Background Concentrations

At the CCSWDC, the area located to the north and northeast of Phase I is considered to be representative of the natural conditions of the site before development of the landfill took place. This area is at least seasonally upgradient of the active landfill cells, so that impacts from the landfill on this area are though to be negligible. Therefore, soil and groundwater samples collected from this area are considered representative of "background" conditions.

Since approximately 2001, groundwater samples have been collected from a "background" monitoring well, indicated as MW-1 (replaced by MW-1R), which is located to the northeast of the northeast corner of Phase I. During the CE sampling activities, one shallow temporary monitoring well (GW-2) and one deeper temporary monitoring well (DGW-1) were installed in the area to the north of Phase I. The July 2008 sampling results for these wells are provided in Table 5-6. In general, the results from sampling of MW-1R and GW-2 indicated that the only constituent consistently detected at concentrations greater than the GCTL was iron. Background concentrations of the contaminants of concern include the following:

Contaminant	Concentration Range
Iron	280 – 6,200 ug/l
Arsenic	Below Detection Limits
Ammonia Nitrogen	0.12 – 0.534 ug/l

Temporary monitoring well DGW-1 was screened from 15 to 20 feet below surface. At this depth, the following three constituents were found to exceed their GCTLs: chloride, sodium, and TDS. This may indicate that groundwater from the deeper portion of the surficial aquifer may naturally be of slightly lower quality than the upper portion of the aquifer, but it should be noted that this was a one-time sampling event.

During the CE and SA activities, three soil borings were installed in the area north and northeast of Phase I (i.e., samples from the "background" area). Soil sample SB-1R-1 was collected from a location near MW-1R to a depth of 4.5 feet (just above the water table). The total arsenic concentration from a composite sample taken from this boring was 0.93 mg/kg. Speciation results from a sample collected at 4.5 feet from SB-1R-1 detected 0.05 mg/kg of Arsenic III and 0.20 mg/kg of Arsenic V.

Soil samples were also collected from a depth of 2 feet for evaluation of a wetland (Temp Well #1) and an upland area (Temp Well #2), both of which were located north of Phase I. Arsenic was not detected above the method detection limit (0.25 mg/kg) in either sample. Iron was detected at concentrations of 240 mg/kg and 550 mg/kg, respectively. Based on comparison with the iron and arsenic concentrations found in Phase II (see Table 5-2) and in Phase IV (see Table 5-5), the background arsenic and iron concentrations tend to be slightly lower than those found in the developed portion of the landfill.

6.5 Need For Source Removal

There is no free product associated with the contaminants of concern. Given that there does not appear to be a single point source or "hot spot" within the soil that is acting as a source of groundwater contamination, it would not be practical to perform a source removal at this site, nor would it serve its intended purpose.

6.6 Geologic and Hydrogeologic Characteristics That Influence Migration and Transport of Contaminants

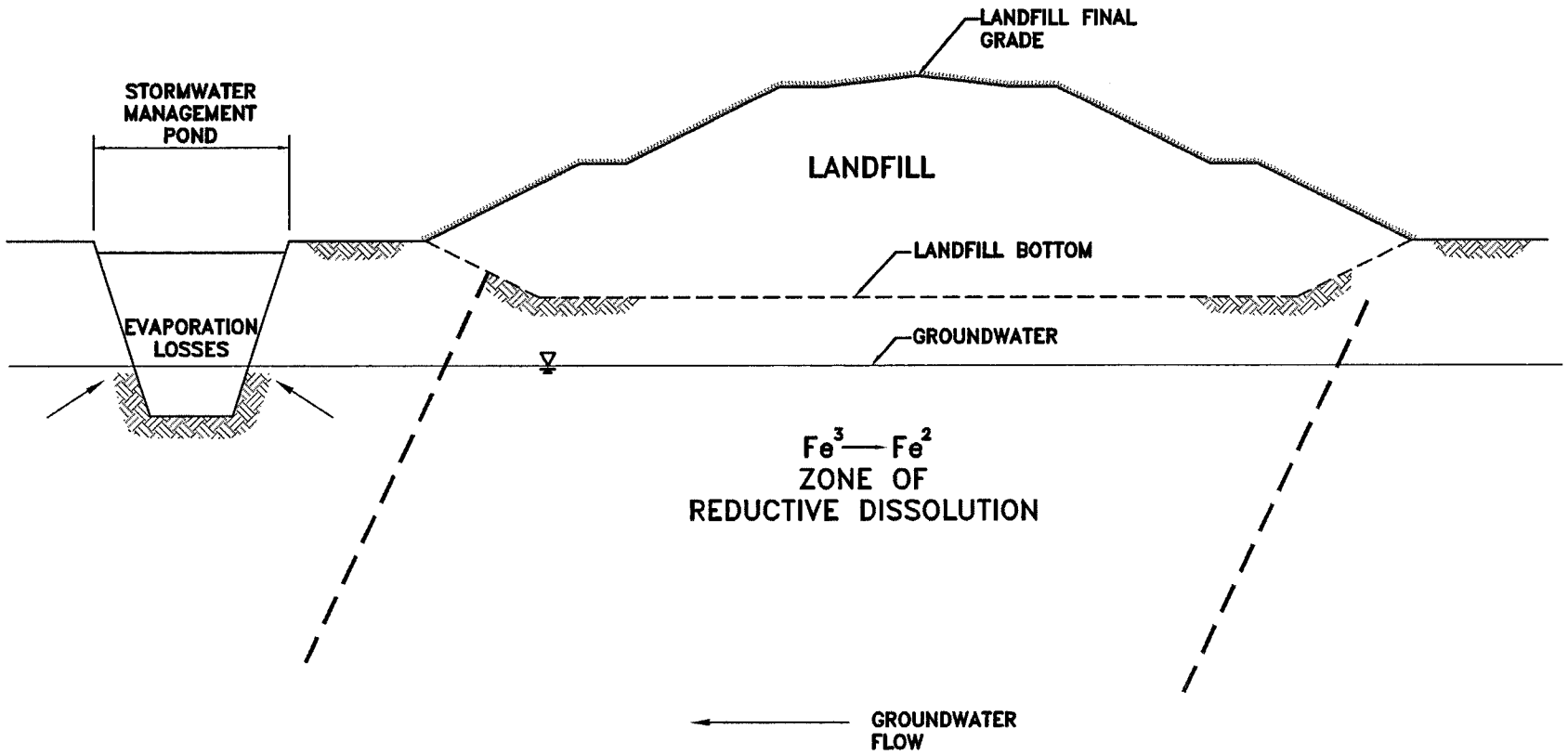
The COC's are in a dissolved state within the groundwater of the surficial aquifer. Therefore, the principal factor influencing the migration and transport of the contaminants is the flow dynamic of the groundwater of the surficial aquifer through the impacted area. Typically, groundwater flows laterally from areas of highest hydraulic areas to areas of lowest hydraulic areas. Within unconfined aquifers such as the surficial aquifer, the groundwater flow usually conforms to the topography of the land surface, with the higher areas flowing to the lower areas. At this site, the groundwater on the west side of the landfill site, and the west side of the plume of impacted groundwater, flows in a southwestward direction toward Cow Pen Slough, and groundwater beneath the east side of the site, and the east side of the plume of impacted groundwater, flows southeastward toward the Myakka River.

6.7 Mechanisms of Transport of Contaminants in the Immediate Vicinity of the Site

Our conceptual model of the mechanism for contaminant transport is presented as Figure 6-2. The COCs originate from the soil and leach into the groundwater through a process of RD in the areas where low DO and low ORP values are most prominent, that is the area immediately south of the landfill footprint in Phase I and the Phase IV Area. The plume of impacted groundwater then flows with the groundwater of the surficial aquifer. Groundwater on the west side of the impacted area flows in a southwesterly direction and groundwater on the east side of the impacted area flows to the southeast. The areas outside of the influence of the RD process have normal DO levels, and the COC's are below regulatory limits in these areas.

6.8 Public Supply Well Survey

PBS&J reviewed the records on file with the Sarasota County Department of Public Health for any records pertaining to public and private potable water wells located within one-half mile of the plume of impacted groundwater. According to the files, there is no public supply wells located within one-half mile of the plume of impacted groundwater. There are records for private water supply wells located on the landfill property, one at the landfill administration building complex, approximately 1,500 feet southwest of the leading edge of the plume; and the other at the maintenance building, which is located near the leading edge of the plume. Both of these wells are cased to approximately 90 feet and are approximately 130 feet deep. A third supply well is located at the Materials Recycling Facility.



PBSJ	SARASOTA COUNTY CENTRAL COUNTY SOLID WASTE DIPOSAL COMPLEX SITE ASSEMENT REPORT	SITE CONCEPTUAL MODEL DIAGRAM	FIG. 6-2

This well is located within the plume boundary, and is also a deep cased well. In should be noted, too, that previous studies in this area (see Appendix L) have reported that there is an upward gradient from the Floridan Aquifer in this area.

6.9 Surface Water Exposure to Contamination

Impacts to surface water from arsenic in the groundwater in the western portion of the site are not expected to occur since arsenic concentrations in the groundwater are below the surface water quality limits for arsenic. On the east side of the site in the Phase IV area, groundwater concentrations exceed surface water standards, but the groundwater is below the ground surface in this area and there is no connection of groundwater to surface water in this area.

Iron concentrations in the groundwater, including background, exceed the surface water limits.

Given that the stormwater ponds will not discharge to surface waters until filled to the control elevation with stormwater runoff, dilution of any iron or arsenic from the groundwater in these ponds will reduce the impact to surface water from discharges from these ponds.

6.10 Facilitate the Selection of a Remediation Strategy

There is low risk of exposure to human health and the environment from the contamination from the plume of COC-impacted groundwater at this site and there are no plans to change the current land use at this site. We believe that, once removed from the reductive dissolution environment of anoxic conditions and low ORP values, the iron and arsenic will revert to its oxidized state. Therefore, the most logical remediation strategy is Natural Attenuation with Monitoring, as promulgated at Chapter 62-780.690. In accordance with the requirements of this sectionof the rule, the following criteria can be met:

a) As there is no free product associated with the contaminants of concern at this site.
b) Contaminated soil is not present in the unsaturated zone.
c) For the Natural Attenuation with Monitoring Plan, we recommend the establishment of an appropriate temporary point of compliance that will allow the demonstration that natural attenuation is in fact occurring at this site.
d) We believe that the chemical process of reductive dissolution demonstrates that the contaminants of concern are conducive to natural attenuation.
e) There are insufficient sampling locations or historical data to suggest that an overall decrease in the contamination is occurring, and we recommend that as part of the Natural Attenuation with Monitoring Plan additional sampling locations be established to demonstrate this.

This approach would require the preparation of a detailed Natural Attenuation with Monitoring Plan addressing each of the requirements of Chapter 62-780.690(1), the installation of a network of monitoring wells along the perimeter of the impacted area and the periodic monitoring of the

groundwater to monitor the movement of the plume. Included in this Plan would be the items required in Chapter 62-780.690(1)(f)2 as follows:

a) A technical evaluation of groundwater and soil characteristics, chemistry, and biological activity that verifies that the contaminants have the capacity to degrade under specific site conditions. This evaluation will include the results of on-going County funded research by the University of Florida in this regard.

b) A scientific evaluation of the plume migration in relation to the temporary point of compliance, an estimation of expected annual reductions in contaminant concentrations in monitoring wells, and an estimation of the time required to meet applicable No Further Action criteria; and

c) A life-cycle cost analysis of remedial alternatives.

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TABLES

TABLE 2-1
WATER QUALITY MONITORING NETWORK
CENTRAL COUNTY SOLID WASTE DISPOSAL COMPLEX

Leachate Sampling Points		
Location (Sample ID)	**Landfill Cell**	**WACS Testsite Identification Number**
C-1	Cell #1	20580
C-2	Cell #2	20581
C-3	Cell #3	20582
C-4	Cell #4	20583
C-5	Cell #4	20584

Groundwater Sampling Points (Monitoring Wells)			
Location/Well Identifier	**Aquifer Monitored**	**Designation**	**WACS Testsite ID No.**
MW-1R	Surficial	Detection	20585
MW-8A	Surficial	Detection	21455
MW-9	Surficial	Detection	4509
MW-10R	Surficial	Detection	4510
MW-11R	Surficial	Detection	20588
MW-12R	Surficial	Detection	20589
MW-3	Surficial	Piezometer	4503
MW-5	Surficial	Piezometer	4505

Surface Water Sampling Points		
Identifier	**Location**	**WACS Testsite Identification Number**
B2	Old Cowpen Slough– Upstream	4519
B4R	Old Cowpen Slough - Downstream	200605

TABLE 3-1
Groundwater and Surface Water Elevation Readings
June 12, 2009

Identifier	Measuring Point Elevation (Ft-NGVD)	Depth to Water (Feet)	Water Elevation (Ft-NGVD)
Groundwater			
MW-1R	24.43	6.90	17.53
MW-8A	28.64	11.91	16.73
MW-9	35.11	17.40	17.71
MW-10R	31.79	14.13	17.66
CW-8A	25.80	9.17	16.63
CW-9	26.20	8.67	17.53
CW-10R	26.98	9.27	17.71
MW-3*	23.34	4.70	18.64
MW-5*	23.19	5.40	17.79
Surface Water			
STW-1A	21.23	2.01	19.22
STW-2A	20.18	3.00	17.18
STW-3A	18.43	1.85	16.58
STW-4A	17.35	1.94	15.41
STW-5A	18.04	1.90	16.14
STW-6A	17.67	2.85	14.82
STW-7A	19.02	1.98	17.04

* Piezometers.

Horizontal Datum: Florida State Plane NAD83(90); Vertical Datum: 1929 NGVD.

Table 3-2
Pond Construction Data

Pond	Bottom Elevation	Orifice Elevation	Staff Guage Nail Mark*
1-A	12.5	20.1	21.23
2-A	10.5	18.3	20.18
3-A	12.5	18.1	18.43
4-A	9.5	17.1	17.35
5-A	10.0	17.7 A/17.8 B	18.04
6-A	9.5	17.4	17.67
7-A	12.0	20.0	19.02

Note: All elevations in feet above the National Geodetic Vertical Datum.
* Surveyed point on staff guage.

TABLE 4-1: MONITOR WELL CONSTRUCTION DETAILS

Sarasota County CCSWDC

WELL NO.	MW-1R		MW-8A		MW-9		MW-10R		MW-11R*	
DIAMETER	2-inch		2-inch		2-inch		2-inch		2-inch	
WELL DEPTH	12.3		15.5		23.6		15.7		12.3	
SCREEN INTERVAL	12.0-12.3		5.5-15.5		13.6-23.6		5.7-15.7		2.0-12.0	
TOC ELEVATION	24.43		28.64		35.11		31.79		26.22	
DATE	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW
(7/2008)	17.07	7.36	17.58	11.06	18.28	16.83	17.83	13.96	18.14	8.08
(4/2009)	NA	NA	16.89	11.75	16.95	18.16	17.37	14.42	NA	NA

WELL NO.	MW-12*		CW-8A		CW-9		CW-10R		CW-11R*	
DIAMETER	2-inch		2-inch		2-inch		2-inch		2-inch	
WELL DEPTH	12.3		15.5		15.5		15.7		15.5	
SCREEN INTERVAL	2.0-12.0		5.5-15.5		5.5-15.5		5.7-15.7		5.5-15.5	
TOC ELEVATION	26.63		26.13		26.58		26.98		25.71	
DATE	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW
(7/2008)	19.13	7.50	17.21	8.92	18.46	8.12	18.50	8.48	17.50	8.21
(4/2009)	NA	NA	16.76	9.37	16.98	9.60	17.42	9.56	NA	NA

WELL NO.	GW-1*		GW-2*		GW-3*		GW-4*		GW-5*	
DIAMETER	2-inch		2-inch		2-inch		2-inch		2-inch	
WELL DEPTH	15.3		13.3		15.3		15.3		15.3	
SCREEN INTERVAL	5.0-15.0		3.0-13.0		5.0-15.0		5.0-15.0		5.0-15.0	
TOC ELEVATION	28.06		25.59		27.95		27.65		27.81	
DATE	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW
(7/2008)	18.88	9.18	17.30	8.29	17.75	10.20	17.26	10.39	16.97	10.84
(4/2009)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

WELL NO.	GW-6*		GW-7*		GW-8*		GW-9		GW-10	
DIAMETER	2-inch		2-inch		2-inch		2-inch		2-inch	
WELL DEPTH	15.3		15.3		15.3		15.3		15.3	
SCREEN INTERVAL	5.0-15.0		5.0-15.0		5.0-15.0		5.0-15.0		5.0-15.0	
TOC ELEVATION	27.70		27.77		28.42		28.09		29.03	
DATE	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW
(7/2008)	17.09	10.90	17.09	10.68	17.88	10.54	17.38	10.71	19.12	9.91
(4/2009)	NA	NA	NA	NA	NA	NA	16.37	11.72	16.98	12.05

Note: depth to water represents measurement from top of well casing * = Wells abandoned in Jan 09
NA = not applicable Well depths and screen interval given from surface (not top of casing)

TABLE 4-1: MONITOR WELL CONSTRUCTION DETAILS (continued)

Sarasota County CCSWDC

WELL NO.	GW-11		GW-12		GW-13		GW-14		GW-15	
DIAMETER	2-inch		2-inch		2-inch		2-inch		2-inch	
WELL DEPTH	15.3		15.3		15.3		15.3		15.3	
SCREEN INTERVAL	5.0-15.0		5.0-15.0		5.0-15.0		5.0-15.0		5.0-15.0	
TOC ELEVATION	26.04		29.25		27.82		27.80		28.30	

DATE	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW
(7/2008)	18.31	7.73	18.11	11.14	19.00	8.82	19.56	8.24	18.69	9.61
(4/2009)	17.04	9.00	16.98	12.27	17.48	10.34	17.20	10.60	17.22	11.08

WELL NO.	GW-16		GW-17		GW-18		GW-19		GW-20	
DIAMETER	2-inch		2-inch		2-inch		2-inch		2-inch	
WELL DEPTH	15.3		12.3		15.3		12.3		20.3	
SCREEN INTERVAL	5.0-15.0		2.0-12.0		5.0-15.0		2.0-12.0		10.0-20.0	
TOC ELEVATION	27.69		26.48		29.53		24.68		29.72	

DATE	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW
(7/2008)	17.84	9.85	NA	NA	NA	NA	NA	NA	NA	NA
(4/2009)	16.30	11.39	17.06	9.42	17.70	11.83	16.45	8.23	16.85	12.87

WELL NO.	GW-21		GW-22		GW-23		GW-24		GW-25	
DIAMETER	2-inch		2-inch		2-inch		2-inch		2-inch	
WELL DEPTH	13.3		13.3		13.3		13.3		13.3	
SCREEN INTERVAL	3.0-13.0		3.0-13.0		3.0-13.0		3.0-13.0		3.0-13.0	
TOC ELEVATION	25.67		25.23		24.12		25.63		25.28	

DATE	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW
(7/2008)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(4/2009)	15.35	10.32	15.21	10.02	14.57	9.55	16.24	9.39	16.41	8.87

WELL NO.	GW-26		GW-27		GW-28		GW-29		GW-30	
DIAMETER	2-inch		2-inch		2-inch		2-inch		2-inch	
WELL DEPTH	15.3		15.3		18.3		15.3		13.3	
SCREEN INTERVAL	5.0-15.0		5.0-15.0		8.0-18.0		5.0-15.0		3.0-13.0	
TOC ELEVATION	26.20		27.90		31.75		28.26		24.97	

DATE	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW
(7/2008)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(4/2009)	16.35	9.85	16.73	11.17	17.70	14.05	16.38	11.88	15.19	9.78

Note: depth to water represents measurement from top of well casing
NA = not applicable
Well depths and screen interval given from surface (not top of casing)

TABLE 4-1: MONITOR WELL CONSTRUCTION DETAILS (continued)

Sarasota County CCSWDC

WELL NO.	GW-31		DGW-1		DGW-2		DGW-3*		DGW-4*	
DIAMETER	2-inch		2-inch		2-inch		2-inch		2-inch	
WELL DEPTH	13.3		20.3		20.3		20.3		20.3	
SCREEN INTERVAL	3.0-13.0		15.0-20.0		15.0-20.0		15.0-20.0		15.0-20.0	
TOC ELEVATION	24.00		25.41		28.74		27.96		28.01	

DATE	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW
(7/2008)	NA	NA	13.74	11.67	18.13	10.61	14.71	13.25	13.61	14.40
(4/2009)	14.95	9.05	NA	NA	NA	NA	NA	NA	NA	NA

Note: depth to water represents measurement from top of well casing * = Wells abandoned in Jan 09
NA = not applicable Well depths and screen interval given from surface (not top of casing)

TABLE 4-2
WATER ELEVATION READINGS
7/28-31/2008

Well Identifier	Top-of-Casing Elevation (Ft-NGVD)	Depth -to-Water (Ft-BTOC)	Water Elevation (Ft-NGVD)
Wells			
MW-1R	24.43	7.36	17.07
MW-8A	28.64	11.06	17.58
MW-9	35.11	16.83	18.28
MW-10R	31.79	13.96	17.83
MW-11R	26.22	8.08	18.14
MW-12R	26.63	7.50	19.13
CW-8A	26.13	8.92	17.21
CW-9	26.58	8.12	18.46
CW-10R	26.98	8.48	18.50
CW-11R	25.71	8.21	17.50
GW-1	28.06	9.18	18.88
GW-2	25.59	8.29	17.30
GW-3	27.95	10.20	17.75
GW-4	27.65	10.39	17.26
GW-5	27.81	10.84	16.97
GW-6	27.70	10.90	16.80
GW-7	27.77	10.68	17.09
GW-8	28.42	10.54	17.88
GW-9	28.09	10.71	17.38
GW-10	29.03	9.91	19.12
GW-11	26.04	7.73	18.31
GW-12	29.25	11.14	18.11
GW-13	27.82	8.82	19.00
GW-14	27.80	8.24	19.56
GW-15	28.30	9.61	18.69
GW-16	27.69	9.85	17.84
DGW-1	25.41	11.67	13.74
DGW-2	28.74	10.61	18.13
DGW-3	27.96	13.25	14.71
DGW-4	28.01	14.40	13.61
Piezometers			
PZ-2A	21.72	4.20	17.52

Abbreviations: FT = Feet; NGVD = National Geodetic Vertical Datum; BTOC = Below Top-of-Casing

TABLE 4-3
WATER ELEVATION READINGS
September 12, 2008

Well Identifier	Top-of-Casing Elevation (Ft-NGVD)	Depth -to-Water (Ft-BTOC)	Water Elevation (Ft-NGVD)
Wells			
MW-1R	24.43	4.02	20.41
MW-8A	28.64	10.25	18.39
MW-9	35.11	15.74	19.37
MW-10R	31.79	12.80	18.99
MW-11R	26.22	4.90	21.32
MW-12R	26.63	5.92	20.71
CW-8A	26.13	7.74	18.39
CW-9	26.58	6.90	19.68
CW-10R	26.98	7.70	19.28
CW-11R	25.71	7.33	18.38
GW-1	28.06	7.80	20.26
GW-2	25.59	5.39	20.20
GW-3	27.95	9.11	18.84
GW-4	27.65	9.23	18.42
GW-5	27.81	9.50	18.31
GW-6	27.70	10.12	17.58
GW-7	27.77	9.35	18.42
GW-8	28.42	9.06	19.36
GW-9	28.09	9.10	18.99
GW-10	29.03	8.75	20.28
GW-11	26.04	6.00	20.04
GW-12	29.25	9.85	19.40
GW-13	27.82	7.70	20.12
GW-14	27.80	7.55	20.25
GW-15	28.30	8.58	19.72
GW-16	27.69	8.70	18.99
DGW-1	25.41	5.90	19.51
DGW-2	28.74	9.75	18.99
DGW-3	27.96	10.00	17.96
DGW-4	28.01	12.99	15.02
Piezometers			
PZ-2A	21.72	1.73	19.99

Abbreviations: FT = Feet; NGVD = National Geodetic Vertical Datum; BTOC = Below Top-of-Casing

TABLE 4-4
WATER ELEVATION READINGS
4/15-23/2009

Well Identifier	Top-of-Casing Elevation (Ft-NGVD)	Depth -to-Water (Ft-BTOC)	Water Elevation (Ft-NGVD)
Wells			
MW-1R	24.43	NR	NR
MW-8A	28.64	11.75	16.89
MW-9	35.11	18.16	16.95
MW-10R	31.79	14.42	17.37
CW-8A	26.13	9.37	16.76
CW-9	26.58	9.60	16.98
CW-10R	26.98	9.56	17.42
GW-9	28.09	11.72	16.37
GW-10	29.03	12.05	16.98
GW-11	26.04	9.00	17.04
GW-12	29.25	12.27	16.98
GW-13	27.82	10.34	17.48
GW-14	27.80	10.60	17.20
GW-15	28.30	11.08	17.22
GW-16	27.69	11.39	16.30
GW-17	26.48	9.42	17.06
GW-18	29.53	11.83	17.70
GW-19	24.68	8.23	16.45
GW-20	29.72	12.87	16.85
GW-21	25.67	10.32	15.35
GW-22	25.23	10.02	15.21
GW-23	24.12	9.55	14.57
GW-24	25.63	9.39	16.24
GW-25	25.28	8.87	16.41
GW-26	26.20	9.85	16.35
GW-27	27.90	11.17	16.73
GW-28	31.75	14.05	17.70
GW-29	28.26	11.88	16.38
GW-30	24.97	9.78	15.19
GW-31	24.00	9.05	14.95

Abbreviations: FT = Feet; NGVD = National Geodetic Vertical Datum; BTOC = Below Top-of-Casing, NR = Not Reported

TABLE 5-1
SUMMARY OF SOIL SPLP AND SPECIATION ANALYTICAL DATA FOR 2009
CENTRAL COUNTY SOLID WASTE DISPOSAL COMPLEX

Analyte	SB-P4-1-2	SB-P4-2-2	SB-P4-3-4	SB-P4-4-4	SB-P4-5-2	SB-P4-5-6	GCTL	NADSC
Anions								
Ammonia (mg/l)	0.051	0.100	0.147	0.224	0.580	0.557	2.8	28
Nitrate-N (mg/l)	2.0 V	2.0 V	2.3 V	2.1 V	1.8 V	2.2 V	10	100
Metals								
Arsenic (mg/l)	0.0048 U	0.0048 U	0.0048 U	0.0048 U	0.0048 U	0.0048 U	0.010	0.1
Arsenic Speciation*								
Arsenic III (mg/kg)	0.029	0.029	ND	ND	0.028	0.125	NA	NA
Arsenic V (mg/kg)	ND	0.71	ND	ND	ND	ND	NA	NA

Analyte	SB-P4-6-6	SB-P4-7-6	SB-P4-8-4	SB-P4-8-6	SB-P4-11-6	SB-P4-12-6	GCTL	NADSC
Anions								
Ammonia (mg/l)	0.154	0.148	0.15	0.27	0.126	0.228	2.8	28
Nitrate-N (mg/l)	2.2 V	2.1 V	2.2 V	2.2 V	2.1 V	2.1 V	10	100
Metals								
Arsenic (mg/l)	0.0048 U	0.0048 U	0.007 I	0.0048 U	0.0048 U	**0.0010 I**	0.010	0.1
Arsenic Speciation*								
Arsenic III (mg/kg)	0.055	ND	0.285	0.132	ND	0.049	NA	NA
Arsenic V (mg/kg)	ND	ND	0.22	ND	ND	ND	NA	NA

Bold values = Groundwater Criteria Exceeded (GCTL)
All samples collected on April 28, 2009
I = Reported Value is Between Method Detection Limit and Practical Quantitation Limit
ND = Not Detected (less than 0.026 for AsIII or 0.15 mg/kg for AsV)
* = No Dimethylarsinic acid or Monomethylarsinic acid detected in any soil samples
V = analyte also detected in method blank
U = Below Reported Detection Limits NA = Not applicable
Groundwater Criteria = Chapter 62-777 FAC and Chapter 62-550 FAC

TABLE 5-2
SUMMARY OF SOIL ANALYTICAL DATA FOR 2008
ARSENIC SOIL DELINEATION IN THE PHASE II AREA

	SB-11R-4-2	SB-11R-4-4	SB-11R-4-6	SB-11R-5-2	SB-11R-5-4	SB-11R-5-6	SB-11R-6-2	SB-11R-6-4	SB-11R-6-6	Residential SCTLs	Commercial SCTLs	Leachability
Boring Depth	2' bls	4' bls	6' bls	2' bls	4' bls	6' bls	2' bls	4' bls	6' bls			
Total Arsenic	0.57 I	0.26 U	0.69 I (0.28 I)	0.22 U	0.22 U	0.46 I	0.60 I	0.77 I	0.24 U	2.1	12	*
Total Chromium	7.2	0.26 U	1.1 (0.95 I)	2.7	0.22 U	1.9	16	17	1.1	210	470	38
Total Copper	0.067 U	0.078 U	0.071 U	0.066 U	0.067 U	0.07 U	0.066 U	0.067 U	0.071 U	150	89,000	*
Total Iron	1,600	43	1,900	NA	NA	NA	NA	NA	NA	53,000	N/A	*
Total Lead	2.0	0.26 U	0.52 I (0.50 I)	0.81 I	0.22 U	1.0	2.5	2.5	0.53 I	400	1400	*
Total Nitrogen	224	137	139 (165)	343	60.8	83.4	155	137	61.3	N/A	N/A	N/A
	SB-11R-7-2	SB-11R-7-4	SB-11R-7-6	SB-11R-8-2	SB-11R-8-4	SB-11R-8-6	SB-11R-9-2	SB-11R-9-4	SB-11R-9-6	Residential SCTLs	Commercial SCTLs	Leachability
Boring Depth	2' bls	4' bls	6' bls	2' bls	4' bls	6' bls	2' bls	4' bls	6' bls			
Total Arsenic	0.84 I	0.34 I (0.61 I)	0.24 U	**3.8**	0.25 U	0.24 U	1.0	0.83 I	0.25 U	2.1	12	*
Total Chromium	17	13	0.71 I	22	0.26 I	1.0	23	17	0.29 I	210	470	38
Total Copper	0.067 U	0.072 U	0.072 U	1.0	0.074 U	0.071 U	1.3	0.074 U	0.074 U	150	89,000	*
Total Iron	NA	NA	NA	2,400	120	150	NA	NA	NA	53,000	N/A	*
Total Lead	2.5	2.4 (2.1)	0.24 U	1.7	0.25 U	0.24 U	2.6	2.6	0.25 U	400	1400	*
Total Nitrogen	214	93.9 (82.6)	86.1	50.2	375	172	111	119	32.9	N/A	N/A	N/A
	SB-11R-10-2	SB-11R-10-4	SB-11R-10-6	SB-11R-11-2	SB-11R-11-4	SB-11R-11-6	SB-11R-12-2	SB-11R-12-4	SB-11R-12-6	Residential SCTLs	Commercial SCTLs	Leachability
Boring Depth	2' bls	4' bls	6' bls	2' bls	4' bls	6' bls	2' bls	4' bls	6' bls			
Total Arsenic	**2.2** (1.4)	0.44 I	0.24 U	0.33 I	0.25 U	1.5	0.45 I	0.23 U	0.69 I	2.1	12	*
Total Chromium	15 (13)	25	1.7	12	0.66 I	0.62 I	4.4	0.23 U	0.69 I	210	470	38
Total Copper	0.076 U	0.99	0.072 U	0.067 U	0.074 U	0.069 U	0.066 U	0.068 U	0.071 U	150	89,000	*
Total Iron	NA	NA	NA	NA	NA	NA	690	16	1,900	53,000	N/A	*
Total Lead	2.6 (2.5)	3.8	0.24 U	1.8	0.25 U	0.23 U	0.90	0.23 U	0.24 U	400	1400	*
Total Nitrogen	90.7 (95.5)	158	51.9	181	104	149	202	53.5	95	N/A	N/A	N/A
	SB-11R-13-2	SB-11R-13-4	SB-11R-13-6	SB-11R-14-2	SB-11R-14-4	SB-11R-14-6	SB-11R-15-2	SB-11R-15-4	SB-11R-15-6	Residential SCTLs	Commercial SCTLs	Leachability
Boring Depth	2' bls	4' bls	6' bls	2' bls	4' bls	6' bls	2' bls	4' bls	6' bls			
Total Arsenic	1.4	0.22 U	0.23 U	1.4	1.7	**3.2 (2.8)**	1.2	1.6	0.9 I	2.1	12	*
Total Chromium	18	0.34 I	0.75	2.3	0.55 I	0.59 I (0.54 I)	7.1	12	0.54 I	210	470	38
Total Copper	1.0	0.067 U	0.068 U	0.067 U	0.068 U	0.076 U	0.066 U	0.068 U	0.069 U	150	89,000	*
Total Iron	NA	NA	310	NA	NA	NA	NA	NA	NA	53,000	N/A	*
Total Lead	2.2	0.22 U	0.23 U	0.95	0.23 U	0.25 U (0.24 U)	1.2	2.0	0.23 U	400	1400	*
Total Nitrogen	280	82	104	203	174	37.8 (29.9)	151	119	116	N/A	N/A	N/A

Notes:
All samples collected on May 21, 2008
All results in Milligrams per killogram
bls = below land surface
Standard = Chapter 62-777 Florida Administratice Code
NA= Not analyzed for that parameter
Duplicate results in parentheses (if different)
N/A = Not applicable
Bolded values indicate contaminant exceeding residential SCTLs but not industrial SCTLs.
* Leachability values on Groundwater Criteria for lead may be derived using SPLP Test to calculate site specific SCTLs or may be determined using TCLP in the event oily wastes are derived.

TABLE 5-3
SUMMARY OF SOIL SPLP ANALYTICAL DATA FOR 2008
CENTRAL COUNTY SOLID WASTE DISPOSAL COMPLEX

Analyte	SB-11R-4-2	SB-11R-4-4	SB-11R-4-6	SB-11R-5-6	GCTL	NADSC
Anions						
Ammonia	0.21	0.47	0.42	0.51	2.8	28
Nitrate-N	2.4	2.2	2.0	2.1	10	100
Metals						
Arsenic	**0.011 I**	0.0048 U	0.0048 U	0.0048 U	0.010	0.1

Notes: All values in Milligrams per liter
All samples collected on May 21, 2008
Bold values = Groundwater Criteria Exceeded (GCTL)
I = Reported Value is Between Method Detection Limit and Practical Quantitation Limit
U = Below Reported Detection Limits
Groundwater Criteria = Chapter 62-777 FAC and Chapter 62-550 FAC

TABLE 5-4
SUMMARY OF SOIL ANALYTICAL DATA FOR SB-11R-3
ARSENIC SOIL DELINEATION IN THE PHASE II AREA

	SB-11R-3-2	SB-11R-3-4	SB-11R-3-6	Residential SCTLs	Commercial SCTLs	Leachability
Boring Depth	2' bls	4' bls	6' bls			
Total Arsenic	0.27 U	0.22 U	**4.3**	2.1	12	*
Total Chromium	5.9	2.3	1.7	210	470	38
Total Copper	0.082 U	0.065 U	0.072 U	150	89000	*
Total Iron	720	330	6,800	53,000	N/A	*
Total Lead	2.1	1.1	1	400	1400	*
Total Nitrogen	200	200	100 U	N/A	N/A	N/A

Notes:
All results in Milligrams per killogram
All samples collected on July 7, 2008
bls = below land surface
Standard = Chapter 62-777 Florida Administratice Code
Bolded values indicate contaminant exceeding residential SCTLs but not industrial SCTLs.
* Leachability values on Groundwater Criteria for lead may be derived using SPLP Test to calculate site specific SCTLs

TABLE 5-5
SUMMARY OF SOIL ANALYTICAL DATA FOR 2009
ARSENIC SOIL DELINEATION IN THE PHASE IV AREA

	SB-P4-1-2	SB-P4-1-4	SB-P4-1-6	SB-P4-2-2	SB-P4-2-4	SB-P4-2-6	SB-P4-3-2	SB-P4-3-4	SB-P4-3-6	Residential SCTLs	Commercial SCTLs	Leachability
Boring Depth	2' bls	4' bls	6' bls	2' bls	4' bls	6' bls	2' bls	4' bls	6' bls			
Total Arsenic	1.0	1.0 I	**3.8**	2.0	1.1	0.39 I	**3.0** (0.75 I)	0.27 U	0.25 U	2.1	12	*
Total Chromium	22	NA	NA	24	NA	NA	NA	0.71 I	NA	210	470	38
Total Copper	0.071 U	NA	NA	1.1	NA	NA	NA	0.082 U	NA	150	89,000	*
Total Iron	2,300	NA	NA	4,000	NA	NA	NA	270	NA	53,000	N/A	*
Total Lead	2.3	NA	NA	2.6	NA	NA	NA	1.0 I	NA	400	1400	*
Total Nitrogen	1,300	NA	NA	1,220	NA	NA	NA	3,700	NA	N/A	N/A	N/A
	SB-P4-4-2	SB-P4-4-4	SB-P4-4-6	SB-P4-5-2	SB-P4-5-4	SB-P4-5-6	SB-P4-6-2	SB-P4-6-4	SB-P4-6-6	Residential SCTLs	Commercial SCTLs	Leachability
Boring Depth	2' bls	4' bls	6' bls	2' bls	4' bls	6' bls	2' bls	4' bls	6' bls			
Total Arsenic	0.24 U	0.24 U	0.24 U	0.94 I	0.98 I	**8.9**	0.75 I	0.38 I (0.47 I)	0.39 I	2.1	12	*
Total Chromium	NA	0.24 U	NA	13	NA	5.0	NA	NA	0.90 I	210	470	38
Total Copper	NA	0.071 U	NA	0.077 U	NA	0.073 U	NA	NA	0.072 U	150	89,000	*
Total Iron	NA	73	NA	2,600	NA	6,800	NA	NA	460 V	53,000	N/A	*
Total Lead	NA	0.67 I	NA	1.9	NA	0.82 I	NA	NA	0.87 I	400	1400	*
Total Nitrogen	NA	3,000	NA	1,200	NA	1,900	NA	NA	400	N/A	N/A	N/A
	SB-P4-7-2	SB-P4-7-4	SB-P4-7-6	SB-P4-8-2	SB-P4-8-4	SB-P4-8-6	SB-P4-9-2	SB-P4-9-4	SB-P4-9-6	Residential SCTLs	Commercial SCTLs	Leachability
Boring Depth	2' bls	4' bls	6' bls	2' bls	4' bls	6' bls	2' bls	4' bls	6' bls			
Total Arsenic	0.25 U	0.25 U	0.24 U	0.77 I	0.34 I	0.29 I	1.3	0.25 U	0.39 I (0.45 I)	2.1	12	*
Total Chromium	NA	NA	2.2	NA	0.27 I	0.82 I	NA	NA	NA	210	470	38
Total Copper	NA	NA	0.073 U	NA	0.068 U	0.071 U	NA	NA	NA	150	89,000	*
Total Iron	NA	NA	820	NA	280	1,500	NA	NA	NA	53,000	N/A	*
Total Lead	NA	NA	0.93 I	NA	0.61 I	0.48 I	NA	NA	NA	400	1400	*
Total Nitrogen	NA	NA	660	NA	1,600	890	NA	NA	NA	N/A	N/A	N/A
	SB-P4-10-2	SB-P4-10-4	SB-P4-10-6	SB-P4-11-2	SB-P4-11-4	SB-P4-11-6	SB-P4-11-2	SB-P4-12-4	SB-P4-12-6	Residential SCTLs	Commercial SCTLs	Leachability
Boring Depth	2' bls	4' bls	6' bls	2' bls	4' bls	6' bls	2' bls	4' bls	6' bls			
Total Arsenic	0.41 I	0.24 U	0.59 I	0.22 U	0.41 I	0.77 I	0.25 U	0.66 I	0.24 U (0.41 I)	2.1	12	*
Total Chromium	NA	NA	NA	NA	NA	14	NA	NA	17	210	470	38
Total Copper	NA	NA	NA	NA	NA	0.071 U	NA	NA	0.071 U	150	89,000	*
Total Iron	NA	NA	NA	NA	NA	2,300	NA	NA	2,800	53,000	N/A	*
Total Lead	NA	NA	NA	NA	NA	2.3	NA	NA	2.5	400	1400	*
Total Nitrogen	NA	NA	NA	NA	NA	1,500	NA	NA	760	N/A	N/A	N/A

Notes:
All samples collected on April 28, 2009
All results in Milligrams per killogram
bls = below land surface
Standard = Chapter 62-777 Florida Administratice Code
NA= Not analyzed for that parameter
Duplicate results in parentheses (if different)
I = value between laboratory method detection limit and practical quantitation limit
Bolded values indicate contaminant exceeding residential SCTLs but not industrial SCTLs.
V = compound also detected in method blank
* Leachability values on Groundwater Criteria for lead may be derived using SPLP Test to calculate site specific SCTLs or may be determined using TCLP in the event oily wastes are derived.

Table 5-6
Groundwater Analytical Summary for 2008
July 28 - 31, 2008

Analyte	Standard[1]	Units	MW-1R	MW-8A	MW-9	MW-10R	MW-11R	MW-12R	CW-8A	CW-9	CW-10R	CW-11R
		Sampling Date:	7/31/2008	7/29/2008	7/30/2008	7/31/2008	7/29/2008	7/29/2008	7/29/2008	7/30/2008	7/29/2008	7/29/2008
Field Measurements												
Temperature		degrees C	26.02	27.4	28.2	26.22	27.5	28.4	27.3	27.7	27.5	27.4
pH	6.5-8.5*	STD	7.31	6.82	6.38	6.94	6.33	6.5	5.44	6.33	5.92	6.11
Conductivity		umhos/cm	630	1630	1760	1554	1140	113	820	1420	153	917
Dissolved Oxygen (DO)		mg/l	0.62	0.09	0.09	0.42	0.21	0.07	0.08	0.07	0.2	0.07
Oxid.-Reduct. Potential (ORP)	Fe Reduct -50	millivolts	61	-107	-116	-71	-68	-94	-41	-94	-74	-77
Ferrous Iron (Fe 2+)		mg/l	0.05	1	1.4	2.8	2.2	1.6	1.15	1.8	2.2	
Turbidity		NTU	27.1	1.91	14.1	4.46	2.07	5.1	5.28	17.1	7.85	5.96
Analyte												
Arsenic	10	ug/l	4.8 U	48	52	7 I	14 I	12 I	53	53 (38)	9 I	20
Chloride	250*	mg/l	29	44	43	83	48	57	70	30 (30)	42	15
Iron	300*	ug/l	1,100 V	150,000 V	44,000 V	66,000 V	2,900 V	2,000 V	62,000 V	16,000 V (12,000)	15,000 V	17,000 V
Manganese	50*	ug/l	26	17	32	16	16	29	18	43 (45)	52	38
Nitrate Nitrogen	10	mg/l	0.014 U	0.014 U	0.16	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U (0.014U)	0.014 U	0.014 U
Sodium	160	mg/l	22	71	45	83	44	47	40	48 (46)	53	24
Sulfate	250*	mg/l	12	0.036 U	0.036 U	0.036 U	150	93	28	110 (133)	220	17
Total Alkalinity		mg/l	260	760	850	480	300	360	150	550 (530)	470	480
Total Ammonia-N	2.8	mg/l	0.148	18.2	13.8	11.4	0.594	1.01	5.68	3.1 (1.78)	2.52	2.82
Total Dissolved Solids (TDS)	500*	mg/l	404	876	1024	816	800	856	476	976 (924)	1024	680
Total Organic Carbon		mg/l	16.2	92.5	61.80	70.70	60.6	75.10	44.40	38.3 (37.6)	30.1	48.3
Speciated Arsenic												
Arsenic 3+ - As(III)		ug/l	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Arsenic 5+ - As(V)		ug/l	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DMAs		ug/l	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MMAs		ug/l	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Duplicate values in parenthesis

Notes: (1) - Maximum Contaminant Level, as established in Chapter 62-550. * = Secondary Drinking Water Standards (SDWSs). Shading = an exceedance of its MCL or SDWS. V = compound also detected in laboratory method blank.

Abbreviations: U = below detection limits., umhos/cm = microohms per centimeter; mg/l = miligrams per liter; NTU = nephelometric turbidity units; ug/l = micrograms per liter; NS = Not Sampled, ND = Not Detected. I = less than PQL.

Table 5-6 (Continued)
Groundwater Analytical Summary for 2008
July 28 - 31, 2008

Analyte	Standard[1]	Units	GW-1	GW-2	GW-3	GW-4	GW-5	GW-6	GW-7	GW-8	GW-9	GW-10
		Sampling Date:	7/29/2008	7/28/2008	7/29/2008	7/29/2008	7/29/2008	7/30/2008	7/30/2008	7/30/2008	7/30/2008	7/29/2008
Field Measurements												
Temperature		degrees C	28.02	26.19	27.84	27.15	30.44	27.32	28.33	27.6	26.84	26.82
pH	6.5-8.5*	STD	6.63	6.66	6.02	6.2	6.08	6.68	6.61	7.1	6.24	6.04
Conductivity		umhos/cm	796	590	3000	4000	2000	778	832	3626	1324	1300
Dissolved Oxygen (DO)		mg/l	0.81	0.62	0.71	0.78	0.65	0.44	0.38	0.39	0.36	0.26
Oxid.-Reduct. Potential (ORP)		millivolts	-108	32	23	-34	-73	-28	-50	-98	-93	0
Ferrous Iron (Fe 2+)		mg/l	1.5	0.7	2.6	4	2	3	2.2	2.95	1.2	2
Turbidity		NTU	0.89	69	2.63	49.19	1.54	156	124	3.4	4.34	4.6
Analyte												
Arsenic	10	ug/l	4.8 U	4.8 U	4.8 U	4.8 U	21	4.8 U	19 (21)	7 I	4.8 U	8 I
Chloride	250*	mg/l	33	53	38	47	140	34	15 (16)	120	120	62
Iron	300*	ug/l	1,400 V	6,200	18,000 V	23,000 V	48,000 V	8,200 V	50,000 V (75,000)	14,000 V	60,000 V	4,600 V
Manganese	50*	ug/l	16	5.2	5.2	29	110	33	18 (73)	36	31	16
Nitrate Nitrogen	10	mg/l	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U	0.15 (0.14)	0.014 U	0.014 U	0.014 U
Sodium	160	mg/l	14	46	16	46	79	25	14 (16)	460	93	52
Sulfate	250	mg/l	100	58	0.036 U	5	11	16	3.3 (6.4)	470	0.036 U	190
Total Alkalinity		mg/l	160	170	40	250	430	400	320 (320)	1100	410	390
Total Ammonia-N	2.8	mg/l	1.3	0.12	0.171	2.15	0.115	2.24	11.7 (11.2)	1.06	0.489	0.306
Total Dissolved Solids (TDS)	500*	mg/l	532	404	188	492	828	488	484 (460)	2216	848	872
Total Organic Carbon		mg/l	18.5	10.8	6.78	51.60	41.9	26.30	52.3 (58.3)	43.8	90	13.7
Speciated Arsenic												
Arsenic 3+ - As(III)		ug/l	0.41	NS	0.54	4.3	9.63	2.57	18.3	5.67	NS	7.29
Arsenic 5+ - As(V)		ug/l	ND	NS	0.44	0.94	1.58	1.06	3.29	0.89	NS	0.91
DMAs		ug/l	ND	NS	ND	ND	0.27	ND	ND	ND	NS	ND
MMAs		ug/l	ND	NS	ND	ND	ND	ND	ND	ND	NS	ND

Duplicate values in parenthesis

Notes: (1) - Maximum Contaminant Level, as established in Chapter 62-550. * = Secondary Drinking Water Standards (SDWSs). Shading = an exceedance of its MCL or SDWS. V = compound also detected in laboratory method blank.

Abbreviations: U = below detection limits., umhos/cm = microohms per centimeter; mg/l = miligrams per liter; NTU = nephelometric turbidity units; ug/l = micrograms per liter; NS = Not Sampled, ND = Not Detected. I = less than PQL.

Table 5-6 (Continued)
Groundwater Analytical Summary for 2008
July 28 - 31, 2008

Analyte	Standard[1]	Units	GW-11	GW-12	GW-13	GW-14	GW-15	GW-16	DGW-1	DGW-2	DGW-3	DGW-4
		Sampling Date:	7/28/2008	7/30/2008	7/30/2008	7/30/2008	7/29/2008	7/29/2008	7/28/2008	7/29/2008	7/30/2008	7/30/2008
Field Measurements												
Temperature		degrees C	26.52	26.91	26.68	26.59	28.64	27.57	26.5	26.11	27.09	27.79
pH	6.5-8.5*	STD	6.41	6.38	6.46	6.61	6.39	6.53	7.25	6.73	7.08	7.16
Conductivity		umhos/cm	856	1616	1392	1776	2927	1830	4155	1652	813	1614
Dissolved Oxygen (DO)		mg/l	0.26	0.43	0.36	0.4	0.13	0.6	1.41	0.29	0.34	1.54
Oxid.-Reduct. Potential (ORP)	Fe Reduct -50	millivolts	-81	-32	-110	-98	-76	-86	125	-98	-119	-99
Ferrous Iron (Fe 2+)		mg/l	2.8	3.7	1.8	1.2	1.2	2.6	0.05	2.4	3	3.25
Turbidity		NTU	105.4	5.82	10.09	3.09	2.23	2.98	12.7	2.37	30.7	3.21
Analyte												
Arsenic	10	ug/l	12 I	8 I	4.8 U	15 I	210 (230)	1100	4.8 U	4.8 U	8 I	4.8 U
Chloride	250*	mg/l	53	43	70	210	250 (250)	120	970	82	45	260
Iron	300*	ug/l	48,000	12,000 V	48,000 V	14,000 V	23,000 V (23,000)	19,000 V	280	3100 V	17,000 V	17,000 V
Manganese	50*	ug/l	36	65	19	41	34 V (33V)	16 V	10	5.9 V	17	19
Nitrate Nitrogen	10	mg/l	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U (0.23)	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U
Sodium	160	mg/l	68	84	76	170	130 (130)	140	260	180	38	120
Sulfate	250	mg/l	3.3	350	0.036 U	47	450 (450)	1.8	170	0.036 U	1.8	0.036 U
Total Alkalinity		mg/l	200	380	570	590	690 (700)	780	440	760	310	380
Total Ammonia-N	2.8	mg/l	0.306	6.66	0.438	1.87	10.1 (10.4)	25.1	0.534	0.823	0.382	0.45
Total Dissolved Solids (TDS)	500*	mg/l	624	1196	844	1180	2024 (2044)	1044	2320	1024	532	1012
Total Organic Carbon		mg/l	119	47.4	40.40	41.50	73.6 (75.4)	71.50	18.90	32.6	28	29.1
Speciated Arsenic												
Arsenic 3+ - As(III)		ug/l	NS	4.14	NS	NS	183	NS	NS	5.34	5.65	1.43
Arsenic 5+ - As(V)		ug/l	NS	0.67	NS	NS	12.5	NS	NS	0.74	0.91	0.5
DMAs		ug/l	NS	ND	NS	NS	0.25	NS	NS	ND	ND	ND
MMAs		ug/l	NS	ND	NS	NS	ND	NS	NS	ND	ND	ND

Duplicate values in parenthesis

Notes: (1) - Maximum Contaminant Level, as established in Chapter 62-550. * = Secondary Drinking Water Standards (SDWSs). Shading = an exceedance of its MCL or SDWS. V = compound also detected in laboratory method blank.

Abbreviations: U = below detection limits., umhos/cm = microohms per centimeter; mg/l = miligrams per liter; NTU = nephelometric turbidity units; ug/l = micrograms per liter; NS = Not Sampled, ND = Not Detected. I = less than PQL.

Table 3-7

Groundwater Analytical Summary - Follow-Up Sampling in the Phase IV Area
April 22 & 23, 2009

Analyte	Standard[1]	Units	GW-10	GW-11	GW-14	GW-15	GW-16	GW-17	GW-18	GW-19	GW-20
Sampling Date:			4/23/2009	4/22/2009	4/23/2009	4/23/2009	4/23/2009	4/22/2009	4/22/2009	4/22/2009	4/22/2009
Field Measurements											
Temperature		degrees C	26.4	25.0	26.7	24.09	24.26	25.4	23.48	26.5	25.53
pH	6.5-8.5*	STD	6.30	6.27	6.53	6.63	6.62	6.80	6.23	6.66	6.86
Conductivity		umhos/cm	1,280	853	2,380	2,757	1,671	1,690	1,105	1,380	1,466
Dissolved Oxygen (DO)		mg/l	0.15	0.20	0.25	1.3	0.85	0.2	1.27	0.4	0.28
Oxid.-Reduct. Potential (ORP)		millivolts	-97.3	-55.3	-84.6	-122.8	-132.4	-36.7	-105.3	-61.3	-114.6
Ferrous Iron (Fe 2+)		mg/l	1.8	2.0	2.2	3.5	2.8	1.4	2.1	2.4	2.6
Turbidity		NTU	5.14	47.1	8.42	8.1	0.85	9.8	2.22	4.44	9
Analyte											
Arsenic	10	ug/l	4.8 U	4.8 U	41	170 (140)	230 (220)	18 I	4.8 U	4.8 U	15 I
Chloride	250*	mg/l	NS	NS	220	370	66 (66)	NS	NS	NS	109
Iron	300*	ug/l	5,900	24,000	38,000	32,000 (31,000)	30,000 (29,000)	3,300	8,000	5,900	3,600
Manganese	50*	ug/l	NS	NS	8.0	15	10 (10)	NS	NS	NS	11
Nitrate Nitrogen	10	mg/l	NS	NS	0.014 U	0.014 U	0.014 U (0.014 U)	NS	NS	NS	0.014 U
Sodium	160	mg/l	NS	NS	180 V	120 V	87 V (86 V)	NS	NS	NS	210 V
Sulfate	250	mg/l	NS	NS	2.1	37	0.036 U (0.036 U)	NS	NS	NS	3.2
Total Alkalinity		mg/l	NS	NS	860	770	710 (720)	NS	NS	NS	570
Total Ammonia-N	2.8	mg/l	0.290	0.414	14.4	10.1 (10.7)	17.3 (17.3)	0.123	0.750	0.133	0.716
Total Dissolved Solids (TDS)	500*	mg/l	832	584	1,336	1,728 (1,692)	900 (904)	956	708	768	940
Total Organic Carbon		mg/l	NS	NS	44	55	40 (38)	NS	NS	NS	57
Speciated Arsenic											
Arsenic 3+ - As(III)		ug/l	2.19	1.37	27.1	106	145	6.99	3.59	4.24	5.22
Arsenic 5+ - As(V)		ug/l	3.25	0.401	9.61	40.2	33.8	9.40	2.73	0.561	8.70
DMAs		ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
MMAs		ug/l	0.090	ND	ND	ND	ND	ND	ND	ND	ND

Duplicate values in parenthesis

Notes: (1) - Maximum Contaminant Level, as established in Chapter 62-550. * = Secondary Drinking Water Standards (SDWSs). Shading = an exceedance of its MCL or SDWS. V = compound also detected in laboratory method blank.
Abbreviations: U = below detection limits.; umhos/cm = microohms per centimeter; mg/l = miligrams per liter; NTU = nephelometric turbidity units; ug/l = micrograms per liter; NS = Not Sampled, ND = Not Detected (less than 0.032 ug/l). I = less than PQL. DMA = Dimethylarsinic acid, MMA = Monomethylarsinic acid

Table 5-7 (continued)
Groundwater Analytical Summary - Follow-Up Sampling in the Phase IV Area
April 22 & 23, 2009

Analyte	Standard[(1)]	Units	GW-21	GW-22	GW-23	GW-24	GW-25	GW-26
		Well:	GW-21	GW-22	GW-23	GW-24	GW-25	GW-26
		Sampling Date:	4/22/2009	4/23/2009	4/23/2009	4/22/2009	4/22/2009	4/22/2009
Field Measurements								
Temperature		degrees C	25.5	20.9	23.6	23.6	23.04	23.7
pH	6.5-8.5*	STD	6.77	6.90	6.67	6.75	6.82	6.37
Conductivity		umhos/cm	1,720	3,810	923	1,679	1,303	1,277
Dissolved Oxygen (DO)		mg/l	0.21	0.46	0.30	0.76	0.39	1.04
Oxid.-Reduct. Potential (ORP)	Fe Reduct -50	millivolts	-83.9	-64.5	-70.3	-152.9	-112.0	-91.2
Ferrous Iron (Fe 2+)		mg/l	1.6	2.8	1.8	2.6	2.8	2.4
Turbidity		NTU	1.91	207	8.3	1.15	16	2.17
Analyte								
Arsenic	10	ug/l	4.8 U	4.8 U	4.8 U	4.8 U	9 I	10 I
Chloride	250*	mg/l	340	NS	NS	NS	75	NS
Iron	300*	ug/l	6,800	7,700	11,000	7,600	4,900	19,000
Manganese	50*	ug/l	18	NS	NS	NS	7	NS
Nitrate Nitrogen	10	mg/l	2.1	NS	NS	NS	0.014 U	NS
Sodium	160	mg/l	180 V	NS	NS	NS	130 V	NS
Sulfate	250	mg/l	3.8	NS	NS	NS	0.036 U	NS
Total Alkalinity		mg/l	330	NS	NS	NS	550	NS
Total Ammonia-N	2.8	mg/l	0.143	0.157	0.223	0.208	0.125	0.580
Total Dissolved Solids (TDS)	500*	mg/l	1,020	2,492	608	956	836	776
Total Organic Carbon		mg/l	39	NS	NS	NS	57	NS
Speciated Arsenic								
Arsenic 3+ - As(III)		ug/l	4.72	2.30	NS	4.33	2.64	NS
Arsenic 5+ - As(V)		ug/l	1.44	2.61	NS	1.40	9.46	NS
DMAs		ug/l	ND	ND	NS	ND	ND	NS
MMAs		ug/l	ND	ND	NS	ND	ND	NS

Duplicate values in parenthesis

Notes: (1) - Maximum Contaminant Level, as established in Chapter 62-550. * = Secondary Drinking Water Standards (SDWSs). Shading = an exceedance of its MCL or SDWS. V = compound also

Abbreviations: U = below detection limits.; umhos/cm = microohms per centimeter; mg/l = miligrams per liter; NTU = nephelometric turbidity units; ug/l = micrograms per liter; NS = Not Sampled, ND = Not Detected (less than 0.032 ug/l). I = less than PQL. DMA = Dimethylarsinic acid, MMA = Monomethylarsinic acid

Table 5-8
Groundwater Analytical Summary-Filtered Metals Samples
July 28 - 31, 2008

Analyte	Standard[1]	Units	MW-1R	GW-2	GW-4	GW-6	GW-7	Dup GW-7	GW-11	GW-13	DGW-3	DGW-4
		Sampling Date:	7/31/2008	7/28/2008	7/29/2008	7/30/2008	7/30/2008	7/30/2008	7/28/2008	7/30/2008	7/30/2008	7/30/2008
Filtered Metals												
Arsenic	10	ug/l	4.8 U	4.8 U	4.8 U	4.8 U	17 I	19	6 I	4.8 U	4.8 U	4.8 U
Iron	300*	ug/l	190 V	1,200	22,000 V	5,200	46,000	46,000	30,000	44,000	17,000	16,000
Manganese	50*	ug/l	25	4.6	27	28	11	11	31	18	16	17
Sodium	160*	mg/l	23	45	47	27	15	14	68	77	42	120

Notes: (1) - Maximum Contaminant Level, as established in Chapter 62-550. * = Secondary Drinking Water Standards (SDWSs). Shading = an exceedance of its MCL or SDWS. V = compound also detected in laboratory method blank.
Abbreviations: U = below detection limits., mg/l = milligrams per liter; ug/l = micrograms per liter; I = value is greater than detection limit but less than Practical Quantitation Limit.

Table 5-9
Groundwater Analytical Summary - Follow-Up Sampling in Western Zone and Phase III Area
April 15 & 16, 2009

Analyte	Standard[1]	Units	GW-9	GW-12	GW-13	GW-27	GW-28	GW-29	GW-30	GW-31
		Sampling Date:	4/16/2009	4/16/2009	4/15/2003	4/15/2009	4/15/2009	4/15/2009	4/15/2009	4/15/2009
Field Measurements										
Temperature		degrees C	22.55	22.22	22.43	22.77	23.7	25.2	24.19	23.2
pH	6.5-8.5*	STD	6.24	5.98	6.34	5.39	5.61	6.32	7.77	6.12
Conductivity		umhos/cm	1904	1105	1559	750	1810	1080	1128	1110
Dissolved Oxygen (DO)		mg/l	0.99	1.48	1.24	1.92	1.13	1.16	5.59	0.95
Oxid.-Reduct. Potential (ORP)	Fe Reduct -50	millivolts	-93.4	-158.7	-105.1	6.4	-195.6	36.7	-49.5	-99
Ferrous Iron (Fe 2+)		mg/l	3.0	1.4	2.6	1.0	1.1	0.6	0.4	0.8
Turbidity		NTU	9.16	7.67	2.80	20.1	9.04	7.9	185	10.7
Analyte										
Arsenic	10	ug/l	24	4.8 U (4.8 U)	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U
Iron	300*	ug/l	46,000	1,900 (1,900)	36,000	15,000	8,500	1,400	3,300	14,000
Total Ammonia-N	2.8	mg/l	31.6	27.7 (27.4)	3.19	2.63	14.7	3.41	0.328	0.376
Total Dissolved Solids (TDS)	500*	mg/l	1044	688 (700)	888	624	1180	596	672	632

Duplicate values in parenthesis

Notes: (1) - Maximum Contaminant Level, as established in Chapter 62-550. * = Secondary Drinking Water Standards (SDWSs). Shading = an exceedance of its MCL or SDWS. V = compound also detected in laboratory

Abbreviations: U = below detection limits.; umhos/cm = microohms per centimeter; mg/l = miligrams per liter; NTU = nephelometric turbidity units; ug/l = micrograms per liter; I = less than PQL.

Table 5-10
Groundwater Analytical Summary-Filtered Metals Samples
April 15 - 23, 2009

Analyte	Standard[1]	Units	GW-9	GW-11	GW-20	GW-22	GW-25	GW-27	GW-30
		Sampling Date:	4/16/2009	4/22/2009	4/22/2009	4/23/2009	4/22/2009	4/15/2009	4/15/2009
Filtered Metals									
Arsenic	10	ug/l	22	4.8 U	9 I	4.8 U	9 I	4.8 U	4.8 U
Iron	300*	ug/l	45,000	24,000	3,400	7,100	4,700	11,000	3 I

Notes: (1) - Maximum Contaminant Level, as established in Chapter 62-550. * = Secondary Drinking Water Standards (SDWSs). Shading = an exceedance of its MCL or SDWS.
Abbreviations: U = below detection limits., mg/l = milligrams per liter; ug/l = micrograms per liter; I = value is greater than detection limit but less than Practical Quantitation Limit.

TABLE 5-11
SUMMARY OF SURFACE WATER ANALYTICAL DATA
CENTRAL COUNTY SOLD WASTE DISPOSAL COMPLEX

Analyte	Pond 1	Grabdup1	Pond 2	Grabdup2	Pond 3	Pond 4	Pond 5	Pond 6	Pond 7	Surface Water Criteria
Sampling Date	(4/9/09)	(4/10/09)	(4/9/09)	(4/10/09)	(4/9/09)	(4/9/09)	(4/8/09)	(4/8/09)	(4/8/09)	
Arsenic	12 I	15 I	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	4.8 U	50
Iron	650 V	**1,000 V**	460	560 V	910 V	530 V	760 V	**1,300 V**	550 V	1,000
ORP	42.1	N/A	-42	N/A	-1.2	2.5	34.5	-28.3	-36.3	-
Fe 2+	0	N/A	0	N/A	0	0	0	0	0	-
Turbidity	42.5	N/A	26.1	N/A	48.4	19.2	34.9	49.7	17.7	-
pH	8.7	N/A	8.41	N/A	8.48	8.29	8.82	9.27	8.56	-
Temperature	25.1	N/A	23.3	N/A	19.1	16.47	25.37	23.59	24.3	-
Conductivity	1,021	N/A	898	N/A	323	314	301	368	370	-
Dissolved Oxygen	9.36	N/A	7.91	N/A	9.42	8.11	10.24	12.51	9.40	-

Notes: All analytical results in Micrograms per liter
Fe 2+ results in mg/l, Turbidity results in NTUs, Temperature results in degrees Celsius
pH results in Standard units, Conductivity results in uS/cm, Dissolved Oxygen results in mg/l
N/A = Not Applicable (data not collected)
U = Below Method Detection Limit (shown as "U" on laboratory sheets)
I = Result is between Method Detection Limit and Practical Quantitation Limit
V = Analyte was detected in both the sample and the associated method blank
Surface Water Criteria = Chapter 62-302.530 FAC for Class III Fresh Water
Results in bold indicate exceedence of Surface Water Criteria (MCL)

TABLE 5-11 (continued)
SUMMARY OF SURFACE WATER ANALYTICAL DATA
CENTRAL COUNTY SOLD WASTE DISPOSAL COMPLEX

Analyte	Myakka-1	Myakka -2		Surface Water Criteria
Sampling Date	(4/9/09)	(4/9/09)		
Arsenic	4.8 U	4.8 U		50
Iron	120 V	180 V		1,000
ORP	N/A	N/A		-
Fe 2+	N/A	N/A		-
Turbidity	N/A	N/A		-
pH	N/A	N/A		-
Temperature	N/A	N/A		-
Conductivity	N/A	N/A		-
Dissolved Oxygen	N/A	N/A		-

Notes: All analytical results in Micrograms per liter
Fe 2+ results in mg/l, Turbidity results in NTUs, Temperature results in degrees Celsius
pH results in Standard units, Conductivity results in uS/cm, Dissolved Oxygen results in mg/l
N/A = Not Applicable - analyte not evaluated in this sample
U = Below Method Detection Limit (shown as "U" on laboratory sheets)
I = Result is between Method Detection Limit and Practical Quantitation Limit
V = Analyte was detected in both the sample and the associated method blank
Surface Water Criteria = Chapter 62-302.530 FAC for Class III Fresh Water
Results in bold indicate exceedence of Surface Water Criteria (MCL)

APPENDICES

APPENDIX A:

SOIL BORING LOGS FOR SOIL SAMPLING

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County	DATE: 4/22/08	BORING NO. SB-1R-1
PROJECT: Arsenic Speciation	TOTAL DEPTH: 4.5 ft	ELEVATION: ≅ 20 ft
PROJECT NO: 100002165-01.0100.L	DEPTH TO WATER: 4.5 ft	DRILLER: PBS+J
CONTRACTOR: PBS+J	SCREEN LENGTH: N/A	RISER LENGTH: N/A
LOCATION: CCSWDC	SCREEN SLOT WIDTH: N/A	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Gray, silty fine sand ↓
	1	
	2	Brown, silty fine sand ↓
	3	
	4	Orange-tan fine sand ↓
	5	TD = 4.5 ft
	6	
	7	
	8	
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	
	11	
	12	Composite Samples for Total Arsenic Collected at 2 ft + 4.5 ft,
	13	
	14	
	15	Grab sample For Arsenic Speciation Collected at 4.5 ft.
	16	
	17	
	18	
	19	
	20	

REMARKS: Location is 50 ft. due east of MW-1R

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County	DATE: 4/22/08	BORING NO. SB-8A-1
PROJECT: Arsenic Speciation	TOTAL DEPTH: 8 ft.	ELEVATION: ≈25 ft.
PROJECT NO: 100002165-01.0100.L	DEPTH TO WATER: 8 ft.	DRILLER: PBS+J
CONTRACTOR: PBS+J	SCREEN LENGTH: N/A	RISER LENGTH: N/A
LOCATION: CCSWDC	SCREEN SLOT WIDTH: N/A	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Gray-olive, medium sand with shells
	1	
	2	Gray-blue, clayey fine sand
	3	Beige-brown fine sand
	4	
	5	medium brown fine sand
	6	
	7	Tan, fine sand
▽	8	TD = 8 ft.
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	
	11	
	12	Composite Samples for Total Arsenic collected at 2 ft., 4 ft., & 8 ft.
	13	
	14	
	15	
	16	Grab sample for Arsenic Speciation collected at 8 ft.
	17	
	18	
	19	
	20	

REMARKS: Location is 50 ft. due south of CW-8A

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County	DATE: 4/22/08	BORING NO. SB-8A-2
PROJECT: Arsenic Speciation	TOTAL DEPTH: 8.5 ft	ELEVATION: ≈ 25 ft.
PROJECT NO: 100002165-01.0100.L	DEPTH TO WATER: 8.5 ft	DRILLER: PBS & J
CONTRACTOR: PBS&J	SCREEN LENGTH: N/A	RISER LENGTH: N/A
LOCATION: CCSWDC	SCREEN SLOT WIDTH: N/A	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Gray-brown fine sand
	1	
	2	
	3	Brown fine sand
	4	
	5	Gray-brown fine sand
	6	
	7	Gray fine sand
	8	Medium-brown fine sand
	9	TD = 8.5 ft.
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	
	11	
	12	Composite samples for Total Arsenic collected at 2 ft., 4 ft., & 8.5 ft.
	13	
	14	
	15	Grab sample for Arsenic Speciation collected at 8.5 feet
	16	
	17	
	18	
	19	
	20	

REMARKS: Location is 100 ft. due south of CW-8A

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT:	Sarasota County	DATE:	4/22/08	BORING NO.	SB-9-1
PROJECT:	Arsenic Speciation	TOTAL DEPTH:	7.5 ft	ELEVATION:	≅ 25 ft.
PROJECT NO:	10002165-01.0100.L	DEPTH TO WATER:	7.5 ft	DRILLER:	PBS+J
CONTRACTOR:	PBS+J	SCREEN LENGTH:	N/A	RISER LENGTH:	N/A
LOCATION:	CC SWDC	SCREEN SLOT WIDTH:	N/A	LOGGED BY:	BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Brown-gray fine sand
	1	
	2	Black-gray fine sand
	3	
	4	Gray fine sand
	5	
	6	Tan-yellow fine sand
	7	
	8	TD = 7.5 ft.
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	
	11	
	12	Composite Samples for Total Arsenic Collected at 2 ft., 4 ft., & 7.5 ft.
	13	
	14	
	15	
	16	Grab sample for Arsenic Speciation Collected at 7.5 ft.
	17	
	18	
	19	
	20	

REMARKS: Location is 50 ft. South of CW-9 in the area of old borrow soil

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT:	Sarasota County	DATE:	4/22/08	BORING NO.	SB-9-2
PROJECT:	Arsenic Speciation	TOTAL DEPTH:	7 ft	ELEVATION:	≈ 25 ft.
PROJECT NO:	100002165-01.0100.L	DEPTH TO WATER:	7 ft	DRILLER:	PBS+J
CONTRACTOR:	PBS+J	SCREEN LENGTH:	N/A	RISER LENGTH:	N/A
LOCATION:	CCSWDC	SCREEN SLOT WIDTH:	N/A	LOGGED BY:	BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION	SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Gray Fine Sand		10	
	1	↓		11	
	2	Gray-green sandy clay		12	Composite Samples for Total Arsenic collected at 2 ft., 4 ft., & 7.0 ft.
	3	↓		13	
	4	Gray, clayey Sand		14	
	5	↓		15	
	6	Tan, silty Sand with roots		16	Grab sample for Arsenic Speciation collected at 7.0 ft
	▽7	Tan-orange fine sand		17	
		TD = 7.0 ft.		18	
	8			19	
	9			20	
	10				

REMARKS: Location is 90 ft. South of CW-9 in the area of old borrow soil

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT:	Sarasota County	DATE:	4/23/08	BORING NO.	SB-11R-1
PROJECT:	Arsenic Speciation	TOTAL DEPTH:	6.5 ft	ELEVATION:	≃ 22 ft.
PROJECT NO:	100002165-01.0100.L	DEPTH TO WATER:	6.5 ft	DRILLER:	PBS+J
CONTRACTOR:	PBS+J	SCREEN LENGTH:	N/A	RISER LENGTH:	N/A
LOCATION:	CC SW DC	SCREEN SLOT WIDTH:	N/A	LOGGED BY:	BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Gray, silty fine sand
	1	
	2	
	3	
	4	Gray-brown silty sand
	5	Gray fine sand
	6	Gray-brown sand
	7	TD = 6.5 ft
	8	
	9	
	10	
	11	
	12	Composite samples for Total Arsenic collected at 2 ft., 4 ft., and 6.5 ft.
	13	
	14	
	15	
	16	
	17	Grab sample for Arsenic Speciation collected at 6.5 ft.
	18	
	19	
	20	

REMARKS: 50 ft. south of CW-11R

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT:	Sarasota County	DATE:	4/23/08	BORING NO.	SB-11R-2
PROJECT:	Arsenic Speciation	TOTAL DEPTH:	6.5 ft	ELEVATION:	≅ 22 ft
PROJECT NO:	100002165-01.0100.L	DEPTH TO WATER:	6.5 ft	DRILLER:	PBS+J
CONTRACTOR:	PBS+J	SCREEN LENGTH:	N/A	RISER LENGTH:	N/A
LOCATION:	CCSWDC	SCREEN SLOT WIDTH:	N/A	LOGGED BY:	BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION	SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Gray fine Sand		10	
	1	↓		11	
	2	Gray-brown Silty fine sand		12	Composite Samples for Total Arsenic Collected at 2 ft., 4 ft., and 6.5 ft
	3	↓		13	
	4	Brown Silty fine sand		14	
	5	↓		15	
	6	Tan-brown Silty fine sand ↓		16	Grab sample for Arsenic speciation collected at 6.5 ft.
	7	TD = 6.5 ft		17	
	8			18	
	9			19	
	10			20	

REMARKS: Location is 50 ft. west of CW-11R

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT:	Sarasota County	DATE:	4/23/08	BORING NO.	SB-11R-3
PROJECT:	Arsenic Speciation	TOTAL DEPTH:	6.5 ft	ELEVATION:	≃ 22 ft
PROJECT NO:	100002165-01.0100.L	DEPTH TO WATER:	6.5 ft	DRILLER:	PBS+J
CONTRACTOR:	PBS+J	SCREEN LENGTH:	N/A	RISER LENGTH:	N/A
LOCATION:	CC SWDC	SCREEN SLOT WIDTH:	N/A	LOGGED BY:	BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Gray fine sand
	1	
	2	
	3	
	4	Gray-brown Silty sand
	5	
	6	Tan-brown Silty fine sand
	7	TD = 6.5 ft
	8	
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	
	11	
	12	Composite Samples for Total Arsenic Collected at 2 ft., 4 ft., and 6.5 ft.
	13	
	14	
	15	
	16	
	17	Grab sample for Arsenic Speciation Collected at 6.5 ft.
	18	
	19	
	20	

REMARKS: Location is 50 ft. north of CW-11R

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT:	Sarasota County	DATE:	4/23/08	BORING NO.	SB-CDV-1
PROJECT:	Arsenic Speciation	TOTAL DEPTH:	5.5 ft	ELEVATION:	≈ 18 ft.
PROJECT NO:	100002165-01.0100.L	DEPTH TO WATER:	5.5 ft	DRILLER:	PBS+J
CONTRACTOR:	PBS+J	SCREEN LENGTH:	N/A	RISER LENGTH:	N/A
LOCATION:	CCSWDC	SCREEN SLOT WIDTH:	N/A	LOGGED BY:	BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Light tan, silty fine sand
	1	
	2	
	3	Tan-orange silty fine sand with limerock pieces
	4	
	5	Light tan fine sand
	6	TD = 5.5 ft
	7	
	8	
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	
	11	
	12	Composite Samples for Total Arsenic collected at 2 ft., 4 ft., and 5.5 ft.
	13	
	14	
	15	
	16	Grab sample for Arsenic Speciation collected at 5.5 ft.
	17	
	18	
	19	
	20	

REMARKS: Located on the south side of the clearing shown in the area in the aerial photo provided by Ardaman

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County	DATE: 4/23/08	BORING NO. SB-CDV-2
PROJECT: Arsenic Speciation	TOTAL DEPTH: 5.5 ft	ELEVATION: ≃ 18 ft.
PROJECT NO: 10000 2165-01.0100.L	DEPTH TO WATER: 5.5 ft	DRILLER: PBS+J
CONTRACTOR: PBS+J	SCREEN LENGTH: N/A	RISER LENGTH: N/A
LOCATION: CCSWDC	SCREEN SLOT WIDTH: N/A	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Light tan, silty fine sand
	1	
	2	Tan-orange clayey sand with large clay pieces
	3	
	4	
	5	Tan, clayey sand with shell fragments
	6	TD = 5.5 ft
	7	
	8	
	9	
	10	
	11	
	12	Composite Samples for Total Arsenic collected at 2 ft., 4 ft., and 5.5 ft.
	13	
	14	
	15	
	16	
	17	Grab sample for Arsenic Speciation collected at 5.5 ft.
	18	
	19	
	20	

REMARKS: Located on the north side of the clearing shown in the area in the aerial photo provided by Ardaman, 50 ft. north of SB-CDV-1

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County	DATE: 4/28/09	BORING NO. SB-P4-1
PROJECT: Phase IV Soil Assess.	TOTAL DEPTH: 6.5 ft	ELEVATION: ≅ 26 ft
PROJECT NO: 100007910-03.01.L	DEPTH TO WATER: N/A	DRILLER: PBS+J
CONTRACTOR: PBS+J	SCREEN LENGTH: N/A	RISER LENGTH: N/A
LOCATION: CCSWDC	SCREEN SLOT WIDTH: N/A	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Gray-tan clayey sand and silt, with some shells
	1	
	2	
	3	
	4	
	5	Orange-brown silty fine sand
	6	
	7	TD = 6.5 ft
	8	
	9	
	10	
	11	Grab samples for arsenic collected at: 2 - 2.5 ft, 4 - 4.5 ft, and 6 - 6.5 ft.
	12	
	13	
	14	
	15	Sample for additional parameters (speciated arsenic, iron, etc.) collected from 2 - 2.5 ft.
	16	
	17	
	18	
	19	
	20	

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County	DATE: 4/28/09	BORING NO. SB-P4-2
PROJECT: Phase IV Soil Assess.	TOTAL DEPTH: 6.5 ft	ELEVATION: ≅ 26 ft
PROJECT NO: 100007910-03.01.L	DEPTH TO WATER: N/A	DRILLER: PBSJ
CONTRACTOR: PBSJ	SCREEN LENGTH: N/A	RISER LENGTH: N/A
LOCATION: CCSWDC	SCREEN SLOT WIDTH: N/A	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Brown fine Sand
	1	↓
	2	Gray-tan-green clayey sand
	3	↓
	4	Gray-tan clayey Sand and silty Sand
	5	↓
	6	Gray clayey sand
	7	TD = 6.5 ft
	8	
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	
	11	Grab samples for arsenic collected at: 2 - 2.5 ft, 4 - 4.5 ft, and 6 - 6.5 ft.
	12	
	13	
	14	
	15	Sample for additional parameters (speciated arsenic, iron, etc.) collected from 2 - 2.5 ft.
	16	
	17	
	18	
	19	
	20	

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County	DATE: 4/28/09	BORING NO. SB-P4-3
PROJECT: Phase IV Soil Assess.	TOTAL DEPTH: 6.5 ft	ELEVATION: ≅ 26 ft
PROJECT NO: 100007910-03.01.L	DEPTH TO WATER: N/A	DRILLER: PBS+J
CONTRACTOR: PBS+J	SCREEN LENGTH: N/A	RISER LENGTH: N/A
LOCATION: CCSWDC	SCREEN SLOT WIDTH: N/A	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Tan silty fine sand
	1	↓
	2	Gray-tan clayey and silty sand
	3	↓
	4	Gray-black silty fine sand with roots
	5	↓
	6	medium brown fine sand
	7	↓
	8	TD = 6.5 ft
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	
	11	Grab samples for arsenic collected at: 2 -2.5 ft, 4-4.5 ft, and 6-6.5 ft.
	12	
	13	
	14	
	15	Dup A collected from 2-2.5 ft.
	16	
	17	Sample for additional parameters collected from 4-4.5 ft.
	18	
	19	
	20	

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County	DATE: 4/28/09	BORING NO. SB-P4-4
PROJECT: Phase IV Soil Assess.	TOTAL DEPTH: 6.5 ft	ELEVATION: ≅ 26 ft
PROJECT NO: 100007910-03.01.L	DEPTH TO WATER: N/A	DRILLER: PBS+J
CONTRACTOR: PBS+J	SCREEN LENGTH: N/A	RISER LENGTH: N/A
LOCATION: CCSWDC	SCREEN SLOT WIDTH: N/A	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	medium brown silty sand
	1	
	2	
	3	Gray silty fine sand
	4	
	5	medium brown fine sand
	6	
	7	TD = 6.5 ft
	8	
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	
	11	Grab samples for arsenic collected at: 2 - 2.5 ft, 4 - 4.5 ft, and 6 - 6.5 ft.
	12	
	13	
	14	
	15	
	16	Sample for additional parameters (speciated arsenic, iron, etc.) collected from 4 - 4.5 ft.
	17	
	18	
	19	
	20	

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County	DATE: 4/28/09	BORING NO. SB-P4-5
PROJECT: Phase IV Soil Assess.	TOTAL DEPTH: 6.5 ft	ELEVATION: ≃ 26 ft
PROJECT NO: 100007910-03.01.L	DEPTH TO WATER: N/A	DRILLER: PBS+J
CONTRACTOR: PBS+J	SCREEN LENGTH: N/A	RISER LENGTH: N/A
LOCATION: CCSWDC	SCREEN SLOT WIDTH: N/A	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Gray-tan-green clayey and silty sand
	1	
	2	
	3	Tan silty sand
	4	
	5	
	6	Gray-brown silty sand
	7	TD = 6.5 ft
	8	
	9	
	10	
	11	Grab samples for arsenic collected at: 2 - 2.5 ft, 4 - 4.5 ft, and 6 - 6.5 ft.
	12	
	13	
	14	
	15	Samples for additional parameters (speciated arsenic, iron, etc.) collected from 2 - 2.5 ft and 6 - 6.5 ft
	16	
	17	
	18	
	19	
	20	

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County	DATE: 4/28/09	BORING NO. SB-P4-6
PROJECT: Phase IV Soil Assess.	TOTAL DEPTH: 6.5 ft	ELEVATION: ≅ 26 ft
PROJECT NO: 100007910-03.01.L	DEPTH TO WATER: N/A	DRILLER: PBS+J
CONTRACTOR: PBS+J	SCREEN LENGTH: N/A	RISER LENGTH: N/A
LOCATION: CCSWDC	SCREEN SLOT WIDTH: N/A	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Gray - tan silty fine sand
	1	
	2	
	3	Tan silty Sand
	4	
	5	
	6	Light tan silty sand
	7	TD = 6.5 ft
	8	
	9	
	10	
	11	Grab samples for arsenic collected at: 2 - 2.5 ft, 4 - 4.5 ft, and 6 - 6.5 ft.
	12	
	13	
	14	
	15	Dup B collected at 4 - 4.5 ft.
	16	
	17	Sample for additional parameters collected from 6 - 6.5 ft.
	18	
	19	
	20	

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County	DATE: 4/28/09	BORING NO. SB-P4-7
PROJECT: Phase IV Soil Assess.	TOTAL DEPTH: 6.5 ft	ELEVATION: ≅ 26 ft
PROJECT NO: 100007910-03.01.L	DEPTH TO WATER: N/A	DRILLER: PBS+J
CONTRACTOR: PBS+J	SCREEN LENGTH: N/A	RISER LENGTH: N/A
LOCATION: CCSWDC	SCREEN SLOT WIDTH: N/A	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Tan-brown silty sand
	1	↓
	2	
	3	Tan fine-grained sand
	4	↓
	5	Brown-tan silty sand
	6	↓
	7	TD = 6.5 ft
	8	
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	
	11	Grab samples for arsenic collected at: 2-2.5 ft, 4-4.5 ft, and 6-6.5 ft.
	12	
	13	
	14	
	15	Sample for additional parameters collected from 6-6.5 ft.
	16	
	17	
	18	
	19	
	20	

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County	DATE: 4/28/09	BORING NO. SB-P4-8
PROJECT: Phase IV Soil Assess.	TOTAL DEPTH: 6.5 ft	ELEVATION: ≅ 26 ft
PROJECT NO: 100007910-03.01.L	DEPTH TO WATER: N/A	DRILLER: PBS+J
CONTRACTOR: PBS+J	SCREEN LENGTH: N/A	RISER LENGTH: N/A
LOCATION: CCSWDC	SCREEN SLOT WIDTH: N/A	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Gray-tan clayey sand and silty sand
	1	
	2	
	3	Black-brown silty fine sand
	4	
	5	Tan fine sand
	6	
	7	TD = 6.5 ft
	8	
	9	
	10	
	11	Grab samples for arsenic collected at: 2-2.5 ft, 4-4.5 ft, and 6-6.5 ft.
	12	
	13	
	14	
	15	Samples for additional parameters (speciated arsenic, iron, etc.) collected from 4-4.5 ft and 6-6.5 ft.
	16	
	17	
	18	
	19	
	20	

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County	DATE: 4/28/09	BORING NO. SB-P4-9
PROJECT: Phase IV Soil Assess.	TOTAL DEPTH: 6.5 ft	ELEVATION: ≅ 26 ft
PROJECT NO: 100007910-03.01.L	DEPTH TO WATER: N/A	DRILLER: PBS+J
CONTRACTOR: PBS+J	SCREEN LENGTH: N/A	RISER LENGTH: N/A
LOCATION: CCSWDC	SCREEN SLOT WIDTH: N/A	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Gray-tan silty and clayey sand
	1	
	2	
	3	Dark gray silty sand
	4	
	5	Tan-beige Fine sand
	6	
	7	TD = 6.5 ft.
	8	
	9	
	10	
	11	Grab samples for arsenic collected at: 2 - 2.5 ft, 4 - 4.5 ft, and 6 - 6.5 ft.
	12	
	13	
	14	
	15	Dup C collected from 6 - 6.5 feet.
	16	
	17	
	18	
	19	
	20	

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County	DATE: 4/28/09	BORING NO. SB-P4-10
PROJECT: Phase IV Soil Assess.	TOTAL DEPTH: 6.5 ft	ELEVATION: ≅ 26 ft
PROJECT NO: 100007910-03.01.L	DEPTH TO WATER: N/A	DRILLER: PBS+J
CONTRACTOR: PBS+J	SCREEN LENGTH: N/A	RISER LENGTH: N/A
LOCATION: CCSWDC	SCREEN SLOT WIDTH: N/A	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Gray-tan silty and clayey sand
	1	
	2	
	3	medium brown fine sand
	4	
	5	Gray-tan-green clayey sand
	6	
	7	TD = 6.5 ft
	8	
	9	
	10	
	11	Grab samples for arsenic collected at: 2 - 2.5 ft, 4 - 4.5 ft, and 6 - 6.5 ft.
	12	
	13	
	14	
	15	
	16	
	17	
	18	
	19	
	20	

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County	DATE: 4/28/09	BORING NO. SB-P4-11
PROJECT: Phase IV Soil Assess.	TOTAL DEPTH: 6.5 ft	ELEVATION: ≅ 26 ft
PROJECT NO: 100007910-03.01.L	DEPTH TO WATER: N/A	DRILLER: PBS+J
CONTRACTOR: PBS+J	SCREEN LENGTH: N/A	RISER LENGTH: N/A
LOCATION: CCSWDC	SCREEN SLOT WIDTH: N/A	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Light gray Silty sand
	1	
	2	
	3	Tan-brown fine sand
	4	
	5	Gray-tan clayey sand
	6	
	7	TD = 6.5 ft
	8	
	9	
	10	
	11	Grab samples for arsenic collected at: 2-2.5 ft, 4-4.5 ft, and 6-6.5 ft.
	12	
	13	
	14	
	15	
	16	Sample for additional parameters (speciated arsenic, iron, etc.) collected from 6-6.5 ft.
	17	
	18	
	19	
	20	

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County	DATE: 4/28/09	BORING NO. SB-P4-12
PROJECT: Phase IV Soil Assess.	TOTAL DEPTH: 6.5 ft	ELEVATION: ≅ 26 ft
PROJECT NO: 100007910-03.01.L	DEPTH TO WATER: N/A	DRILLER: PBS+J
CONTRACTOR: PBS+J	SCREEN LENGTH: N/A	RISER LENGTH: N/A
LOCATION: CCSWDC	SCREEN SLOT WIDTH: N/A	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Gray-tan fine sand
	1	
	2	Gray-brown fine sand
	3	
	4	
	5	
	6	
	7	TD = 6.5 ft
	8	
	9	
	10	
	11	Grab samples for arsenic collected at: 2 - 2.5 ft, 4 - 4.5 ft, and 6 - 6.5 ft.
	12	
	13	
	14	
	15	Dup D collected at 6 - 6.5 ft
	16	Sample for additional parameters collected from 6 - 6.5 ft.
	17	
	18	
	19	
	20	

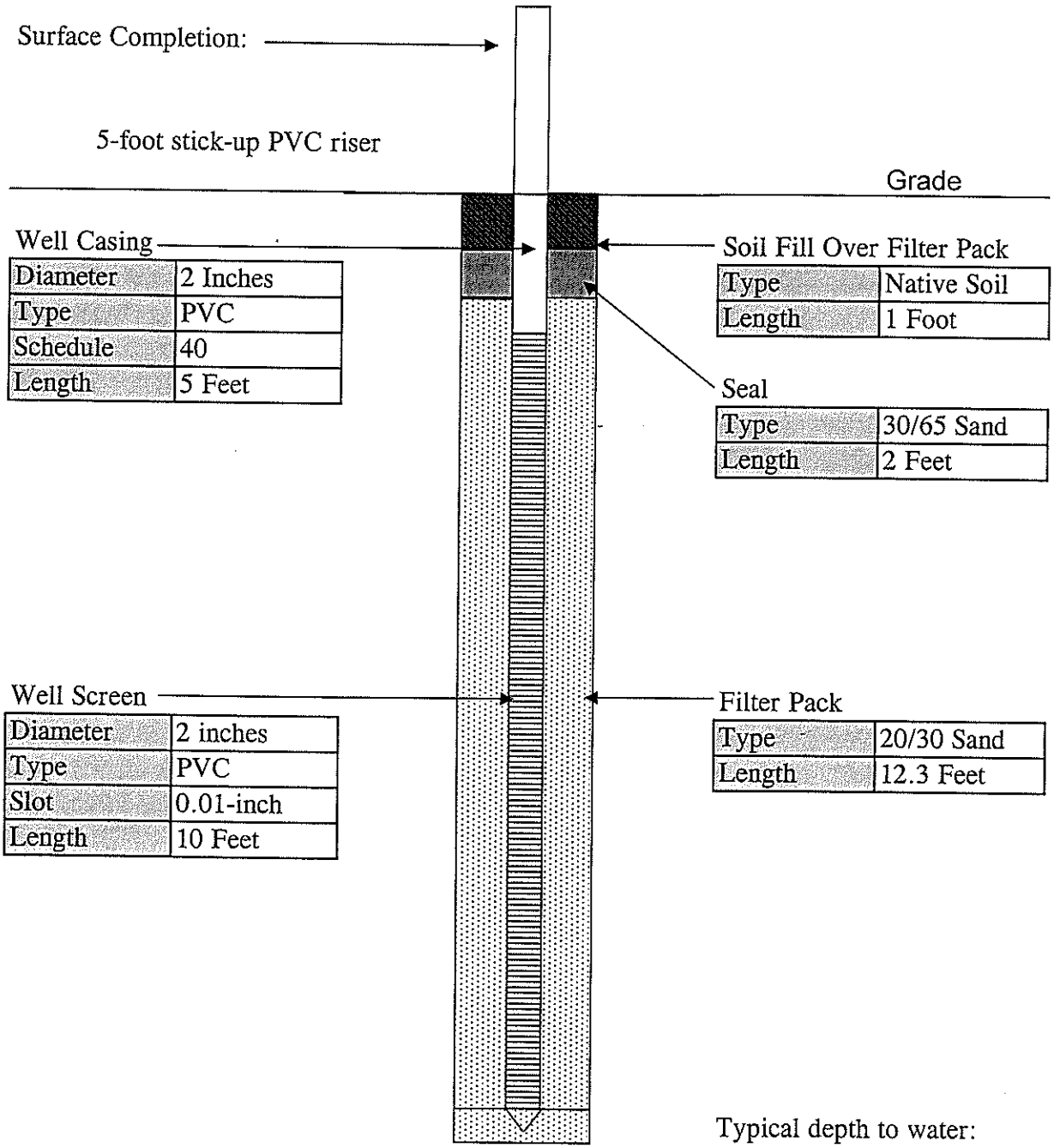
REMARKS:

APPENDIX B:

WELL CONSTRUCTION DIAGRAMS AND SOIL BORING LOGS FOR TEMPORARY MONITORING WELLS

TEMPORARY MONITOR WELL CONSTRUCTION DIAGRAM

Site:	Sarasota County CCSWDC
Well Identifier:	Temp. Monitoring Wells GW-1,GW-3-GW-16
Drilling Method:	Hollow-Stem Auger
Borehole Diameter:	8 Inches
Total Depth:	15.3 feet below land surface



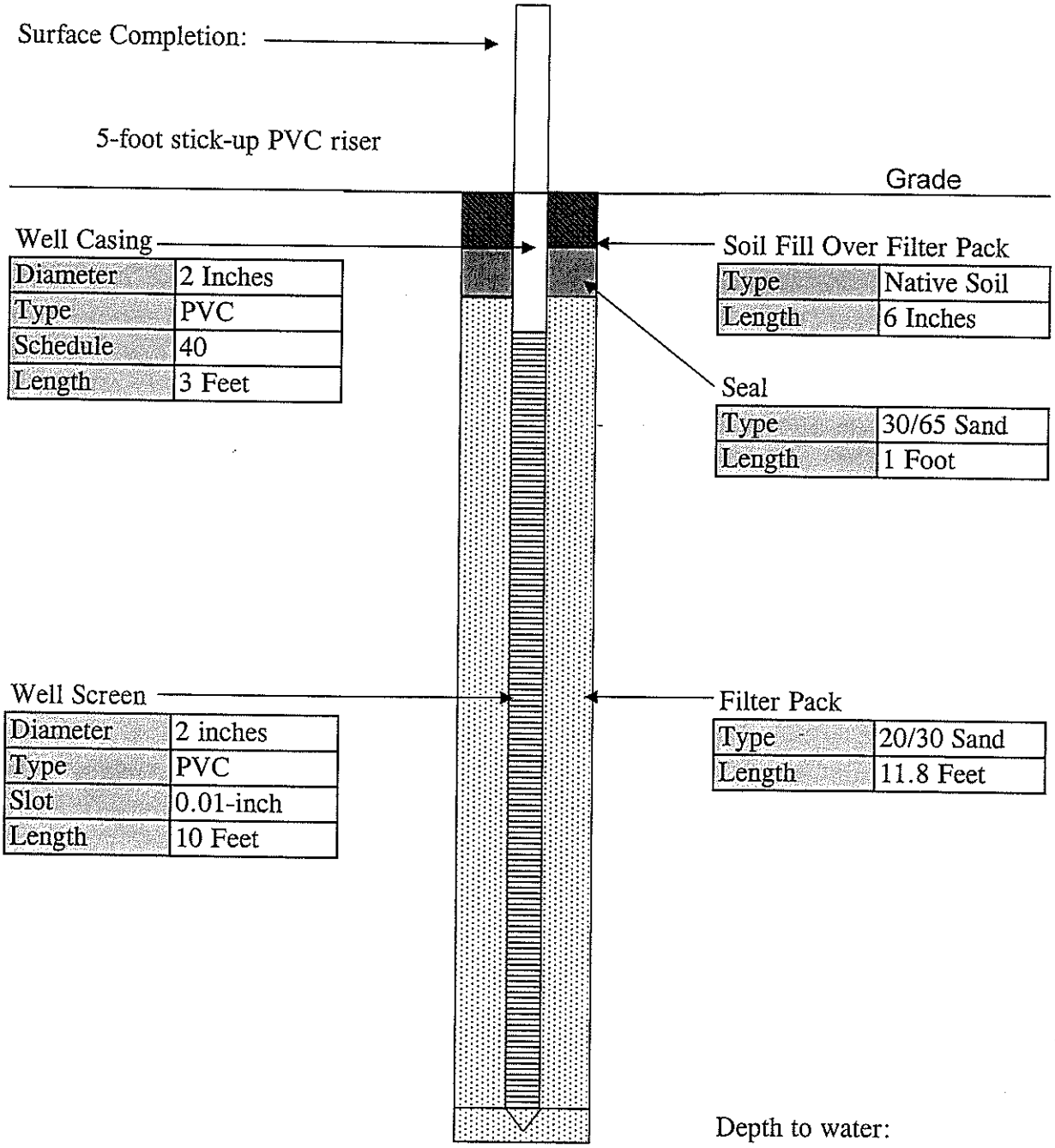
Typical depth to water:
5 feet - 8 feet

Note: Not to scale.

PBS&J

TEMPORARY MONITOR WELL CONSTRUCTION DIAGRAM

Site:	Sarasota County CCSWDC
Well Identifier:	Temporary Monitoring Well GW-2
Drilling Method:	Hollow-Stem Auger
Borehole Diameter:	8 Inches
Total Depth:	13.3 feet below land surface



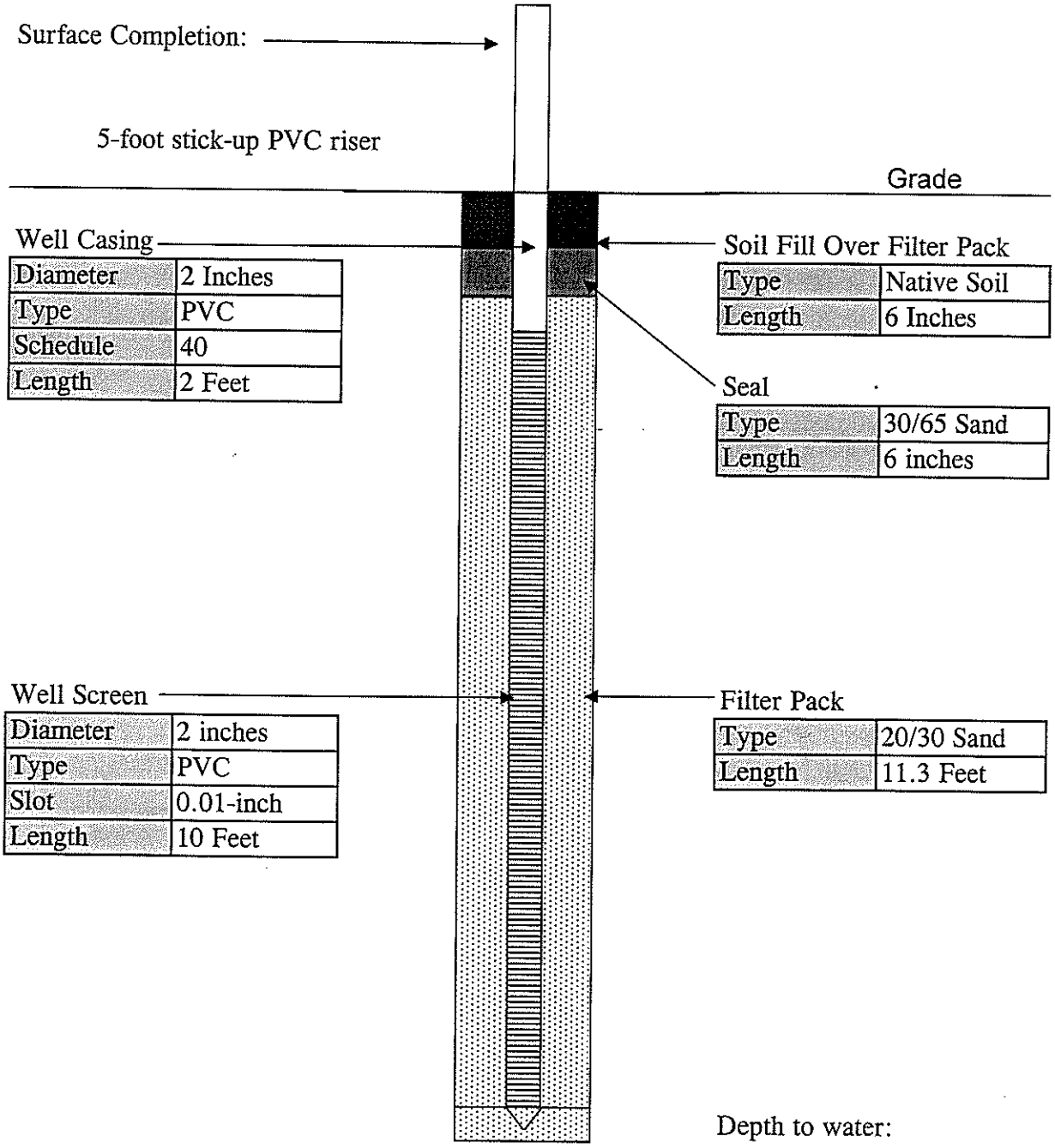
Depth to water:
3.5 feet

Note: Not to scale.

PBS&J

TEMPORARY MONITOR WELL CONSTRUCTION DIAGRAM

Site:	Sarasota County CCSWDC
Well Identifier:	Temp. Wells GW-17 and GW-19
Drilling Method:	Hollow-Stem Auger
Borehole Diameter:	8 Inches
Total Depth:	12.3 feet below land surface



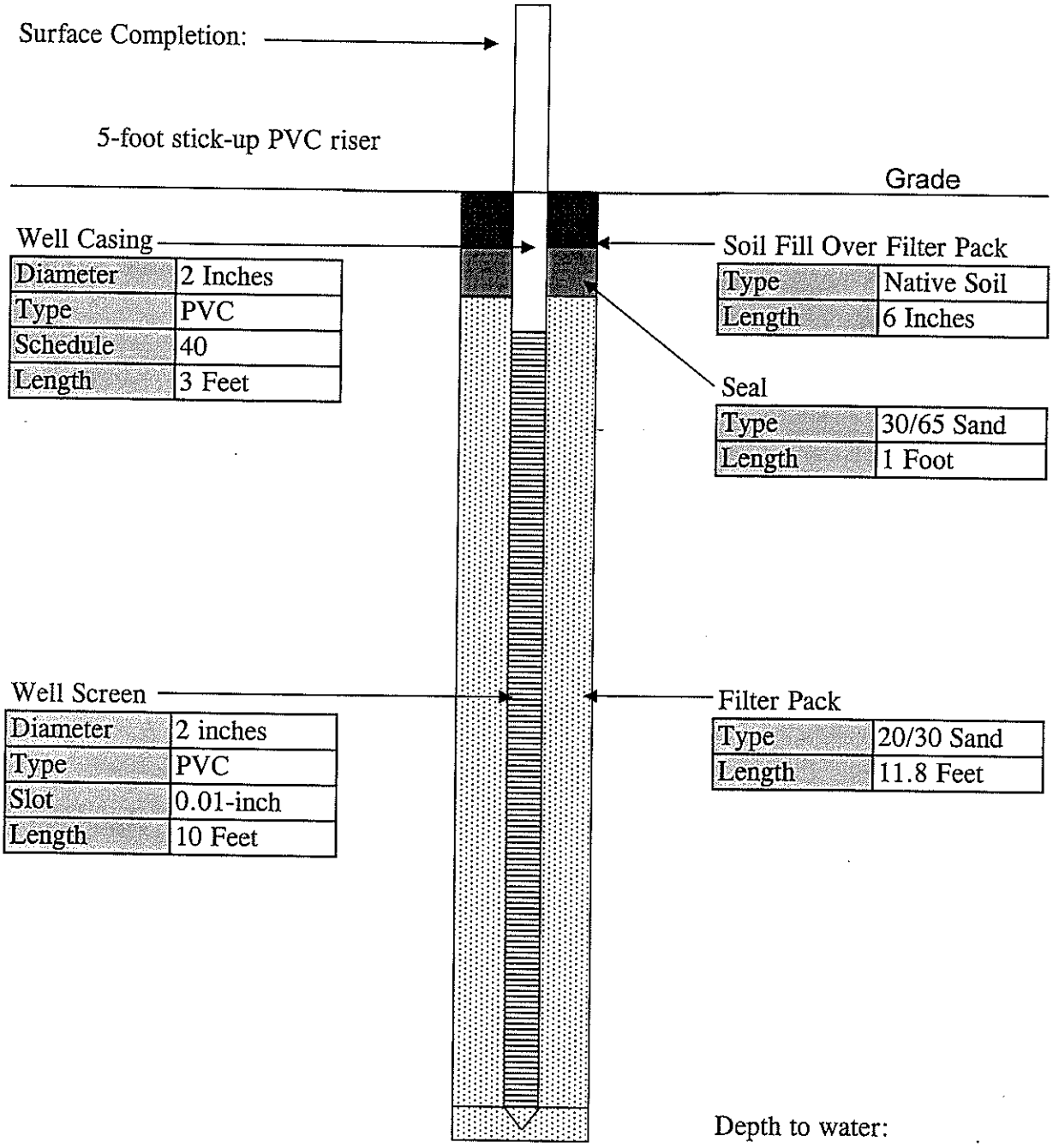
Depth to water:
3.5 feet

Note: Not to scale.

PBS&J

TEMPORARY MONITOR WELL CONSTRUCTION DIAGRAM

Site:	Sarasota County CCSWDC
Well Identifier:	Temp. Wells GW- 21, 22, 23, 24, 25, 30, 31
Drilling Method:	Hollow-Stem Auger
Borehole Diameter:	8 Inches
Total Depth:	13.3 feet below land surface



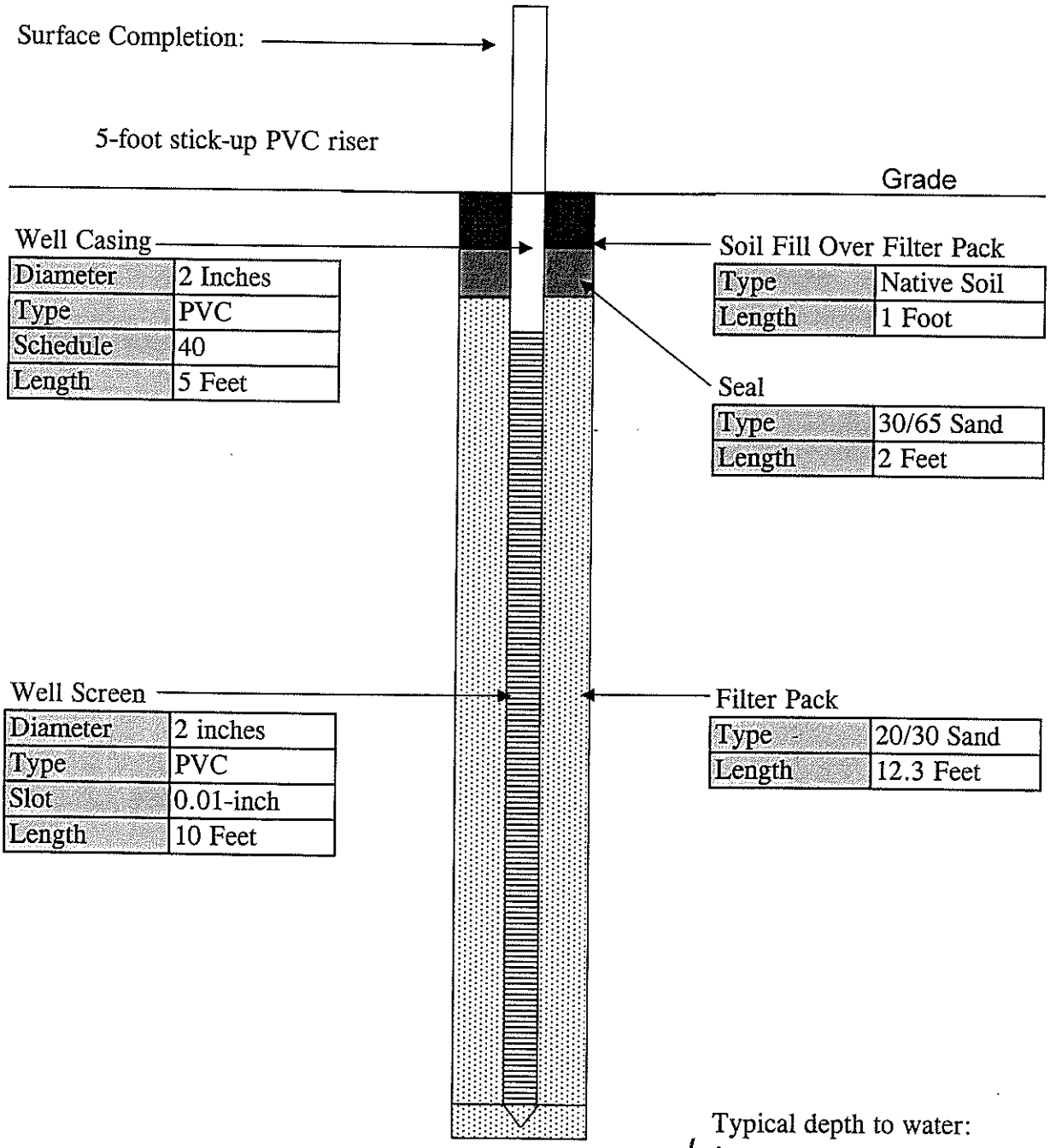
Depth to water:
~~3.5 feet~~ 4 – 6

Note: Not to scale.

PBS&J

TEMPORARY MONITOR WELL CONSTRUCTION DIAGRAM

Site:	Sarasota County CCSWDC
Well Identifier:	Temp. Wells GW-18, 26, 27, and 29
Drilling Method:	Hollow-Stem Auger
Borehole Diameter:	8 Inches
Total Depth:	15.3 feet below land surface



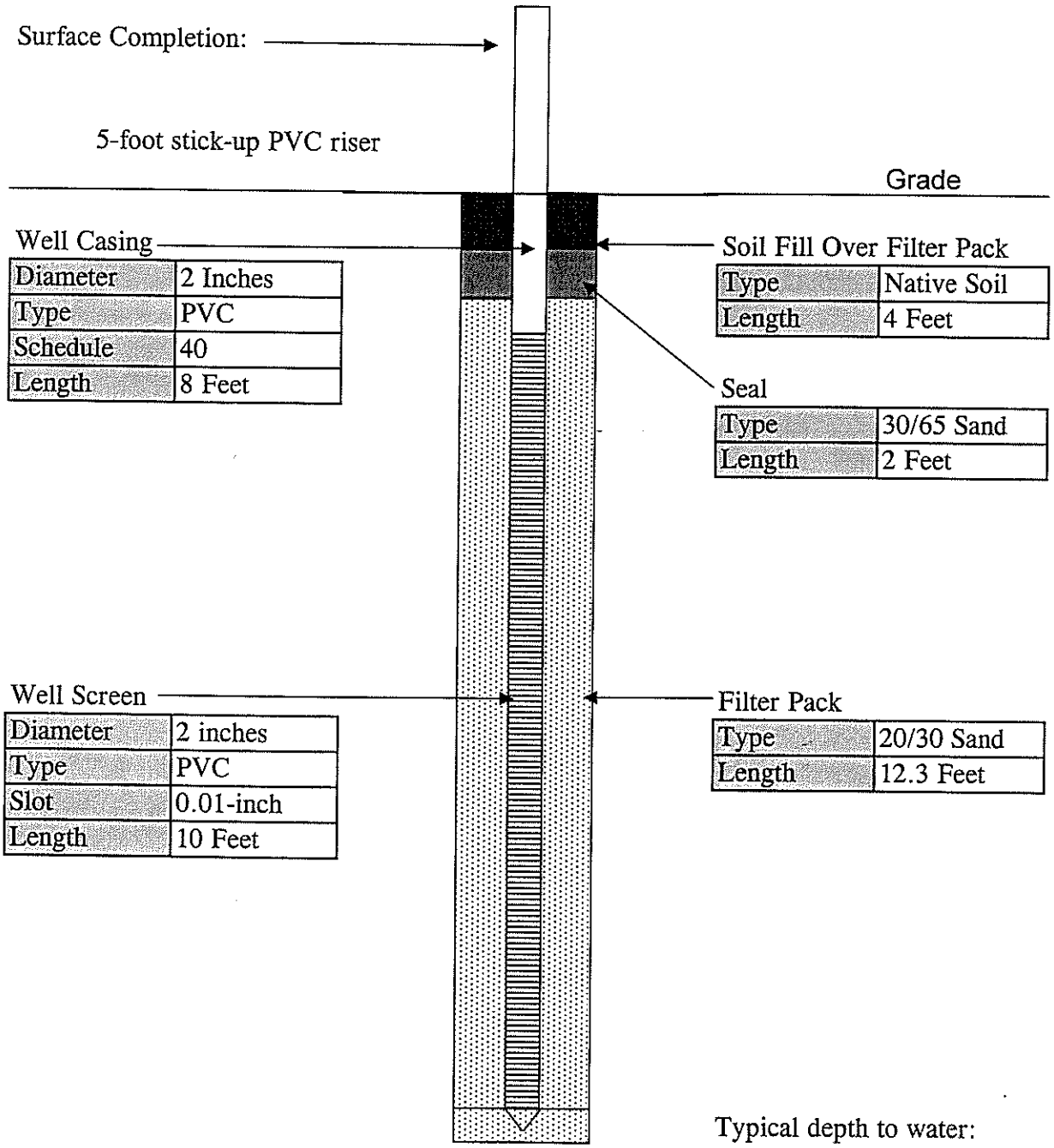
Typical depth to water:
6 ~~5~~ feet - 9 feet

Note: Not to scale.

PBS&J

TEMPORARY MONITOR WELL CONSTRUCTION DIAGRAM

Site:	Sarasota County CCSWDC
Well Identifier:	Temporary Monitoring Well GW-28
Drilling Method:	Hollow-Stem Auger
Borehole Diameter:	8 Inches
Total Depth:	18.3 feet below land surface



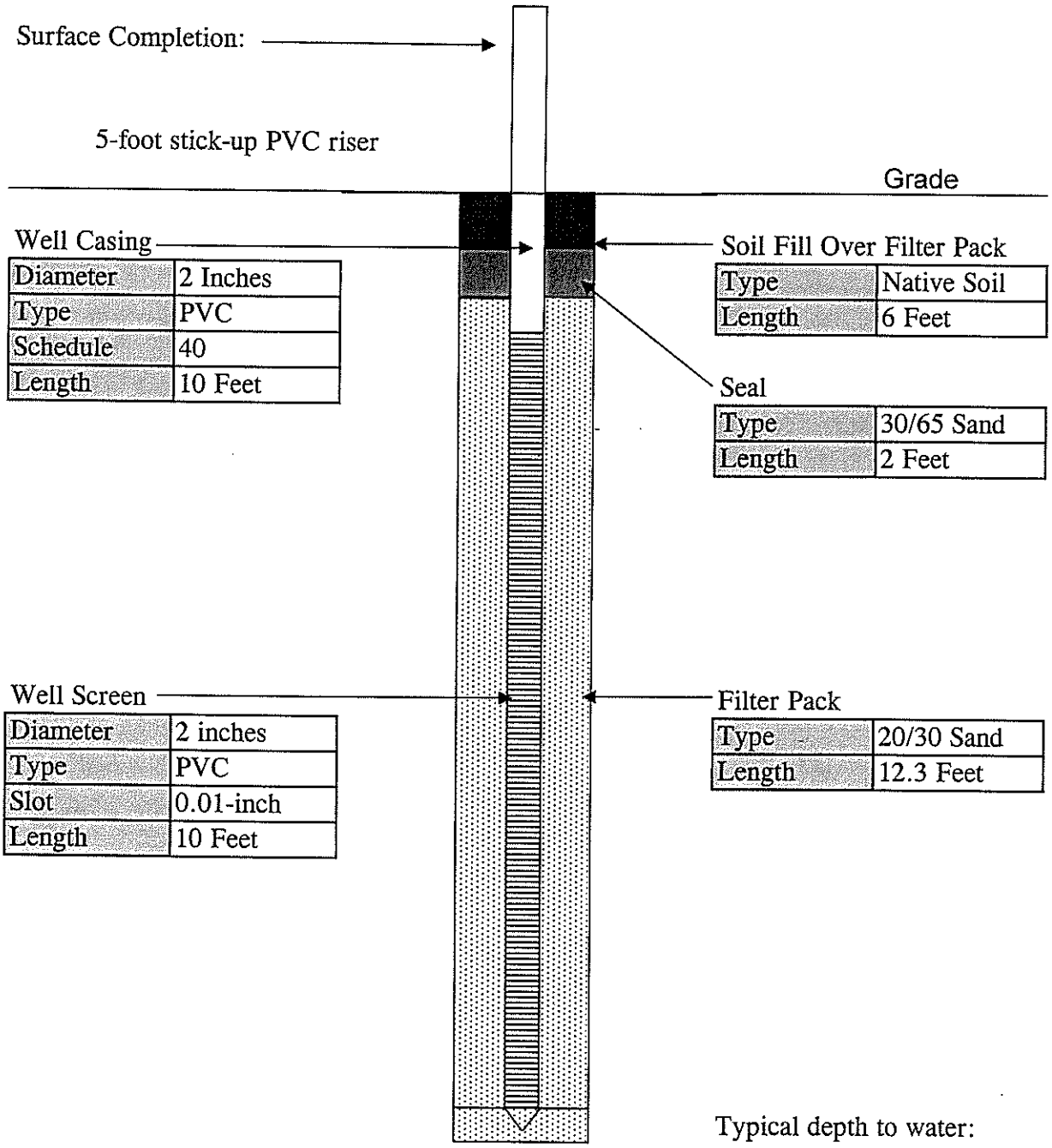
Typical depth to water:
13 feet

Note: Not to scale.

PBS&J

TEMPORARY MONITOR WELL CONSTRUCTION DIAGRAM

Site:	Sarasota County CCSWDC
Well Identifier:	Temporary Monitoring Well GW-20
Drilling Method:	Hollow-Stem Auger
Borehole Diameter:	8 Inches
Total Depth:	20.3 feet below land surface



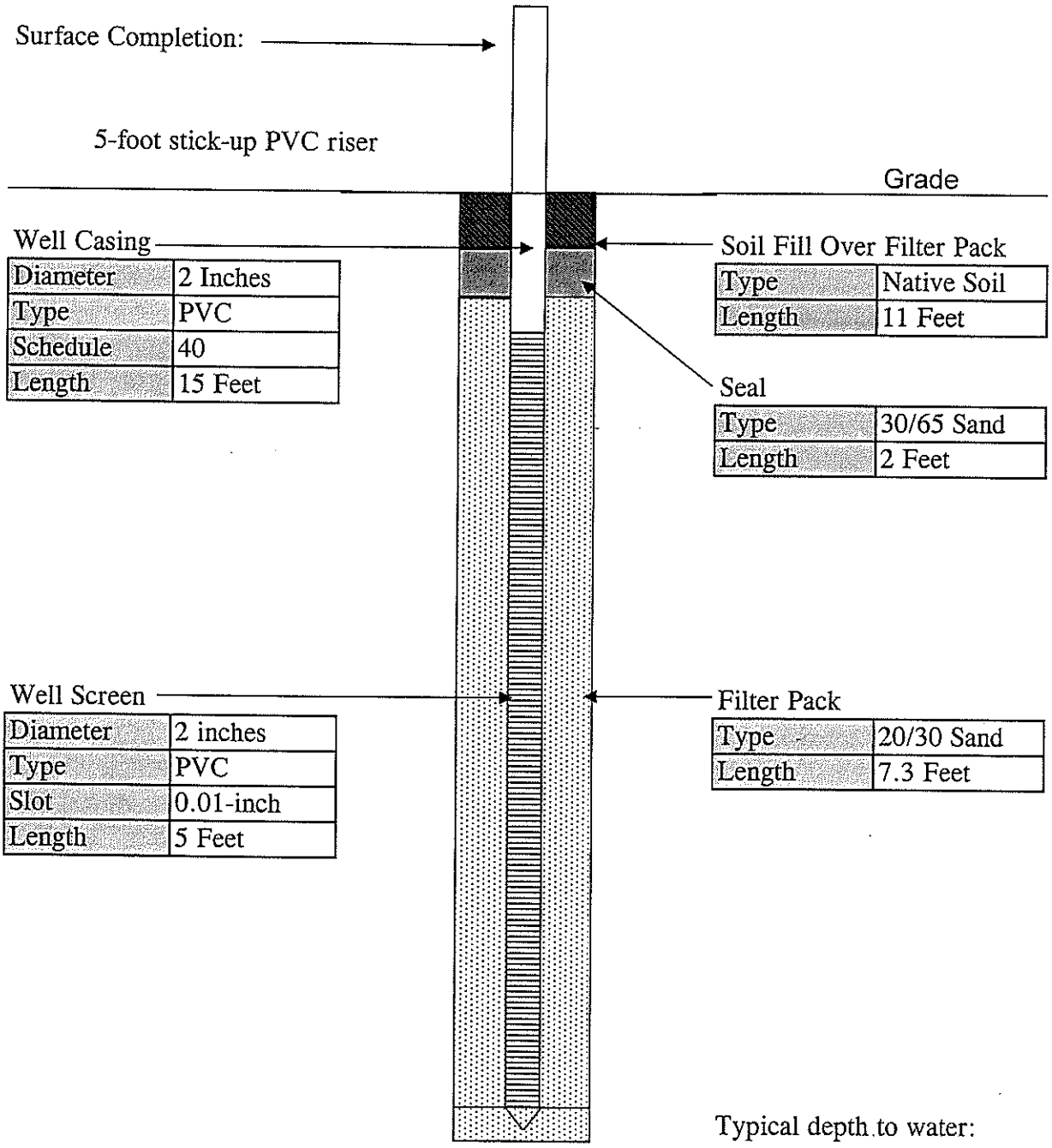
Typical depth to water:
15 feet

Note: Not to scale.

PBS&J

TEMPORARY MONITOR WELL CONSTRUCTION DIAGRAM

Site:	Sarasota County CCSWDC
Well Identifier:	Temp. Monitoring Wells DGW-1 - DGW-4
Drilling Method:	Hollow-Stem Auger
Borehole Diameter:	8 Inches
Total Depth:	20.3 feet below land surface



Typical depth to water:
6 feet

Note: Not to scale.

PBS&J

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County CCSWDC	DATE: 7/17/08	BORING NO: GW-1
PROJECT: CEP Implementation	TOTAL DEPTH: 15 ft bls	ELEVATION: ≅ 25 ft
PROJECT NO: 100003210-02.01.L	DEPTH TO WATER: 5 ft	DRILLER: GW Protect.
CONTRACTOR: PBS+J	SCREEN LENGTH: 10 ft	RISER LENGTH: 10 ft
LOCATION: North side of Phase II	SCREEN SLOT WIDTH: 0.010	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Dark to light brown, clayey and silty sand
	1	
	2	
	3	
	4	
	▽ 5	
	6	
	7	
	8	
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	Light brown, clayey and silty sand
	11	
	12	
	13	Greenish-gray, clayey sand and silt
	14	
	15	TD = 15 ft
	16	
	17	
	18	
	19	
	20	

REMARKS:

Well Construction: 20/30 sand from 15 ft to 3 ft bls
30/65 sand from 3 ft to 1 ft bls
No cover / no pad

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT:	Sarasota County CCSWDC	DATE:	7/18/08	BORING NO.	GW-2
PROJECT:	CEP Implementation	TOTAL DEPTH:	13 ft bls	ELEVATION:	≃ 20 ft
PROJECT NO:	100003210-02.01.L	DEPTH TO WATER:	≃ 3.5 ft	DRILLER:	GW Protect.
CONTRACTOR:	PBS+J	SCREEN LENGTH:	10 ft	RISER LENGTH:	8 ft
LOCATION:	North of Phase I	SCREEN SLOT WIDTH:	0.010	LOGGED BY:	BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Light brown fine sand
	1	
	2	
	3	
▽		Tan-beige fine sand
	4	
	5	
	6	
	7	
		Light gray, silty fine sand with some clay
	8	
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	Gray, clayey silt and sand
	11	
	12	Hardness increased btwn. 12 and 13 ft.
	13	TD = 13 ft
	14	
	15	
	16	
	17	
	18	
	19	
	20	

REMARKS:

Well Construction =

20/30 sand from 13 ft bls to 1 ft bls
30/65 sand from 1 ft to surface
No pad / no cover

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County CCSWDC	DATE: 7/16/08	BORING NO: GW-3
PROJECT: CEP Implementation	TOTAL DEPTH: 15 ft bls	ELEVATION: ≈25 ft
PROJECT NO: 100003210-02.01.L	DEPTH TO WATER: 5.5 ft	DRILLER: GW Protect.
CONTRACTOR: PBS+J	SCREEN LENGTH: 10 ft	RISER LENGTH: 10 ft
LOCATION: NW Section of Phase II	SCREEN SLOT WIDTH: 0.010	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0–4	Light to dark brown, clayey and silty sand
	4–10	Light green, clayey and silty sand
	10–13	Light green, clayey and silty sand
	13–15	Light green silt with black phosphate nodules
	15	TD = 15 ft

REMARKS:

Well Construction: 20/30 sand from 15 ft to 3 ft bls
30/65 sand from 3 ft to 1 ft bls
No cover / no pad

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County CCSWDC	DATE: 7/17/08	BORING NO: GW-4
PROJECT: CEP Implementation	TOTAL DEPTH: 15 ft bls	ELEVATION: ≅ 25 ft
PROJECT NO: 100003210-02.01.L	DEPTH TO WATER: 6 ft	DRILLER: GW Protect.
CONTRACTOR: PBS+J	SCREEN LENGTH: 10 ft	RISER LENGTH: 10 ft
LOCATION: NE portion of Phase II	SCREEN SLOT WIDTH: 0.010	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Light to dark brown, clayey and silty sand
	1	
	2	
	3	
	4	
	5	
▽	6	
	7	
	8	
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	Dark brown, clayey and silty sand
	11	
	12	Light green sandy and clayey silt
	13	
	14	
	15	TD = 15 ft
	16	
	17	
	18	
	19	
	20	

REMARKS:

Well Construction: 20/30 sand from 15 ft to 3 ft bls
30/65 sand from 3 ft to 1 ft bls
No cover / no pad

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County CCSWDC	DATE: 7/16/08	BORING NO: GW-5
PROJECT: CEP Implementation	TOTAL DEPTH: 15 ft bls	ELEVATION: ≈ 25 ft
PROJECT NO: 100003210-02.01.L	DEPTH TO WATER: 6 ft	DRILLER: GW Protect.
CONTRACTOR: PBS+J	SCREEN LENGTH: 10 ft	RISER LENGTH: 10 ft
LOCATION: West-central part of Phase II	SCREEN SLOT WIDTH: 0.010	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Light brown Silty and clayey sand
	1	
	2	
	3	
	4	
	5	
▽	6	
	7	
	8	
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	Light brown, silty and clayey sand
	11	
	12	
	13	Gray-green, sandy clay and silt with phosphate nodules
	14	
	15	TD = 15 ft.
	16	
	17	
	18	
	19	
	20	

REMARKS:

Well construction: 20/30 sand from 15 ft bls to 3 ft bls
30/65 sand from 3 ft to 1 ft bls
No cover / no pad

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County CCSWDC	DATE: 7/16/08	BORING NO: GW-6
PROJECT: CEP Implementation	TOTAL DEPTH: 15 ft bls	ELEVATION: ≅ 25 ft
PROJECT NO: 100003210-02.01.L	DEPTH TO WATER: 6 ft	DRILLER: GW Protect.
CONTRACTOR: PBS+J	SCREEN LENGTH: 10 ft	RISER LENGTH: 10 ft
LOCATION: East-central Phase II	SCREEN SLOT WIDTH: 0.010	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Brown silty sand
	1	↓
	2	↓
	3	Light to dark brown, clayey and silty sand
	4	↓
	5	↓
▽	6	↓
	7	↓
	8	↓
	9	↓
	10	↓

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	Dark brown, clayey and silty sand
	11	↓
	12	↓
	13	↓
	14	Light green silt with black phosphate nodules
	15	TD = 15 ft
	16	
	17	
	18	
	19	
	20	

REMARKS:

Well Construction: 20/30 Sand from 15 ft bls to 3 ft bls
30/65 Sand from 3 ft bls to 1 ft bls
No cover / no pad

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County CCSWDC	DATE: 7/16/08	BORING NO: GW-7
PROJECT: CEP Implementation	TOTAL DEPTH: 15 ft bls	ELEVATION: ≅ 25 ft
PROJECT NO: 100003210-02.01.L	DEPTH TO WATER: 6 ft	DRILLER: GW Protect.
CONTRACTOR: PBS+J	SCREEN LENGTH: 10 ft	RISER LENGTH: 10 ft
LOCATION: SW section of Phase II	SCREEN SLOT WIDTH: 0.010	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Light brown to dark brown, clayey and silty sand
	1	
	2	
	3	
	4	
	5	
▽	6	
	7	
	8	
	9	
	10	
	10	Dark brown, clayey and silty sand
	11	
	12	
	13	Light green sandy silt with small black phosphate nodules
	14	
	15	TD = 15 ft
	16	
	17	
	18	
	19	
	20	

REMARKS:

Well construction: 20/30 sand from 15 ft bls to 3 ft bls
30/65 sand from 3 ft to 1 ft bls
No cover/pad

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County CCSWDC	DATE: 7/16/08	BORING NO: GW-8
PROJECT: CEP Implementation	TOTAL DEPTH: 15 ft bls	ELEVATION: ≅ 25 ft
PROJECT NO: 100003210-02.01.L	DEPTH TO WATER: 6 ft	DRILLER: GW Protect.
CONTRACTOR: PBS+J	SCREEN LENGTH: 10 ft	RISER LENGTH: 10 ft
LOCATION: SE section of Phase II	SCREEN SLOT WIDTH: 0.010	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0–10	Light brown silty and clayey sand
	6	▽
	10–15	Light green sandy and clayey silt with black phosphate nodules
	15	TD = 15 ft

REMARKS:

Well Construction: 20/30 sand from 15 ft bls to 3 ft bls
30/65 sand from 3 ft bls to 1 ft bls
No cover / no pad

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County CCSWDC	DATE: 7/17/08	BORING NO: GW-9
PROJECT: CEP Implementation	TOTAL DEPTH: 15 ft bls	ELEVATION: ≅ 20 ft
PROJECT NO: 100003210-02.01.L	DEPTH TO WATER: 6 ft	DRILLER: GW Protect.
CONTRACTOR: PBS+J	SCREEN LENGTH: 10 ft	RISER LENGTH: 10 ft
LOCATION: SW section of Phase III	SCREEN SLOT WIDTH: 0.010	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Light brown, clayey and silty sand
	1	
	2	
	3	
	4	
	5	
▽	6	
	7	
	8	
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	Light green clayey and sandy silt with small black phosphate nodules and shell fragments
	11	
	12	
	13	
	14	
	15	TD = 15 ft
	16	
	17	
	18	
	19	
	20	

REMARKS:

Well Construction: 20/30 sand from 15 ft to 3 ft bls
30/65 sand from 3 ft to 1 ft bls
No cover / no pad

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County CCSWDC	DATE: 7/16/08	BORING NO: GW-10
PROJECT: CEP Implementation	TOTAL DEPTH: 15 ft bls	ELEVATION: ≅ 25 ft
PROJECT NO: 100003210-02.01.L	DEPTH TO WATER: 4 ft	DRILLER: GW Protect.
CONTRACTOR: PBS+J	SCREEN LENGTH: 10 ft	RISER LENGTH: 10 ft
LOCATION: South of GW-15	SCREEN SLOT WIDTH: 0.010	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Light brown silty sand
	1	
	2	
	3	
▽	4	Light brown clayey and silty sand
	5	
	6	
	7	
	8	
	9	
	10	
	10	Light brown clayey and silty sand
	11	
	12	
	13	
	14	Light green sandy and clayey silt w/ lg. black phosphate nodules
	15	TD = 15 ft
	16	
	17	
	18	
	19	
	20	

REMARKS:

Well Construction: 20/30 sand from 15 ft to 3 ft bls
30/65 sand from 3 ft bls to 1 ft bls
No cover / No pad

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County CCSWDC	DATE: 7/17/08	BORING NO: GW-11
PROJECT: CEP Implementation	TOTAL DEPTH: 15 ft bls	ELEVATION: ≈ 25 ft
PROJECT NO: 100003210-02.01.L	DEPTH TO WATER:	DRILLER: GW Protect.
CONTRACTOR: PBS+J	SCREEN LENGTH: 10 ft	RISER LENGTH: 10 ft
LOCATION: East of Phase I	SCREEN SLOT WIDTH: 0.010	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Light to dark brown, clayey and silty sand
	1	
	2	
▽	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	Gray, sandy and clayey silt
	11	
	12	Sandy limerock mixed with green sandy clay and silt
	13	
	14	
	15	TD = 15 ft
	16	
	17	
	18	
	19	
	20	

REMARKS:

Well Construction: 20/30 sand from 15 ft to 3 ft bls
30/65 sand from 3 ft to 1 ft bls
No cover / no pad

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County CCSWDC	DATE: 7/17/08	BORING NO: GW-12
PROJECT: CEP Implementation	TOTAL DEPTH: 15 ft bls	ELEVATION: ≈25 ft
PROJECT NO: 100003210-02.01.L	DEPTH TO WATER: 7 ft	DRILLER: GW Protect.
CONTRACTOR: PBS+J	SCREEN LENGTH: 10 ft	RISER LENGTH: 10 ft
LOCATION: Central part of Phase III	SCREEN SLOT WIDTH: 0.010	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Light to dark brown silty sand
	1	
	2	
	3	
	4	
	5	
	6	
▽	7	
	8	
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	Dark brown silty sand
	11	
	12	
	13	
	14	Light green, clayey, silty sand
	15	TD = 15 ft
	16	
	17	
	18	
	19	
	20	

REMARKS:

well construction: 20/30 sand from 15 ft to 3 ft bls
30/65 sand from 3 ft to 1 ft bls
No cover / no pad

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County CCSWDC	DATE: 7/17/08	BORING NO: GW-13
PROJECT: CEP Implementation	TOTAL DEPTH: 15 ft bls	ELEVATION: ≈ 20 ft
PROJECT NO: 100003210-02.01.L	DEPTH TO WATER: 4 ft	DRILLER: GW Protect.
CONTRACTOR: PBS+J	SCREEN LENGTH: 10 ft	RISER LENGTH: 10 ft
LOCATION: SE portion of Phase III	SCREEN SLOT WIDTH: 0.010	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Light to dark brown, clayey and silty Sand
	1	
	2	
	3	
▽	4	
	5	
	6	
	7	
	8	Light green, Sandy and clayey Silt, with Some rock fragments
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	Light green Sandy and Clayey Silt with Some rock fragments in lower portion
	11	
	12	
	13	
	14	
	15	TD = 15 ft
	16	
	17	
	18	
	19	
	20	

REMARKS:

Well Construction: 20/30 sand from 15 ft to 3 ft bls
30/65 Sand from 3 ft to 1 ft bls
No cover / on pad

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County CCSWDC	DATE: 7/15/08	BORING NO: GW-14
PROJECT: CEP Implementation	TOTAL DEPTH: 15 ft bls	ELEVATION: ≅25 ft
PROJECT NO: 100003210-02.01.L	DEPTH TO WATER: 5 ft	DRILLER: GW Protect.
CONTRACTOR: PBS+J	SCREEN LENGTH: 10 ft	RISER LENGTH: 10 ft
LOCATION: SW section of Phase IV	SCREEN SLOT WIDTH: 0.010	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Gray-brown fine sand
	1	
	2	Tan fine sand
	3	
	4	Light gray silty fine sand
	5	
	6	medium brown silty fine sand
	7	
	8	
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	Gray-tan, silty fine sand
	11	
	12	
	13	
	14	
	15	TD = 15 ft.
	16	
	17	
	18	
	19	
	20	

REMARKS:

Well Construction: 20/30 sand from 15 ft to 3 ft bls
30/65 sand from 3 ft to 1 ft bls
No cover / no pad

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County CCSWDC	DATE: 7/15/08	BORING NO: GW-15
PROJECT: CEP Implementation	TOTAL DEPTH: 15 ft bls	ELEVATION: ≈25 ft
PROJECT NO: 100003210-02.01.L	DEPTH TO WATER: 5 ft	DRILLER: GW Protect.
CONTRACTOR: PBS+J	SCREEN LENGTH: 10 ft	RISER LENGTH: 10 ft
LOCATION: West section of Phase IV	SCREEN SLOT WIDTH: 0.010	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Gray-brown fine sand
	1	↓
	2	Tan, fine sand
	3	↓
	4	↓
▽	5	Brown, silty fine sand
	6	↓
	7	Tan, silty fine sand
	8	↓
	9	↓
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	medium-brown silty fine sand
	11	↓
	12	Gray-brown silty fine sand
	13	↓ Very hard at 13 ft
	14	↓
	15	TD = 15 ft.
	16	
	17	
	18	
	19	
	20	

REMARKS:

Well Construction = 20/30 sand from 15 ft to 3 ft
30/65 sand from 3 ft to 1 ft
No cover / no pad

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County CCSWDC	DATE: 7/15/08	BORING NO: GW-16
PROJECT: CEP Implementation	TOTAL DEPTH: 15 ft bls	ELEVATION: ≈ 25 ft
PROJECT NO: 100003210-02.01.L	DEPTH TO WATER: 8 ft	DRILLER: GW Protect.
CONTRACTOR: PBS+J	SCREEN LENGTH: 10 ft	RISER LENGTH: 10 ft
LOCATION: SE portion of Phase IV	SCREEN SLOT WIDTH: 0.010	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION	SPT BLOWS PER 6"	DESCRIPTION
	0	Tan, fine Sand		Gray-brown silty fine sand
	1			
	2	Gray-brown, Silty fine sand		
	3	medium brown Silty fine Sand		
	4			
	5			TD = 15 ft
	6			
	7			
	8	Gray-brown Silty fine Sand		
	9			
	10			
	11			
	12			
	13			
	14			
	15			
	16			
	17			
	18			
	19			
	20			

REMARKS:

Well Construction: 20/30 sand from 15 ft to 3 ft bls
30/65 sand from 3 ft to 1 ft bls
No cover/ no pad

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT:	Sarasota County	DATE:	4/8/09	BORING NO.	GW-17
PROJECT:	SAR Implementation	TOTAL DEPTH:	12.5 ft	ELEVATION:	≈ 20 ft
PROJECT NO:	10000 7910	DEPTH TO WATER:	4 ft	DRILLER:	CDP
CONTRACTOR:	PBS&J	SCREEN LENGTH:	10 ft	RISER LENGTH:	8 ft
LOCATION:	SE of GW-11	SCREEN SLOT WIDTH:	0.010	LOGGED BY:	BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Tan-orange silty fine sand
	1	
	2	
	3	
	4 (▽)	
	5	
	6	Gray-brown silty fine sand
	7	
	8	
	9	
	10	
	10	Gray-green-tan clayey fine sand mixed with limerock
	11	
	12	
	13	TD = 12.5 ft due to refusal
	14	
	15	
	16	
	17	
	18	
	19	
	20	

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County	DATE: 4/8/09	BORING NO. GW-18
PROJECT: SAR Implementation	TOTAL DEPTH: 15 ft	ELEVATION: ≈ 20 ft
PROJECT NO: 10007910	DEPTH TO WATER: 5 ft	DRILLER: CDP
CONTRACTOR: PBSJ	SCREEN LENGTH: 10 ft	RISER LENGTH: 10 ft
LOCATION: East of C+D facility	SCREEN SLOT WIDTH: 0.010	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Light gray fine sand
	1	
	2	
	3	medium brown silty fine sand
	4	
	5	
	6	
	7	
	8	
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	Tan-brown silty fine sand
	11	
	12	
	13	
	14	
	15	minor limerock at 15ft
	16	TD = 15 ft
	17	
	18	
	19	
	20	

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT:	Sarasota County	DATE:	4/8/09	BORING NO.	GW-19
PROJECT:	SAR Implementation	TOTAL DEPTH:	12 ft	ELEVATION:	≅ 20
PROJECT NO:	100007910	DEPTH TO WATER:	3.5 ft	DRILLER:	CDP
CONTRACTOR:	PBS+J	SCREEN LENGTH:	10 ft	RISER LENGTH:	7 ft
LOCATION:	E-SE of C+D facility	SCREEN SLOT WIDTH:	0.010	LOGGED BY:	BR

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Gray fine Sand
	1	
	2	
	3	Gray-brown fine Sand
	4	
	5	
	6	Medium brown silty fine Sand
	7	
	8	
	9	Gray-green clay
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	Gray-green-light gray clayey sand mixed with limerock
	11	
	12	TD = 12 ft
	13	
	14	
	15	
	16	
	17	
	18	
	19	
	20	

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT:	Sarasota County	DATE:	4/7/89	BORING NO.	GW-20
PROJECT:	100007910	TOTAL DEPTH:	20 ft	ELEVATION:	≅ 23
PROJECT NO:	SAR Implementation	DEPTH TO WATER:	15 ft	DRILLER:	CDP
CONTRACTOR:	PBS+J	SCREEN LENGTH:	10 ft	RISER LENGTH:	15 ft
LOCATION:	mulch area near Port-O-Let	SCREEN SLOT WIDTH:	0.010	LOGGED BY:	BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Gray-brown fine sand
	1	
	2	
	3	medium brown silty fine sand
	4	
	5	
	6	
	7	
	8	
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	
	11	Orange-brown silty fine sand
	12	
	13	
	14	
▽	15	
	16	Gray-tan silty fine sand
	17	
	18	
	19	Gray-white-green silty sand w/ limerock
	20	

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County	DATE: 4/9/09	BORING NO. GW-21	
PROJECT: SAR Implementation	TOTAL DEPTH: 13 ft	ELEVATION: ≈ 20 ft	
PROJECT NO: 10000 7910	DEPTH TO WATER: 5 ft	DRILLER: CDP	
CONTRACTOR: PBS&J	SCREEN LENGTH: 10 ft	RISER LENGTH: 8 ft	
LOCATION: Due So. of C+D facility	SCREEN SLOT WIDTH: 0.010	LOGGED BY: BB	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Gray fine Sand
	1	
	2	Tan-orange Silty fine Sand
	3	
	4	
	5	
	6	
	7	Gray-brown Silty fine Sand
	8	
	9	
	10	
	10	Gray-green-tan mixture of Sandy clay and clayey Sand
	11	
	12	
	13	TD = 13 ft limerock at 13 ft
	14	
	15	
	16	
	17	
	18	
	19	
	20	

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT:	Sarasota County	DATE:	4/8/09	BORING NO.	GW-22
PROJECT:	SAR Implementation	TOTAL DEPTH:	13 ft	ELEVATION:	≈ 20 ft
PROJECT NO:	10000 7910	DEPTH TO WATER:	5 ft	DRILLER:	CDP
CONTRACTOR:	PBS+J	SCREEN LENGTH:	10 ft	RISER LENGTH:	8 ft
LOCATION:	SE of mtce Bldg.	SCREEN SLOT WIDTH:	0.010	LOGGED BY:	BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0–3	Gray fine sand
	3–7	medium brown silty sand
	7–10	Tan silty fine sand
	10–13	Gray-green-tan clayey sand with limerock
	13	TD = 13

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT:	Sarasota County	DATE:	4/8/09	BORING NO.	GW-23
PROJECT:	SAR Implementation	TOTAL DEPTH:	13 ft	ELEVATION:	≅ 20 ft
PROJECT NO:	10000 7910	DEPTH TO WATER:	4.5 ft	DRILLER:	CDP
CONTRACTOR:	PBS+J	SCREEN LENGTH:	10 ft	RISER LENGTH:	8 ft
LOCATION:	NE of Leachate Tank	SCREEN SLOT WIDTH:	0.010	LOGGED BY:	BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Gray-brown silty fine sand
	1	
	2	
	3	
	4	
	5	Gray-tan clayey and silty fine sand
	6	
	7	
	8	
	9	Gray-green-tan sandy clay
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	Gray-green-tan sandy clay
	11	
	12	Gray-green-tan clayey sand w/ limerock
	13	TD = 13 ft
	14	
	15	
	16	
	17	
	18	
	19	
	20	

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Saracota County		DATE: 4/7/09	BORING NO. GW-24
PROJECT: SAR Implementation		TOTAL DEPTH: 13 ft	ELEVATION: ≅ 20 ft
PROJECT NO: 100007910		DEPTH TO WATER: 4 ft	DRILLER: CDP
CONTRACTOR: PBS&J		SCREEN LENGTH: 10 ft	RISER LENGTH: 8 ft
LOCATION: 500 ft S-SE of GW-25		SCREEN SLOT WIDTH: 0.010	LOGGED BY: BR

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	medium brown fine sand
	1	
	2	
	3	
	4	Gray-tan silty fine sand (saturated)
	5	
	6	
	7	
	8	
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	Gray-tan silty fine sand
	11	
	12	Tan-white, clayey sand mixed w/ white limerock
	13	TD = 13 ft
	14	minor gray-green clay also
	15	
	16	
	17	
	18	
	19	
	20	

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County	DATE: 4/7/09	BORING NO. GW-25
PROJECT: SAR Implementation	TOTAL DEPTH: 13 ft	ELEVATION: ≈ 20 Ft
PROJECT NO: 100007910	DEPTH TO WATER: 4 ft	DRILLER: CDP
CONTRACTOR: PBS&J	SCREEN LENGTH: 10 ft	RISER LENGTH: 8 ft
LOCATION: Immediately S of Phase 4	SCREEN SLOT WIDTH: 0.010	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0–2	Black-brown fine Sand
	2–5	Tan-orange silty fine sand (▽ 4)
	5–10	Gray-green clayey fine Sand (saturated)
	10–13	Light gray silty fine Sand
	13	TD = 13 ft

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT:	Sarasota County	DATE:	4/7/09	BORING NO.	GW-26
PROJECT:	SAR Implementation	TOTAL DEPTH:	15 ft	ELEVATION:	≈20 ft
PROJECT NO:	10000 7910	DEPTH TO WATER:	6 ft	DRILLER:	CDP
CONTRACTOR:	PBS+J	SCREEN LENGTH:	10 ft	RISER LENGTH:	10 ft
LOCATION:	S-SW of GW-25 (500 ft)	SCREEN SLOT WIDTH:	0.010	LOGGED BY:	BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Medium brown fine sand
	1	
	2	
	3	
	4	
	5	Gray-tan silty fine sand
	6	
	7	
	8	
	9	
	10	
	10	Gray-tan silty fine sand
	11	
	12	
	13	
	14	
	15	TD = 15 ft
	16	
	17	
	18	
	19	
	20	

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT:	Sarasota County	DATE:	4/9/09	BORING NO.	GW-27
PROJECT:	SAR Implementation	TOTAL DEPTH:	15 ft	ELEVATION:	2 2 3 ft
PROJECT NO:	100007910	DEPTH TO WATER:	9 ft	DRILLER:	CDP
CONTRACTOR:	PBS&J	SCREEN LENGTH:	10 ft	RISER LENGTH:	10 ft
LOCATION:	South-Central Phase #3	SCREEN SLOT WIDTH:	0.010	LOGGED BY:	BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Black-brown silty fine sand
	1	
	2	
	3	
	4	
	5	
	6	Brown-tan fine (sugar) sand
	7	
	8	
▽	9	
	10	over →

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	medium brown silty fine sand (saturated)
	11	
	12	
	13	
	14	
	15	Some clay at 15 ft
		TD = 15 ft
	16	
	17	
	18	
	19	
	20	

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT:	Sarasota County	DATE:	4/9/09	BORING NO.	GW-28
PROJECT:	SAR Implementation	TOTAL DEPTH:	18 ft	ELEVATION:	≈ 28 ft
PROJECT NO:	10000 7910	DEPTH TO WATER:	13 ft	DRILLER:	CDP
CONTRACTOR:	PBSJ	SCREEN LENGTH:	10 ft	RISER LENGTH:	13 ft
LOCATION:	North-Central Phase #3	SCREEN SLOT WIDTH:	0.010	LOGGED BY:	BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0–5	medium brown silty with fill rocks
	5–8	Black-gray-brown Silty fine sand
	10–15	Gray-tan Silty fine sand
	15–16	Green clay lens
	16–18	Gray brown clayey sand
	18	Shelly clay at 18 ft
		TD = 18 ft

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT:	Sarasota County	DATE:	4/9/09	BORING NO.	GW-29
PROJECT:	SAR Implementation	TOTAL DEPTH:	15 ft	ELEVATION:	≈ 21 ft
PROJECT NO:	100007910	DEPTH TO WATER:	8.5	DRILLER:	CDP
CONTRACTOR:	PBS&J	SCREEN LENGTH:	10 ft	RISER LENGTH:	10 ft
LOCATION:	NW corner of Phase 3	SCREEN SLOT WIDTH:	0.010	LOGGED BY:	BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Light gray Silty fine sand
	1	
	2	
	3	
	4	
	5	
	6	Medium brown Silty fine Sand
	7	
	8	
	9	Gray Silty fine Sand
	10	
	10	Gray silty fine sand
	11	
	12	Light gray clayey fine sand
	13	
	14	gray-green limerock at 14 ft
	15	TD = 15 ft
	16	
	17	
	18	
	19	
	20	

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT:	Sarasota County	DATE:	4/10/09	BORING NO.	GW-30
PROJECT:	SAR Implementation	TOTAL DEPTH:	13 ft	ELEVATION:	≅ 20 ft
PROJECT NO:	10000 7910	DEPTH TO WATER:	5 ft	DRILLER:	CDP
CONTRACTOR:	PBSJ	SCREEN LENGTH:	10 ft	RISER LENGTH:	8 ft
LOCATION:	West of Phase 2 / North of Pond 2	SCREEN SLOT WIDTH:	0.010	LOGGED BY:	BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Gray fine sand ↓
	1	
	2	Brown silty fine sand ↓
	3	
	4	
	5	
	6	
	7	Gray-green-tan silty and clayey sand ↓
	8	
	9	
	10	
	10	Gray green clay ↓
	11	
	12	Gray-green-tan clayey sand with limerock ↓
	13	TD = 13 ft
	14	
	15	
	16	
	17	
	18	
	19	
	20	

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT:	Sarasota County	DATE:	4/10/09	BORING NO.	GW-31
PROJECT:	SAR Implementation	TOTAL DEPTH:	13 ft	ELEVATION:	≅ 20 ft
PROJECT NO:	10000 7910	DEPTH TO WATER:	6 ft	DRILLER:	CDP
CONTRACTOR:	PBS+J	SCREEN LENGTH:	10 ft	RISER LENGTH:	8 ft
LOCATION:	Due west of Phase 2	SCREEN SLOT WIDTH:	0.010	LOGGED BY:	BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Light tan fine sand
	1	
	2	
	3	Gray-brown Silty fine sand
	4	
	5	
	6	
	7	Gray-tan Silty sand
	8	
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	Gray clayey sand
	11	
	12	Gray-green-tan clayey sand with limerock (white)
	13	TD = 13 ft
	14	
	15	
	16	
	17	
	18	
	19	
	20	

REMARKS:

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County CCSWDC	DATE: 7/18/08	BORING NO: DGW-1
PROJECT: CEP Implementation	TOTAL DEPTH: 20 ft bls	ELEVATION: ≅ 20 ft
PROJECT NO: 100003210-02.01.L	DEPTH TO WATER: ≅ 3.5 ft	DRILLER: GW Protect.
CONTRACTOR: PBSJ	SCREEN LENGTH: 5 ft	RISER LENGTH: 20 ft
LOCATION: North of Phase I	SCREEN SLOT WIDTH: 0.010	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Medium brown fine sand
	1	
	2	
	3	Gray-tan fine sand
	4	
	5	Brown fine sand
	6	
	7	
	8	Gray, silty fine sand
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	Light gray, silty fine, sand with minor clay
	11	
	12	
	13	Light tan, sandy clay mixed with clayey sand
	14	
	15	
	16	
	17	
	18	Tan-white limerock with sand and clay
	19	
	20	

REMARKS:

TD = 20 ft

Well Construction = 20/30 Sand from 20 ft bls to 13 ft bls
30/65 Sand from 13 ft bls to 11 ft bls
Backfill soil to surface

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County CCSWDC	DATE: 7/18/08	BORING NO: DGW-2
PROJECT: CEP Implementation	TOTAL DEPTH: 20 ft bls	ELEVATION: ≈ 25 ft
PROJECT NO: 100003210-02.01.L	DEPTH TO WATER: 6.5 ft	DRILLER: GW Protect.
CONTRACTOR: PBSJ	SCREEN LENGTH: 5 ft	RISER LENGTH: 20 ft
LOCATION: NE Portion of Phase III	SCREEN SLOT WIDTH: 0.010	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	medium brown fine sand
	1	
	2	Dark gray-brown silty sand
	3	
	4	
	5	Tan silty sand
	6	
	7	
	8	
	9	
	10	
	11	Orange-brown silty fine sand
	12	Gray-tan silty fine sand
	13	
	14	
	15	Tan-white limerock mixed with sand
	16	
	17	Gray-white clayey sand with limerock
	18	
	19	
	20	

REMARKS:

TD = 20 ft

Well construction = 20/30 Sand from 20 ft bls to 13 ft bls
30/65 sand from 13 ft bls to 11 ft bls
Backfill soil to surface

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County CCSWDC	DATE: 7/17/08	BORING NO: DGW-3
PROJECT: CEP Implementation	TOTAL DEPTH: 20 ft bls	ELEVATION: ≃ 25 ft
PROJECT NO: 100003210-02.01.L	DEPTH TO WATER: 6 ft	DRILLER: GW Protect.
CONTRACTOR: PBSJ	SCREEN LENGTH: 5 ft	RISER LENGTH: 20 ft
LOCATION: East section of Phase II	SCREEN SLOT WIDTH: 0.010	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Light to dark brown, clayey and silty sand
	1	
	2	
	3	
	4	
	5	
▽	6	
	7	
	8	
	9	
	10	
	10	Dark brown, clayey and silty sand
	11	
	12	
	13	Light gray clayey sand and silt
	14	
	15	
	16	Orange and white silty limerock (oolitic)
	17	
	18	
	19	
	20	

REMARKS:

TD = 20 ft

Well Construction = 20/30 Sand from 20 ft to 13 ft bls
30/65 Sand from 13 ft to 11 ft bls
Backfill soil to surface

PBSJ BORING / WELL LITHOLOGIC LOG

CLIENT: Sarasota County CCSWDC	DATE: 7/17/08	BORING NO: DGW-4
PROJECT: CEP Implementation	TOTAL DEPTH: 20 ft bls	ELEVATION: 325 ft
PROJECT NO: 100003210-02.01.L	DEPTH TO WATER: 6.5 ft	DRILLER: GW Protect.
CONTRACTOR: PBSJ	SCREEN LENGTH: 5 ft	RISER LENGTH: 20 ft
LOCATION: SW Portion of Phase II	SCREEN SLOT WIDTH: 0.010	LOGGED BY: BB

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	0	Dark brown clayey and silty sand
	1	
	2	
	3	
	4	
	5	
	6	
▽		
	7	
	8	
	9	
	10	

SPT BLOWS PER 6"	DEPTH	DESCRIPTION
	10	Light green sandy and clayey silt with limerock fragments
	11	
	12	
	13	
	14	
	15	
	16	Orange oolitic limerock
	17	
	18	
	19	
	20	

REMARKS:

TD = 20 ft

Well Construction = 20/30 sand from 20 ft bls to 13 ft bls
30/65 sand from 13 ft bls to 11 ft bls

APPENDIX C:

GROUNDWATER SAMPLING LOGS

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: SARASOTA CNTY CC SWBC	SITE LOCATION:	
WELL NO: MW-1R	SAMPLE ID: MW-1R	DATE: 4/22/05

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: 4 feet to 7 feet	STATIC DEPTH TO WATER (feet): 7.3	PURGE PUMP TYPE OR BAILER: BP ~~PERISTALTIC PUMP~~

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (15 feet – 7.3 feet) X .2 gallons/foot = 1.6 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (.0026 gallons/foot X 15 feet) + gallons = .1 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 12	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 12	PURGING INITIATED AT: 1045	PURGING ENDED AT: 1230	TOTAL VOLUME PURGED (gallons): 2.8

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1150	1.1	2.0	.2	7.5	6.70	24.0	.100	.38	120	CLEAR	NONE
1205	1.4	2.3	"	"	6.74	23.8	.573	.35	85	CLEAR	"
1220	1.7	2.6	"	"	6.74	23.8	.570	.32	19.4*	"	"
1225	1.8	2.7	"	"	6.74	23.9	.568	.31	18.8*	"	"
1230	1.9	2.8	"	"	6.74	23.9	.569	.30	85.5*	"	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GREG MUDD FBES	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1230	SAMPLING ENDED AT: 1235
PUMP OR TUBING DEPTH IN WELL (feet): 12.4	SAMPLE PUMP FLOW RATE (mL per minute): 450 ML	TUBING MATERIAL CODE: PP	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) Filtration Equipment Type: ____ FILTER SIZE: ____ µm	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
MW-1R	1	AG	50 ML				AS SWBC	BP

REMARKS:
* MEASURED WITH HACH TURBIDITY METER

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: SHASOTA COUNTY CCS/UDC		SITE LOCATION:
WELL NO: CW-8A	SAMPLE ID: CW-8A	DATE: 4/22/08

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: 5 feet to 15 feet	STATIC DEPTH TO WATER (feet): 8.90	PURGE PUMP TYPE OR BAILER: BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (6.37 feet – 8.90 feet) X gallons/foot = 1.5 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 20 gallons + (.20 gallons/foot X .0026 feet) + .1 gallons = 1.6 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 12.4	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 12.4	PURGING INITIATED AT: 1250	PURGING ENDED AT: 1345	TOTAL VOLUME PURGED (gallons): 1.9

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1330	1.6/1.0	1.6	.04	9.41	5.69	24.8	.657	.13	16.4*	CL	NONE
1335	1.1	1.7	"	"	5.63	24.7	.647	.16	15.4*	"	"
1340	1.2	1.8	"	"	5.63	24.7		.09	14.4*	"	"
1345	1.3	1.9	"	"	5.64	24.7	.6416	.11	13.8*	"	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GREG MUDD/PBSJ	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1345	SAMPLING ENDED AT: 1350
PUMP OR TUBING DEPTH IN WELL (feet): 12.4	SAMPLE PUMP FLOW RATE (mL per minute): 100 ML	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
CW-8	1	PP	50ML				AS SPEC	BP

REMARKS:
* MEASURED W/HACH TURBIDITY METER

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: SARASOTA COUNTY CCSWDC	SITE LOCATION:	
WELL NO: CW-9	SAMPLE ID: CW-9	DATE: 4/22/08

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: 5 feet to 15 feet	STATIC DEPTH TO WATER (feet): 8.91	PURGE PUMP TYPE OR BAILER: BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (15 feet – 8.91 feet) X gallons/foot = 1.6 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (20 gallons/foot X .0026 feet) + .1 gallons = 1.7 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 12.4	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 12.4	PURGING INITIATED AT: 1400	PURGING ENDED AT: 1500	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1445	1	1.04	.04	9.2	6.71	24.2	1.75	.03	3.42*	CL	NONE
1450	1.1	1.8	"	"	6.71	24.3	1.74	.04	3.16*	"	"
1455	1.2	1.9	"	"	6.71	24.2	1.73	.03	4.78*	"	"
1500	1.3	2.0	"	"	6.71	24.2	1.73	.03	3.81*	"	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GREG MUDD ABSS	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1500	SAMPLING ENDED AT: 1505
PUMP OR TUBING DEPTH IN WELL (feet): PP	SAMPLE PUMP FLOW RATE (mL per minute): 400 ML	TUBING MATERIAL CODE: PP	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) Filtration Equipment Type: ____ FILTER SIZE: ____ µm	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
CW-9	1	PP	50 ML				AS SPEC	BP

REMARKS:
* MEASURED W/HACH TURBIDITY METER

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: SARASOTA COUNTY CCSWDC	SITE LOCATION:	
WELL NO: CW-11R	SAMPLE ID: CW-11R	DATE: 4/22/08

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: 5 feet to 15 feet	STATIC DEPTH TO WATER (feet): 8.59	PURGE PUMP TYPE OR BAILER: BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
= (15 feet – 8.6 feet) X .2 gallons/foot = 1.6 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (.0026 gallons/foot X 20 feet) + .1 gallons = 1.7 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 12.4	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 12.4	PURGING INITIATED AT: 1510	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1600	1	1.7	.03	9.2	6.44	24.1	1.13	0.13	7.55*	CL	NONE
1605	1.1	1.8	"	"	6.45	24.0	1.13	0.12	7.86*	"	"
1610	1.2	1.9	"	"	6.46	24.0	1.14	0.13	7.19*	"	"
1615	1.3	2.0	"	"	6.47	24.1	1.15	0.13	7.10*	"	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GREG MUDD/PBSJ	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1615	SAMPLING ENDED AT: 1620
PUMP OR TUBING DEPTH IN WELL (feet): 12.4	SAMPLE PUMP FLOW RATE (mL per minute): 300	TUBING MATERIAL CODE: PP	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
CW-11R	1	PP	50 ml				AS SPEC.	BP

REMARKS:
* MEASURED W/HACH TURBIDITY METER

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SITE LOCATION:

WELL NO: MW-1R	SAMPLE ID:	DATE: 7/31/08

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 7.36	PURGE PUMP TYPE OR BAILER: BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY 1.22+0.4=1.6
(only fill out if applicable)
= (15 feet – 7.36 feet) x 0.16 gallons/foot = 1.22 gallon

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.264 gallons + (0.006 gallons/foot X 8 feet) + 0.132 gallons = 0.44 gallon

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe
932	0	0	0.15	7.36		STARTED					
943	1.62	1.62	0.15	8.14	7.43	25.93	637	1.28	47.7	OPAQUE	NONE
948	0.75	2.37	0.15	8.28	7.37	25.98	634	~~0.6~~ 0.85	20.9		
953	0.75	3.12	0.15	8.34	7.34	26.04	632	0.68	16.2		
958	0.75	3.83	0.15	8.45	7.31	26.02	630	0.62	27.1		

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: ____ µm Filtration Equipment Type: ____	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL. ADDED IN FIELD (mL)	FINAL pH		
1000 TOC								
1003 TDS								
1004 ALKALINITY								
1007 METALS								
1009 AMMONIA								
1010 METALS					FILTERED			
ORP						61		

REMARKS: Ferrous = 0.05 mg/l

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2 optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

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Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SITE LOCATION:

WELL NO: MW-8A	SAMPLE ID:	DATE: 7/29/08

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: 5 feet to 15 feet	STATIC DEPTH TO WATER (feet): 11.06	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (15.5 feet – 11.06 feet) X .1 gallons/foot = 1 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (.0026 gallons/foot X 20 feet) + .6 gallons = 1.6 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 12.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 12.5	PURGING INITIATED AT: 1040	PURGING ENDED AT: 1130	TOTAL VOLUME PURGED (gallons): 2.5

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	DRY
1115	2	1.2	.08	11.6	6.81	27.2	158	.09	410	CC	NO	
1120	2.1	1.3	"	"	6.82	27.2	161	↓	410	"	↓	
1125	2.2	1.4	"	"	6.80	27.3	162	↓	410	"	↓	
1130	2.3	1.5	"	"	6.82	27.4	163	↓	1.91	"	↓	+10%

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GARG MUD	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1130	SAMPLING ENDED AT: 1140
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute): 500 mL	TUBING MATERIAL CODE: PP	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
			SAME					

REMARKS: * MEASURED W/HACH FERROUS FE = 1 mg/L

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

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Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SITE LOCATION:

WELL NO: MW-9	SAMPLE ID:	DATE: 7/30/02

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: 15 feet to 25 feet	STATIC DEPTH TO WATER (feet): 16.83	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (25.6 feet – 16.83 feet) X .2 gallons/foot = 1.8 gallon

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (.08 gallons/foot X 25 feet) + .3 gallons = 2.1 gallon

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1520	PURGING ENDED AT: 1625	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1610	1	2.1	.02	16.92	6.38	28.2	175	.27	410	CL	NO
1615	1.1	2.2	↓	↓	↓	↓	177	.17	410	↓	↓
1620	1.2	2.3					176	.08	410		
1625	1.3	2.4					176	.09	410		

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: MUDD	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1625	SAMPLING ENDED AT: 1635
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute): 500	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) Filtration Equipment Type: ____ FILTER SIZE: ____ µm	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
					NA			

REMARKS:
* MEASURED W/HCH ORP = -116 Turbidity (PDA) = 14 NTU

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2 optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

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Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SITE LOCATION:	
WELL NO: MW-1DR	SAMPLE ID:	DATE: 7/31/08

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 13.96	PURGE PUMP TYPE OR BAILER: BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (18.65 feet – 13.96 feet) X 0.16 gallons/foot = 0.75 gallon 1.22

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.264 gallons + (0.006 gallons/foot X 11.65 feet) + 0.132 gallons = 0.47 gallon

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe
820			0.15	13.96	STARTED						
828	1.22	1.22	0.15	14.65	7.06	26.24	1573	5.02	22.8	OPAQUE	NONE
833	0.75	1.97	0.15	14.77	6.99	26.23	1577	2.62	9.63	CLEAR	"
838	0.75	2.72	0.15	14.75	6.95	26.25	1562	2.73	8.05	CLEAR	NO
843	0.75	3.27	0.15	14.82	6.94	26.22	1554	2.83	4.46	"	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
851 TOC								
856 TDS								
858 AMMONIA								
900 METALS								
902 ALKALINITY								
FERROUS					2.8			
ORP					-71			

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-3 optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

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Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SITE LOCATION:

WELL NO: MW-11R	SAMPLE ID:	DATE: 7/29/08

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: 5 feet to 15 feet	STATIC DEPTH TO WATER (feet): 8.08	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (15.5 feet – 8.08 feet) X .2 gallons/foot = 1.5 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (.006 gallons/foot X 2 feet) + .3 gallons = 1.8 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 12.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 12.5	PURGING INITIATED AT: 1355	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1425	1	1.8	.08	8.91	6.38	27.6	1.13	.02	<10	CL	NO
1430	1.1	1.9	↓	↓	6.35	27.5	↓	.08	<10	↓	↓
1435	1.2	2.0	↓	↓	6.36	27.5	↓	.11	<10	↓	↓
1440	1.3	2.1	↓	↓	6.33	27.5	1.24	.21	* 2.07	↓	↓

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GRIG MVJS	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1440	SAMPLING ENDED AT: 1450
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
	SAME							

REMARKS:
* MEASURED W/HACH

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SITE LOCATION:

WELL NO: MW-12R	SAMPLE ID:	DATE: 7.24.02

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: 5 feet to 15 feet	STATIC DEPTH TO WATER (feet): 7.5	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (15.5 feet – 7.5 feet) X .2 gallons/foot = 1.6 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (.06 gallons/foot X 20 feet) + .02 gallons = 1.8 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 12.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 12.5	PURGING INITIATED AT: 1345	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1415	1	1.8	.086	7.75	~~7.75~~ 6.46	28.5	.118	0.07	410	CL	NO
1420	1.1	1.9	↓	↓	6.51	28.4	.116	↓	410	↓	↓
1425	1.2	2.0	↓	↓	6.50	28.4	.115	↓	410	↓	↓
1430	1.3	2.1	↓	↓	6.50	28.4	.113	↓	*5.10	↓	↓

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GRIGG MVAD	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1430	SAMPLING ENDED AT: 1440
PUMP OR TUBING DEPTH IN WELL (feet): 12.5	SAMPLE PUMP FLOW RATE (mL per minute): 500	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
			SAMP					

REMARKS:
* MEASURED W/HACH METER

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

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Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:		SITE LOCATION:	
WELL NO: ~~MW~~ CW - 8A	SAMPLE ID:		DATE: 1/29/08

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: 5 feet to 15 feet	STATIC DEPTH TO WATER (feet): 8.92	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
= (15.5 feet – 8.92 feet) X .2 gallons/foot = 1.5 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (.0026 gallons/foot X 20 feet) + .5 gallons = 2 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 12.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 12.5	PURGING INITIATED AT: 1148	PURGING ENDED AT: 1230	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1220	3.2	1.5	.08	10.2	5.45	27.6	.827	.07	410	CL	NO
1225	3.3	1.6	↓	↓	5.44	27.5	.825	.08	410	↓	↓
1230	3.4	1.7	↓	↓	5.44	27.3	.820	.08	5.28*	↓	↓

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GARG MVAD	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1230	SAMPLING ENDED AT: 1240
PUMP OR TUBING DEPTH IN WELL (feet): 12.5	SAMPLE PUMP FLOW RATE (mL per minute): 500	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
	1	PB	275 ML	-			ALKALINITY	PP
	1	PB	500 ML	5 ML ACID			AMMONIA	PP
	1	PB	500 ML	-			TDS	PP
	1	PB	275	NITRIC ACID			METALS	PP
	3	CG	40 ML	HCL			TOC	PP

REMARKS:
* MEASURED W/HACH METER

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SITE LOCATION:
WELL NO: CW-9	SAMPLE ID:	DATE: 7/30/08

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: 5 feet to 15 feet	STATIC DEPTH TO WATER (feet): 8.17	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
= (15.5 feet – 8.17 feet) X .2 gallons/foot = 1.5 gallon

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (.02 gallons/foot X 20 feet) + .1 gallons = 1.7 gallon

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 2.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 12.5	PURGING INITIATED AT: 1400	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe
1400	1	1.7	.58	8.77	6.28	27.8	1.39	0.07	410	CL	NO
1430	1.1	1.8	↓	↓	6.30	↓	1.40	↓	410	↓	↓
1435	1.2	1.9	↓	↓	6.31	↓	1.40	↓	410	↓	↓
1440	1.3	2.0	↓	↓	6.33	27.7	1.42	↓	121 X	↓	↓

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: MWDS	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1440	SAMPLING ENDED AT: 1450
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute): 500	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm	DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
		SAME						
		(COLLECT		DUP	HERE)			

REMARKS: ORP = 94 FERROUS FE = 1.8 MG/L
* MEASURED W/ HACH

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2 optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: C	SITE LOCATION:	
WELL NO: MW-10R	SAMPLE ID:	DATE: 7/29/08

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 8.48	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (18.65 feet – 14.55 8.48 feet) X .2 gallons/foot = 1.6 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (.0026 gallons/foot X 20 feet) + .6 gallons = 2.2 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1250	PURGING ENDED AT: 1335	TOTAL VOLUME PURGED (gallons): 2.5

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1320	1	2.2	.08	9.08	5.91	27.3	.153	0.19	<10	cl	no
1325	1.6	2.3	↓	↓	5.92	27.4	.152	0.18	<10	↓	↓
1330	1.2	2.4			5.92	27.4	.153	0.19	<10		
1335	1.3	2.5	↓	↓	5.92	27.5	.153	0.20	*7.85	↓	↓

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GREG HARD	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1335	SAMPLING ENDED AT: 1345
PUMP OR TUBING DEPTH IN WELL (feet): 15'	SAMPLE PUMP FLOW RATE (mL per minute): 500	TUBING MATERIAL CODE: PP	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
		SAMM						

REMARKS: * MEASURED W/HCA MEDIA

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SITE LOCATION:
WELL NO: CW-1R	SAMPLE ID:	DATE: 7/29/08

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: 5 feet to 15 feet	STATIC DEPTH TO WATER (feet): 8.21	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (15.5 feet – 8.21 feet) X .2 gallons/foot = 1.6 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X 20 feet) + .2 gallons = 1.8 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 12.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 12.5	PURGING INITIATED AT: 1450	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1510	~~[illegible]~~	1.6	.08	8.26	6.11	27.4	.914	.07	410	CL	NO
1515	1.1	1.7	↓	↓	6.13	↓	.915	.08	410	↓	↓
1520	1.2	1.8			6.11		.915	.07	410		
1525	1.3	1.9			6.11		.917	.07	596*		

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GAB6 MUDS	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1525	SAMPLING ENDED AT: 1535
PUMP OR TUBING DEPTH IN WELL (feet): 12.5	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) Filtration Equipment Type: ____ FILTER SIZE: ____ µm	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
			SAME					

REMARKS: + MISSED W/ BACK METH.

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

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:35 0.050 g/m

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SITE LOCATION:

WELL NO: GW-1	SAMPLE ID:	DATE: 7/29/08

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 1/4"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 9.18	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY 17 × 0.0026 = (1.7)
only fill out if applicable)
= (19.55 feet – 9.18 feet) X 0.16 gallons/foot = 1.66 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 12'	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 11:05	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
11:05	0.0	0.0	0.056		STARTED						
11:35	1.70	1.70	0.056	9.73	6.36	28.04	819	47.7	0.77	CLEAR	-N
11:40	0.28	1.98	0.056	9.75	6.57	28.04	813	24.1	0.77	"	"
11:45	0.28	2.26	0.056	9.77	6.60	28.01	805	8.1	0.65	"	"
11:50	0.28	2.54	0.056	9.79	6.62	28.02	799	5.1	0.72	"	"
11:55	0.28	2.82	0.056	9.81	6.63	28.02	796	4.4	0.89	"	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: RAY CASTRO	SAMPLER(S) SIGNATURES: Raymundo Castro	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
:02 TOC	3	CG		HCL 4°C				PP
05 METALS	1	PE		NITRIC				PP
08 AMMONIA	1	PE		H_2SO_4 4°C				
10 TDS	1	PE		4°C				
5 ALKALINITY	1	PE		4°C				
8 ASC-B-4525	1	PE						
FERRUS Fe						1.5		

REMARKS/ ORP -108

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

all depths below top of casing (TOC)

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

FACILITY NAME: Sarasota County CCSWDC		FACILITY LOCATION: Sarasota County Landfill	
MONITORING_SITE_NUM: GW-2	WACS_WELL: —		DATE: 7/28/08

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 8 feet to 18 feet	STATIC DEPTH TO WATER (feet): 8.29	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (18 feet – 8.29 feet) X 0.16 gallons/foot = 1.55 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0026 gallons/foot X 11.5 feet) + 0.2 gallons = 0.23 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 11.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 11.5	PURGING INITIATED AT: 11:00	PURGING ENDED AT: 12:10	TOTAL VOLUME PURGED (gallons): 7.3

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
11:28	3.2	3.2	0.11	9.51	6.56	26.38	508	2.69	173	clr-brn	none
11:39	1	4.2	0.09	9.55	6.45	26.81	385	2.04	194	↓	↓
11:49	1	5.2	0.1	9.53	6.63	26.31	561	0.93	89.7	↓	↓
11:59	1	6.2	0.1	9.50	6.65	26.2	580	0.64	74.1	↓	↓
12:09	1	7.2	0.1	9.53	6.66	26.19	590	0.62	69.0	↓	↓

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Brad Bayne / PBSJ	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1210	SAMPLING ENDED AT: 1215
PUMP OR TUBING DEPTH IN WELL (feet): 11.5	SAMPLE PUMP FLOW RATE (mL per minute): 125 ml/m	TUBING MATERIAL CODE: PP	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: (Y) (N) Filtration Equipment Type: 1 micron	FILTER SIZE: ____ µm	DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
SEE CHAIN OF CUSTODY FOR 7/28/08								

REMARKS: ORP = +32 / Fe 2+ = 0.7 mg/l

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SITE LOCATION:
WELL NO: GW-3	SAMPLE ID:	DATE: 7/29/08

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 10.2	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY 15 x 0.0026 = 0.039 (1.54)
(only fill out if applicable)
= (19.60 feet – 10.20 feet) X 0.16 gallons/foot = 1.50 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1337			0.145	10.2 STARTED							
1347	1.54	1.54	0.145	10.47	6.32	31.62	4	8.89	2.79	CLEAR	NONE
1359	0.73	2.27	0.145	10.52	5.92	28.79	3	8.71	2.12	"	"
1402	0.73	3.00	0.145	10.52	5.96	28.20	3	8.02	2.44	"	"
1407					6.02	27.84	3	8.43	2.63	"	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y N	

	SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
	SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
09	TOC	4	CG		HCL 4°C				PP
13	METALS	1	PE		NITRIC				
14	ALKALINITY	1	PE						
16	AMMONIA	1	PE		H2SO4				
17	TDS	1	PE						
	ASC-B-9573	1	PE						
	FERRUS IRON						26		

REMARKS: ORP 23

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

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Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SITE LOCATION:

WELL NO: GW-4	SAMPLE ID:	DATE: 7/29/08

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 10.39	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY 15 x 0.0026 = 0.039 (1.50)
(only fill out if applicable)
= (19.56 feet – 10.39 feet) X 0.16 gallons/foot = 1.46 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1447		0	0.24	10.39	STARTED						
1453	1.50	1.5	0.24	10.63	6.10	27.82	4	8.99	137	OPAQUE	NONE
1458	1.20	3.70	0.24	10.65	6.09	27.44	4	8.63	119	"	"
1503	1.20	4.90	0.24	10.69	6.09	27.29	4	8.53	120	"	"
1508	1.20	6.10	0.24	10.70	6.09	27.13	4	8.43	79.1	"	"
1513	1.20	7.30	0.24	10.72	6.13	27.10	4	8.35	69.7	"	"
1518	1.20	8.50	0.24	10.70	6.20	27.15	4	8.30	49.19	"	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: ____ µm Filtration Equipment Type: ____	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
23 TOC	4	CG		HCL				PP
26 TDS	1	PE						
30 AMMONIA	1	PE		H_2SO_4				
32 METALS	1	PE		NITRIC				
34 ALKALINITY	1	PE						
36 ASC-B-4593	1	PE						
40 METALS	1			FILTERED				

REMARKS:
FERRUS IRON
ORP

4
-34

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

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PURGE RATE 0.24 GAL/MIN

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SITE LOCATION:

WELL NO: GW-5	SAMPLE ID:	DATE: 7/29/08

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 10.84	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY 15 x 0.0026 = 0.04
only fill out if applicable)
= (19.67 feet – 10.84 feet) X 0.16 gallons/foot = 1.41 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1608	0.00	0	0.198	10.84		STARTED					
1615	1.45	1.45	0.198	12.24	6.19	31.85	2	7.76	9.44	CLEAR	NONE
1620	0.99	2.44	0.198	12.41	6.04	30.90	2	8.02	2.22	"	"
1625	0.99	3.43	0.198	12.65	6.02	30.11	2	8.12	1.70	"	"
1630	0.99	4.42	0.198	12.76	6.08	30.44	2	7.78	1.54	"	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: ____ µm Filtration Equipment Type: ____	DUPLICATE: Y N	

	SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
	SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
36	TOC	4	CG		HCL				PP
38	TDS	1	PE						
49	METALS	1	PE		NITRIC				
72	ALKALINITY	1	PE						
2	ASCB-4531	1	PE						
71	AMMONIA	1	PE		H_2SO_4				

REMARKS: FERRUS IRON 2.0
ORP -73

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

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3785

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SITE LOCATION:
WELL NO: GW-6	SAMPLE ID:	DATE: 7/30/08

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 10.90	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY 16 x 0.0026 = 0.04
(only fill out if applicable)
= (19.63 feet – 10.90 feet) X 0.16 gallons/foot = 1.40 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
8:25	0.04		0.34	10.90	STARTED						
829	1.44	1.44	0.33	11.11	6.68	27.14	781	0.97	895	OPAQUE	NONE
834	1.65	3.09	0.33	11.21	6.70	27.25	788	0.59	194	"	"
839	1.65	4.53	0.33	11.26	6.69	27.27	787	0.57	205	"	"
844	1.65	6.18	0.33	11.29	6.68	27.31	778	0.49	180	"	"
849	1.65	7.83	0.33	11.35	6.68	27.32	778	0.47	156	"	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: ____ µm Filtration Equipment Type: ____	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
TOC	4	CG		HCL				PP
TDS	1	PE						PP
AMMONIA	1	PE		H_2SO_4			600	PP
METALS	1	PE					610	
ALKALINITY	1	PE						
ASC-B-4550	1	PE						
ORP						-20		
REMARKS: FERROUS METALS	1	PE			FILTERED	3		

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

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Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SITE LOCATION:

WELL NO: GW-7	SAMPLE ID:	DATE: 7/30/08

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 10.68	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (19.70 feet – 10.68 feet) X 0.16 gallons/foot = 1.44 gallon

15x0.0026 = 0.04

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallon

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1119	0		0.10	10.68	STARTED						
1134	1.50	1.50	0.10	12.39	6.66	28.54	.804	0.36	208	OPAQUE ~~CLEAR~~	NONE
1139	0.50	2.00	0.10	12.56	6.65	28.48	.819	0.42	40.6	"	"
1144	0.50	2.50	0.10	12.77	6.63	28.37	.827	0.39	94.6	"	"
1149	0.50	3.00	0.10	12.93	6.61	28.33	.832	0.38	124	"	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: RGC	SAMPLER(S) SIGNATURES: Carmenita Carter	SAMPLING INITIATED AT: 1149	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: ____ µm Filtration Equipment Type: ____	DUPLICATE: Y N	

	SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
	SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1149	TOC								
1152	TDS								
1155	AMMONIA								
1157	METALS								
1158	ALKALINITY								
1200	ASC-B4597								
1204	METALS					FILTERED			

REMARKS: ORP -50
FERROUS 2.2

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2 optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

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Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SITE LOCATION:	
WELL NO: GW-8	SAMPLE ID:	DATE: 7/29/08

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 10.54	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (19.62 feet – 10.54 feet) X 0.16 gallons/foot = 1.45 gallon

15 x 0.0026 = 0.04 1.50

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallon

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe
13:33	0		0.11	10.54		STARTED					
1346	1.50	1.5	0.11	11.02	7.15	27.46	3625	0.74	55.2	OPAQUE	NONE
1351	0.55	2.05	0.11	10.99	7.12	27.53	3626	0.52	11.9	"	"
1356	0.55	2.60	0.11	11.03	7.10	27.60	3626	0.39	3.9	CLEAR	NONE

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: ____ µm Filtration Equipment Type: ____	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1357 TOC								
1400 AMMONIA								
1402 TDS								
1404 ALKALINITY								
1405 METALS								
1407 ASC-B-4585								
ORP					-96			

REMARKS: FERROUS 2.95

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2°C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2 optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

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DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

all depths below top of casing (BTC)

FACILITY NAME: Sarasota County CCSWDC		FACILITY LOCATION: Sarasota County Landfill	
MONITORING_SITE_NUM: GW-9	WACS_WELL: —		DATE: 7/30/08

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet	STATIC DEPTH TO WATER (feet): 10.71	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (20 feet – 10.71 feet) X 0.16 gallons/foot = 1.5 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0026 gallons/foot X 13.5 feet) + 0.2 gallons = 0.23 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 13.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 13.5	PURGING INITIATED AT: 1200	PURGING ENDED AT: 1310	TOTAL VOLUME PURGED (gallons): 7

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1220	2.0	2.0	0.1	11.26	6.27	27.16	1331	0.46	6.44	brown	none
1230	1	3.0	0.1	11.31	6.27	27.12	1331	0.42	7.55	↓	↓
1240	1	4.0	0.1	11.29	6.26	27.00	1327	0.38	4.65	↓	↓
1250	1	5.0	0.1	11.33	6.26	26.89	1327	0.34	4.44	↓	↓
1300	1	6.0	0.1	11.31	6.24	26.84	1324	0.36	4.34	↓	↓

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Brad Bayne / PBS&J	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1310	SAMPLING ENDED AT: 1315
PUMP OR TUBING DEPTH IN WELL (feet): 13.5	SAMPLE PUMP FLOW RATE (mL per minute): 125 ml/min	TUBING MATERIAL CODE: PP	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) Filtration Equipment Type: ____ FILTER SIZE: ____ µm	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
SEE CHAIN OF CUSTODY FOR						7/30/08		

REMARKS: ORP = -93 / Fe 2+ = 1.2 mg/l

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

all depths below top of casing (BTC)

FACILITY NAME: Sarasota County CCSWDC		FACILITY LOCATION: Sarasota County Landfill	
MONITORING_SITE_NUM: GW-10	WACS_WELL: —		DATE: 7/29/08

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet	STATIC DEPTH TO WATER (feet): 9.91	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
= (20 feet – 9.91 feet) X 0.16 gallons/foot = 1.61 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0026 gallons/foot X 13 feet) + 0.2 gallons = 0.23 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 13	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 13	PURGING INITIATED AT: 1023	PURGING ENDED AT: 1125	TOTAL VOLUME PURGED (gallons): 7.3

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1046	3.0	3.0	0.13	10.86	6.07	26.88	1303	1.75	7.93	clear	none
1055	1	4.0	0.11	10.90	6.09	26.89	1301	0.38	5.60		
1104	1	5.0	0.11	10.81	6.07	26.87	1302	0.37	4.58		
1113	1	6.0	0.11	10.86	6.04	26.81	1300	0.28	3.60		
1122	1	7.0	0.11	10.85	6.04	26.82	1300	0.26	4.60		

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Brad Bayne / PBS&J	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1125	SAMPLING ENDED AT: 1130
PUMP OR TUBING DEPTH IN WELL (feet): 13	SAMPLE PUMP FLOW RATE (mL per minute): 125 ml/m	TUBING MATERIAL CODE: PP	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) Filtration Equipment Type: ____ FILTER SIZE: ____ µm	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
SEE CHAIN OF CUSTODY FOR 7/29/08								

REMARKS: ORP = 0 / Fe 2+ = 2.0 mg/l

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

all depths below top of casing (BTC)

FACILITY NAME: Sarasota County CCSWDC		FACILITY LOCATION: Sarasota County Landfill	
MONITORING_SITE_NUM: GW-11	WACS_WELL: —		DATE: 7/28/08

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet	STATIC DEPTH TO WATER (feet): 7.73	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (20 feet – 7.73 feet) X 0.16 gallons/foot = 1.96 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0026 gallons/foot X 10.5 feet) + 0.2 gallons = 0.23 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 10.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 10.5	PURGING INITIATED AT: 1525	PURGING ENDED AT: 1645	TOTAL VOLUME PURGED (gallons): 7.0

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1553	2.5	2.5	0.09	8.33	6.61	26.25	1025	0.97	73.1	brown	slight
1605	1	3.5	0.08	8.41	6.52	26.37	978	0.28	46.4	↓	↓
1610	0.5	4.0	0.1	8.35	6.48	26.43	944	0.24	39.8		
1620	0.5	4.5	0.1	8.37	6.45	26.42	911	0.29	45.3		
1630	1	5.5	0.1	8.41	6.42	26.51	883	0.30	61.6		
1640	1	6.5	0.1	8.40	6.41	26.52	856	0.26	105.4		

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Brad Bayne / PBSJ	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 16:45	SAMPLING ENDED AT: 16:50
PUMP OR TUBING DEPTH IN WELL (feet): 10.5	SAMPLE PUMP FLOW RATE (mL per minute): 125 ml/m	TUBING MATERIAL CODE: PP	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: (Y) N FILTER SIZE: ____ µm Filtration Equipment Type: 1 Micron	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
SEE CHAIN OF CUSTODY FOR 7/28/08								

REMARKS: ORP = -81 / Fe^{2+} = 2.8 mg/l

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

0.57

SITE NAME:	SITE LOCATION:	
WELL NO: GW-12	SAMPLE ID:	DATE: 7/30/08

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 11.14	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (19.62 feet – 11.14 feet) X 0.16 gallons/foot = 1.36 gallon

16 x 0.0026 = 0.04 1.40

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallon

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe
1557			0.13	11.14	STARTED						
1607	1.40	1.40	0.13	11.59	6.55	27.27	1643	1.50	8.05	CLEAR	NONE
1612	0.65	2.05	0.13	11.64	6.42	27.10	1629	0.57	7.91	"	"
1617	0.65	2.70	0.13	11.69	6.38	26.91	1616	0.43	5.82	"	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: ____ µm Filtration Equipment Type: ____	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1610 TOC								PP
1622 TDS								
1624 AMMONIA								
1626 ALKALINITY								
1627 METALS								
1628 ASC-B-9404								
FERROUS Fe						3.70		

REMARKS: ORP -32

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2 optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

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DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

all depths below top of casing (BTC)

FACILITY NAME: Sarasota County CCSWDC		FACILITY LOCATION: Sarasota County Landfill	
MONITORING_SITE_NUM: GW-13	WACS_WELL: —		DATE: 7/30/08

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet	STATIC DEPTH TO WATER (feet): 8.82	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
= (20 feet – 8.82 feet) x 0.16 gallons/foot = 1.79 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0026 gallons/foot X 11 feet) + 0.2 gallons = 0.23 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 11	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 11	PURGING INITIATED AT: 1018	PURGING ENDED AT: 1130	TOTAL VOLUME PURGED (gallons): 8.0	

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1036	2.0	2.0	0.11	9.16	6.53	26.57	1413	1.95	32.8	brown	none
1045	1	3.0	0.11	9.24	6.47	26.77	1399	0.93	34.8		
1054	1	4.0	0.11	9.25	6.50	26.78	1392	0.42	12.2		
1103	1	5.0	0.11	9.23	6.48	26.62	1394	0.39	10.12		
1112	1	6.0	0.11	9.26	6.46	26.64	1391	0.38	9.53		
1121	1	7.0	0.11	9.24	6.46	26.68	1392	0.36	10.09		

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Brad Bayne / PBSTJ	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1130	SAMPLING ENDED AT: 1135
PUMP OR TUBING DEPTH IN WELL (feet): 11	SAMPLE PUMP FLOW RATE (mL per minute): 125 ml/m	TUBING MATERIAL CODE: PP	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: (Y) N Filtration Equipment Type: 1 micron; FILTER SIZE: ___ µm	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
SEE CHAIN OF CUSTODY FOR						7/30/08		

REMARKS: ORP = -110 / Fe 2+ = 1.8 mg/l

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

all depths below top of casing (BTC)

FACILITY NAME: Sarasota County CCSWDC		FACILITY LOCATION: Sarasota County Landfill	
MONITORING_SITE_NUM: GW-14	WACS_WELL: —		DATE: 7/30/08

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet	STATIC DEPTH TO WATER (feet): 8.24	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
= (20 feet – 8.24 feet) X 0.16 gallons/foot = 1.88 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0026 gallons/foot X 10.5 feet) + 0.2 gallons = 0.23 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 10.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 10.5	PURGING INITIATED AT: 850	PURGING ENDED AT: 1010	TOTAL VOLUME PURGED (gallons): 7.8

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
922	2.5	2.5	0.11	8.69	7.39	26.82	1502	1.95	9.52	clear	none
931	1	3.5	0.11	8.61	6.97	26.76	1525	1.90	5.16		
940	1	4.5	0.11	8.59	6.75	26.69	1583	1.41	3.90		
949	1	5.5	0.11	8.65	6.69	26.70	1608	1.10	3.10		
958	1	6.5	0.11	8.60	6.62	26.59	1774	0.42	3.51		
1007	1	7.5	0.11	8.61	6.61	26.59	1776	0.40	3.09	↓	↓

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Brad Bayne / PBSJ	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1010	SAMPLING ENDED AT: 1015
PUMP OR TUBING DEPTH IN WELL (feet): 10.5	SAMPLE PUMP FLOW RATE (mL per minute): 125 ml/m	TUBING MATERIAL CODE: PP	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) Filtration Equipment Type: ____ FILTER SIZE: ____ µm	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
SEE CHAIN OF CUSTODY FOR 7/30/08								

REMARKS: ORP = -98 / Ferrous = 1.2 mg/l

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

all depths below top of casing (BTC)

FACILITY NAME: Sarasota County CCSWDC		FACILITY LOCATION: Sarasota County Landfill	
MONITORING_SITE_NUM: GW-15	WACS_WELL: —		DATE: 7/29/08

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet	STATIC DEPTH TO WATER (feet): 9.61	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (20 feet – 9.61 feet) x 0.16 gallons/foot = 1.67 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0026 gallons/foot X 12.5 feet) + 0.2 gallons = 0.23 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 12.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 12.5	PURGING INITIATED AT: 1145	PURGING ENDED AT: 1300	TOTAL VOLUME PURGED (gallons): 7.5

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1205	2.0	2.0	0.1	10.5	6.60	29.61	3087	0.97	12.3	clear	none
1215	1	3.0	0.1	10.55	6.40	28.59	3047	0.68	3.36	↓	↓
1225	1	4.0	0.1	10.53	6.38	28.47	2928	0.18	2.63	↓	↓
1235	1	5.0	0.1	10.59	6.39	28.50	2927	0.16	3.15	↓	↓
1245	1	6.0	0.1	10.55	6.39	28.51	2928	0.15	2.34	↓	↓
1255	1	7.0	0.1	10.54	6.39	28.64	2927	0.13	2.23	↓	↓

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Brad Bayne / PBS&J	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1300	SAMPLING ENDED AT: 1305
PUMP OR TUBING DEPTH IN WELL (feet): 12.5	SAMPLE PUMP FLOW RATE (mL per minute): 125 ml/m	TUBING MATERIAL CODE: PP	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) Filtration Equipment Type: ____ FILTER SIZE: ____ µm	DUPLICATE: (Y) N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
SEE CHAIN OF CUSTODY FOR						7/29/08		

REMARKS: ORP = -76 / Fe^{2+} = 1.2

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

all depths below top of casing (BTC)

FACILITY NAME: Sarasota County CCSWDC		FACILITY LOCATION: Sarasota County Landfill	
MONITORING_SITE_NUM: GW-16	WACS_WELL: —		DATE: 7/29/08

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet	STATIC DEPTH TO WATER (feet): 9.85	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (20 feet – 9.85 feet) X 0.16 gallons/foot = 1.63 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0026 gallons/foot X 12.5 feet) + 0.2 gallons = 0.23 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 12.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 12.5	PURGING INITIATED AT: 900	PURGING ENDED AT: 945	TOTAL VOLUME PURGED (gallons): 7.5

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
9:15	2.5	2.5	0.17	10.31	6.57	27.25	1812	3.27	9.89	clear	none
9:20	0.8	3.3	0.17	10.40	6.52	27.36	1818	1.50	6.03	↓	↓
9:25	0.8	4.1	0.17	10.37	6.52	27.40	1823	1.13	3.58	↓	↓
9:30	0.8	4.9	0.17	10.35	6.52	27.52	1827	0.75	3.02	↓	↓
9:35	0.8	5.8	0.17	10.35	6.53	27.57	1830	0.60	2.98	↓	↓

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Brad Bayne / PBSTJ	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 945	SAMPLING ENDED AT: 950
PUMP OR TUBING DEPTH IN WELL (feet): 12.5	SAMPLE PUMP FLOW RATE (mL per minute): 125 ml/m	TUBING MATERIAL CODE: PP	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type: ____	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
SEE	CHAIN	OF	CUSTODY	FOR	7/29/08			

REMARKS: ORP = –86 / Fe^{2+} = 2.6 mg/L

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

FACILITY NAME: Sarasota County CCSWDC		FACILITY LOCATION: Sarasota County Landfill	
MONITORING_SITE_NUM: DGW-1	WACS_WELL: —		DATE: 7/28/08

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 20 feet to 25 feet	STATIC DEPTH TO WATER (feet): 11.67	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
= (25 feet – 11.67 feet) X 0.16 gallons/foot = 2.13 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0026 gallons/foot X 13 feet) + 0.2 gallons = 0.23 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 13	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 24.5	PURGING INITIATED AT: 1313	PURGING ENDED AT: 1420	TOTAL VOLUME PURGED (gallons): 4.0

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
y 1350	2.8	2.8	0.07	24.72	7.26	26.04	4155	3.00	12.7	clear	none
y 1407	0.4	3.2	0.07	24.80	7.25	26.50	4150	1.41	509	↓	↓
		well went Dry Twice									
		Turbidity got below 10 NTU for the metals sample									

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Brad Bayne / PBSJ	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1420	SAMPLING ENDED AT: 1435
PUMP OR TUBING DEPTH IN WELL (feet): 24.5	SAMPLE PUMP FLOW RATE (mL per minute): 50 ml/m	TUBING MATERIAL CODE: PP	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
SEE CHAIN OF CUSTODY FOR 7/28/08								

REMARKS: ORP = +125 / Fe^{2+} = 0.05 mg/l

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

FACILITY NAME: Sarasota County CCSWDC		FACILITY LOCATION: Sarasota County Landfill	
MONITORING_SITE_NUM: DGW-2	WACS_WELL: —		DATE: 7/29/08

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 20 feet to 25 feet	STATIC DEPTH TO WATER (feet): 10.61	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
= (25 feet – 10.61 feet) X 0.16 gallons/foot = 2.30 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0026 gallons/foot X 16.5 feet) + 0.2 gallons = 0.23 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 16.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 16.5	PURGING INITIATED AT: 1320	PURGING ENDED AT: 1510	TOTAL VOLUME PURGED (gallons): 10.8

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1342	2.0	2.0	0.09	15.28	6.94	26.26	1682	4.04	13.2	clear	none
1402	2.0	4.0	0.10	15.30	6.92	26.42	1691	4.53	4.61		
1422	2.0	6.0	0.10	14.78	6.81	26.17	1683	0.93	2.91		
1442	2.0	8.0	0.10	14.59	6.79	26.17	1671	0.55	2.36		
1452	1	9.0	0.10	14.60	6.76	26.15	1659	0.41	2.59		
1502	1	10.0	0.10	14.55	6.73	26.11	1652	0.39	2.37		

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Brad Bayne / PBS&J	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1510	SAMPLING ENDED AT: 1515
PUMP OR TUBING DEPTH IN WELL (feet): 16.5	SAMPLE PUMP FLOW RATE (mL per minute): 125 ml/m	TUBING MATERIAL CODE: PP	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
SEE CHAIN OF CUSTODY FOR						7/29/08		

REMARKS: ORP = –98 / Fe^{2+} = 2.4

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SITE LOCATION:

WELL NO: DGW-3	SAMPLE ID:	DATE: 7/30/08

1.67
2.28
0.093

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 13.25	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (24.80 feet – 13.25 feet) X 0.16 gallons/foot = 1.85 gallon

18 x 0.0026 = 0.05 1.9

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallon

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1432	0	0	0.09	13.25		STARTED					
1453	1.90	1.90	0.09	17.00	7.03	27.23	840	0.53	87.4	OPAQUE	NONE
1458	0.45	2.35	0.09	17.09	6.95	27.25	824	0.39	40.3	"	"
1503	0.45	2.80	0.09	17.28	7.04	27.30	815	0.36	27.3	[illegible]	"
1508	0.45	3.25	0.09	17.38	7.08	27.09	813	0.34	30.7	"	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL. ADDED IN FIELD (mL)	FINAL pH		
1508 TOC								
1514 TDS								
1517 AMMONIA								
1519 ALKALINITY								
1521 METALS								
1523 AGC-B-4556								
1526 METAL					FILTERED			
1509 FERROUS								

REMARKS: 8121 -119 3

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2 optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

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Form FD 9000-24

GROUNDWATER SAMPLING LOG

1.13

SITE NAME:	SITE LOCATION:
WELL NO: DGW-4	SAMPLE ID:	DATE: 7/30/08

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 14.40	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (24.70 feet – 14.40 feet) X 0.16 gallons/foot = 1.65 gallon

18 X 0.0026 = 0.05

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallon

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe
941	0			14.40		STARTED					
1007	1.70	1.7	0.073	19.19	7.32	28.16	1552	1.86	59.4	OPAQUE	NONE
1012	0.37	2.07	0.073	19.59	7.24	27.80	1591	1.36	21.8	"	"
1017	0.37	2.44	0.073	19.92	7.19	27.99	1593	1.65	13.2	"	"
1022	0.37	2.81	0.073	20.24	7.17	27.82	1608	1.34	13.2	CLEAR	"
			0.073	20.44	7.16	27.79	1614	1.54	20.8	"	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y N	

	SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
	SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL. ADDED IN FIELD (mL)	FINAL pH		
1025	TOC								
1030	AMMONIA				H_2SO_4				
1038	TDS								
1042	METALS				NITRIC				
1044	ALKALINITY								
1048	ASCB-9602								
1050	METALS					FILTERED			

REMARKS:
ORP -99
FERROUS 3.25

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2 optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: SARASOTA CUTL CSWDC	SITE LOCATION:
WELL NO: WETLAND TEMP WELL #1	SAMPLE ID: Temp well #1	DATE: 4/9/09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: 6.5 feet to 9.5 feet	STATIC DEPTH TO WATER (feet): 6.8	PURGE PUMP TYPE OR BAILER: AP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
= (9.5 feet – 6.8 feet) X .2 gallons/foot = .6 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + .1 gallons = .7 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 9	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 9	PURGING INITIATED AT: 1505	PURGING ENDED AT: 1515	TOTAL VOLUME PURGED (gallons): 5 GAL

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1505	12.8	9	0.54	7.0	6.88	22.7	1950	1.71	21.9	NONE	NONE
1510	12.9	9.1	"	"	"	22.9	1955	1.85	19.2	"	"
1515	13..	9.2	"	"	6.89	22.9	1959	1.88	19.54	"	"
					Fe^{2+} = 1.0 mg/L						
					ORP = -96.2						

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GARY NIBS/PBSS	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1515	SAMPLING ENDED AT: 1520
PUMP OR TUBING DEPTH IN WELL (feet): 9	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
		SOIL - 2' BLS - AS & Fe BY 6010						
		WATER - SAME ANALYSIS						

REMARKS:
* MEASURED W/ HACH TURBIDIMETER

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

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Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: SARASOTA COUNTY CLSWDC	SITE LOCATION:
WELL NO: WETLAND TEMP WELL #2	SAMPLE ID: Temp Well #2	DATE: 4/9/09

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: 2.5 feet to 7.5 feet	STATIC DEPTH TO WATER (feet) 6.2	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
= (7.5 feet – 6.2 feet) X .2 gallons/foot = .5 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + .1 gallons = .4 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 7.	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 7	PURGING INITIATED AT: 1500	PURGING ENDED AT: 1630	TOTAL VOLUME PURGED (gallons): 5 GAL

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1620	12.0	4.8	2/GPM		5.50	22.71	243	1.69	161	GRAY	NONE
1625	12.1	4.9	"		5.49	22.76	242	1.71	158	"	"
1630	12.2	5.0	"		5.50	22.78	244	1.74	156*	"	"
						ORP = -55.3					
						Fe^{2+} = 2.0 Mg/L					

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GREG MCNAB / PBSJ	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1630	SAMPLING ENDED AT: 1635
PUMP OR TUBING DEPTH IN WELL (feet): 7	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: (Y) (N) Filtration Equipment Type: FILTER SIZE: 1 µm	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
		SOIL - 2' BLS			AS & Fe BY 6010			
		WATER - SAME ANALYSIS						

REMARKS:
* MEASURED W/ HOIT YSI 556 METER.

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

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all depths below top of casing (BTOC)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sarasota County CCSWDC		SITE LOCATION: Sarasota County Landfill	
WELL NO: GW-9	SAMPLE ID: GW-9		DATE: 4/16/09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet	STATIC DEPTH TO WATER (feet): 11.72	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (20 feet – 11.72 feet) X 0.16 gallons/foot = 1.32 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0026 gallons/foot X 14 feet) + 0.1 gallons = 0.14 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 14	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 14	PURGING INITIATED AT: 10:20	PURGING ENDED AT: 11:02	TOTAL VOLUME PURGED (gallons): 4.6

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
10:36	2	2	0.125	12.87	6.28	22.54	1911	2.36	65.3	Lt Brn	None
10:46	1	3	0.1	12.84	6.33	22.45	1911	2.01	37.8	↓	↓
10:50	0.4	3.4	0.1	12.81	6.25	22.38	1910	1.32	27.1	↓	↓
10:53	0.3	3.7	0.1	12.89	6.2	22.41	1909	1.22	25.9	↓	↓
10:56	0.3	4.0	0.1	12.85	6.2	22.52	1904	1.14	11.8	Clear	↓
10:59	0.3	4.3	0.1	12.87	6.24	22.62	1906	1.01	9.06	↓	↓
11:02	0.3	4.6	0.1	12.84	6.24	22.55	1904	0.99	9.16	↓	↓

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Brad Bayne / PBS+J	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 11:02	SAMPLING ENDED AT: 11:20
PUMP OR TUBING DEPTH IN WELL (feet): 14	TUBING MATERIAL CODE: PP	FIELD-FILTERED: (Y) N Filtration Equipment Type:	FILTER SIZE: 1 µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
GW-9	1	PE	250 ml	Nitric	—	—	As + Fe	APP	100
↓	1	PE	500 ml	Sulfuric	—	—	Ammonia	APP	100
↓	1	PE	500 ml	None	—	—	TDS	APP	100
↓	1	PE	250 ml	Nitric	—	—	As + Fe*	APP	100
							* = Filtered		

REMARKS: ORP = −93.4 / Fe^{2+} = 3.0 mg/l

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

all depths below top of casing (BTOC)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sarasota County CCSWDC		SITE LOCATION: Sarasota County Landfill	
WELL NO: GW-12	SAMPLE ID: GW-12		DATE: 4/16/09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet	STATIC DEPTH TO WATER (feet): 12.27	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (20 feet – 12.27 feet) X 0.16 gallons/foot = 1.24 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0026 gallons/foot X 15 feet) + 0.1 gallons = 0.14 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 15	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15	PURGING INITIATED AT: 9:00	PURGING ENDED AT: 9:45	TOTAL VOLUME PURGED (gallons): 4.9

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
9:16	2	2	0.125	12.82	6.02	22.18	1112	2.2	7.90	Brown	None
9:26	1	3	0.1	12.84	6.01	22.24	1115	2.37	7.20	↓	↓
9:30	0.4	3.4	0.1	12.87	6.01	22.26	1114	1.83	8.72	↓	↓
9:33	0.3	3.7	0.1	12.81	6.00	22.27	1111	1.72	9.02	Lt Brn	↓
9:36	0.3	4.0	0.1	12.86	5.99	22.22	1107	1.59	8.64	↓	↓
9:39	0.3	4.3	0.1	12.87	5.99	22.21	1106	1.57	7.52	↓	↓
9:42	0.3	4.6	0.1	12.84	5.98	22.22	1105	1.48	7.67	↓	↓

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Brad Bayne / PBS+J	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 9:45	SAMPLING ENDED AT: 10:00
PUMP OR TUBING DEPTH IN WELL (feet): 15	TUBING MATERIAL CODE: PP	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N replaced) DUPLICATE: (Y) N

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
GW-12	1	PE	250	Nitric	—	—	Fe + As	APP	100
↓	1	PE	500	Sulfuric	—	—	Ammonia	APP	100
↓	1	PE	500	None	—	—	TDS	APP	100

REMARKS: ORP = −158.7 / Fe^{2+} = 1.4 mg/l

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

all depths below top of casing (BTOC)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sarasota County CCSWDC	SITE LOCATION: Sarasota County Landfill	
WELL NO: GW-13	SAMPLE ID: GW-13	DATE: 4/15/09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet	STATIC DEPTH TO WATER (feet): 10.34	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (20 feet – 10.34 feet) X 0.16 gallons/foot = 1.55 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0026 gallons/foot X 13 feet) + 0.1 gallons = 0.14 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 13	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 13	PURGING INITIATED AT: 10:00	PURGING ENDED AT: 10:40	TOTAL VOLUME PURGED (gallons): 4.4

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
10:16	2	2	0.125	10.95	6.40	22.34	1555	1.5	3.87	Slt Yell	None
10:26	1	3	0.1	10.88	6.38	22.34	1560	1.47	5.61	Clear	↓
10:30	0.4	3.4	0.1	10.90	6.37	22.35	1558	1.35	3.20	↓	↓
10:33	0.3	3.7	0.1	10.83	6.36	22.38	1558	1.30	2.48	↓	↓
10:36	0.3	4.0	0.1	10.87	6.35	22.42	1559	1.25	2.62	↓	↓
10:39	0.3	4.3	0.1	10.88	6.34	22.43	1559	1.24	2.80	↓	↓

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Brad Bayne / PBSJ	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 10:40	SAMPLING ENDED AT: 10:55
PUMP OR TUBING DEPTH IN WELL (feet): 13	TUBING MATERIAL CODE: PP	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
GW-13	1	PE	250 ml	Nitric	—	—	Fe + As	APP	100
↓	1	PE	500 ml	Sulfuric	—	—	Ammonia	APP	100
↓	1	PE	500 ml	None	—	—	TDS	APP	100

REMARKS: ORP = −105.1 / Fe^{2+} = 2.6 mg/l

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

all depths below top of casing (BTOC)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sarasota County CCSWDC		SITE LOCATION: Sarasota County Landfill	
WELL NO: GW-27	SAMPLE ID: GW-27		DATE: 4/15/09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet	STATIC DEPTH TO WATER (feet): 11.17	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (20 feet – 11.17 feet) X 0.16 gallons/foot = 1.41 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0026 gallons/foot X 14 feet) + 0.1 gallons = 0.14 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 14	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 14	PURGING INITIATED AT: 11:40	PURGING ENDED AT: 12:22	TOTAL VOLUME PURGED (gallons): 4.6

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
11:56	2.0	2.0	0.125	11.87	5.56	22.76	736	2.2	35.6	Brown	None
12:06	1	3	0.1	11.96	5.52	22.76	759	2.42	27.2	Lt Brn	
12:10	0.4	3.4	0.1	11.97	5.43	22.78	753	2.17	23.4		
12:13	0.3	3.7	0.1	11.93	5.42	22.79	752	2.1	22.3		
12:16	0.3	4.0	0.1	11.95	5.39	22.82	749	2.02	21.2		
12:19	0.3	4.3	0.1	11.94	5.39	22.79	748	1.99	20.9		
12:22	0.3	4.6	0.1	11.96	5.39	22.77	750	1.92	20.1		

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Brad Bayne / PBS+J	SAMPLER(S) SIGNATURE(S): Brad J Bayne	SAMPLING INITIATED AT: 12:22	SAMPLING ENDED AT: 12:35
PUMP OR TUBING DEPTH IN WELL (feet): 14	TUBING MATERIAL CODE: PP	FIELD-FILTERED: (Y) N Filtration Equipment Type:	FILTER SIZE: 1 µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
GW-27	1	PE	250ml	Nitric	—	—	Fe + As	APP	100
	1	PE	500 ml	Sulfuric	—	—	Ammonia	APP	100
	1	PE	500 ml	None	—	—	TDS	APP	100
	1	PE	250ml	Nitric	—	—	Fe + As*	APP	100
							* = Filtered		

REMARKS: ORP = 6.4 / Fe^{2+} = 1.0 mg/l

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: SARASOTA COUNTY CLSWDX		SITE LOCATION:	
WELL NO: GW-28	SAMPLE ID: GW-28		DATE: 4/15/09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 14.05	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
= (21.9 feet – 14.05 feet) X .2 gallons/foot = 1.4 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
.15 = gallons + (gallons/foot X feet) + .1 gallons = 1.5 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 15	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15	PURGING INITIATED AT: 1100	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	~~PURGE RATE (gpm)~~ LPM	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1145	1	1.5	.13	14.15	5.53	24.1	1.62	1.15	410	NONE	NONE
1150	1.1	1.6	"	"	5.58	23.8	1.62	1.25	410	"	"
	1.2	1.7	"	"	5.61	23.7	1.81	1.13	9.04	"	"
				Fe 2+ = 1.1 mg/L							
				ORP = -185.6							

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GREG MIDD PBSJ	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1205	SAMPLING ENDED AT: 1210
PUMP OR TUBING DEPTH IN WELL (feet): 15	SAMPLE PUMP FLOW RATE (mL per minute): 130	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) Filtration Equipment Type: FILTER SIZE: ____ µm	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
	1	PE	500mL	–	–	–	TDS	
	2	PE	500mL	H_2SO_4	–	–	AMMONIA	
	3	PE	250mL	NITHIC	–	–	COLO (Fe+As)	

REMARKS:
3.5' PE STICKUP * MEASURED W/HACH TURBIDIMETER

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: SANFORD CUTY CLSNDC	SITE LOCATION:	
WELL NO: GW-29	SAMPLE ID: GW-29	DATE: 4/15/09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 11.39	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
= (19.9 feet – 11.9 feet) X .2 gallons/foot = 1.6 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + .1 gallons = 1.7 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 15	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15	PURGING INITIATED AT: 1445	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE ~~(gpm)~~ LPM	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1540	1	1.7	.1	12.2	6.33	25.46	1.055	1.50	410	NONE	NONE
1545	1.1	1.8	"	"	6.33	25.3	1.08	1.20	410	"	"
1550	1.2	1.9	"	"	6.32	25.2	1.08	1.16	7.9*	"	"
				Fe2+ = 0.6 mg/L							
				ORP = +36.7							

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GREG MUSS	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1550	SAMPLING ENDED AT: 1600
PUMP OR TUBING DEPTH IN WELL (feet): 15	SAMPLE PUMP FLOW RATE (mL per minute): 130	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) Filtration Equipment Type: FILTER SIZE: ____ µm	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
GW-29	1	PE	500ML	-	-	-	TDS	
	2	PE	500ML	H2SO4	-	-	AMMONIA	
	3	PE	500ML	NITRIC	-	-	6010 (AS+FE)	

REMARKS:
5.2' OF STICKUP. * MEASURED W/HACH TURBIDIMETER

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sarasota County CCSWDC		SITE LOCATION: Sarasota County Landfill	
WELL NO: GW-30	SAMPLE ID: GW-30		DATE: 4/15/09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 8 feet to 18 feet	STATIC DEPTH TO WATER (feet): 9.78	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (18 feet – 9.78 feet) X 0.16 gallons/foot = 1.32 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0026 gallons/foot X 18 feet) + 0.1 gallons = 0.15 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 12	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18	PURGING INITIATED AT: 13:14	PURGING ENDED AT: 14:04	TOTAL VOLUME PURGED (gallons): 3.7

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
13:30	2	2	0.125	DRY	—	—	—	—	—	—	—
13:40	0.5	2.5	0.05	17.72	7.69	23.61	1122	5.30	94.4	Beige	None
13:50	0.5	3.0	0.05	DRY	—	—	—	—	—	—	—
13:53	0.15	3.15	0.05	17.96	7.63	24.09	1124	5.55	182	Beige	None
13:56	0.15	3.3	0.05	DRY	—	—	—	—	—	—	—
13:59	0.15	3.45	0.05	DRY	—	—	—	—	—	—	—
14:01	0.1	3.55	0.05	17.92	7.77	24.01	1107	5.69	189	Beige	None
14:04	0.15	3.70	0.05	DRY	7.77	24.19	1128	5.59	185	↓	↓

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Brad Bayne / PBS+J	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 14:04	SAMPLING ENDED AT: 14:34
PUMP OR TUBING DEPTH IN WELL (feet): 18	TUBING MATERIAL CODE: PP	FIELD-FILTERED: (Y) N Filtration Equipment Type:	FILTER SIZE: 1 µm

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N replaced) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
GW-30	1	PE	250	Nitric	—	—	Fe + As	APP	50
↓	1	PE	500	Sulfuric	—	—	Ammonia	APP	50
	1	PE	500	None	—	—	TDS	APP	50
	1	PE	250	Nitric	—	—	Fe + As *	APP	50
							* = Filtered		

REMARKS: ORP = −49.5 / Fe^{2+} = 0.4 mg/l

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Note: This well went dry during development also.

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: SARASOTA COUNTY CCSWDC	SITE LOCATION:	
WELL NO: GW-31	SAMPLE ID: GW-31	DATE: 4/15/09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
= (18.0 feet – 9.05 feet) X .2 gallons/foot = 1.8 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + .1 gallons = 1.9 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 13	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 13	PURGING INITIATED AT: 1255	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	~~PURGE RATE (gpm)~~ LPM	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1250	1.0	1.9	.1	9.18	5.90	22.9	0.99	1.05	40	NONE	NONE
1255	1.1	2.0	"	"	6.05	23.1	1.08	1.17	40	"	"
1300	1.2	2.1	"	"	6.09	23.2	1.10	1.02	10.7*	"	"
1305	1.3	2.2	"	"	6.12	23.2	1.11	0.95	–	"	"
			Fe II = 8.8 mg/L								
			ORP = -99.0								

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GREG MUDD	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1310	SAMPLING ENDED AT: 1320
PUMP OR TUBING DEPTH IN WELL (feet): 13	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
GW-31	1	PE	500 ML	–	–	–	TDS	
	2	PE	500ML	H_2SO_4	–	–	AMMONIA	
	3	PE	250ML	NITRIC	–	–	6010 (AS+Fe)	

REMARKS: 4.5' OF STICK-UP. * MEASURED BY HACH TURBIDIMETER

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

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DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

FACILITY NAME: SARASOTA CITY CENTER	FACILITY LOCATION:
MONITORING WELL NUM: GW-10	SAMPLE ID: GW-10 / DATE: 4/23/09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 12.85	PURGE PUMP TYPE OR BAILER: PD

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (19.8 feet – 12.85 feet) X .2 gallons/foot = 1.5 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + .1 gallons = 1.6 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 15	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15	PURGING INITIATED AT: 1040	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons): 1.2

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1130	1	1.6	.03	12.48	6.29	26.3	1.28	0.24	6.69	None	None
1135	1.1	1.7	"	"	6.30	26.3	1.26	0.17	6.01	"	"
1140	1.2	1.8	"	"	6.30	26.4	1.28	0.15	5.14 *	"	"
				ORP = -77.3							
				Fe2+ = .8 mg/L							

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GREG MUDS	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1145	SAMPLING ENDED AT: 1125
PUMP OR TUBING DEPTH IN WELL (feet): 15	SAMPLE PUMP FLOW RATE (mL per minute): 300	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
			AS	AT	GW-17			
	AS SPECIATION LAB # = ASC-B-6892							

REMARKS:
STICKUP = 4.5'. * MEASURED W/ HACH TURBIDIMETER

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

FACILITY NAME: I	CCSWDC	FACILITY LOCATION:	
MONITORING WELL NUM: GW-11	SAMPLE ID: GW-11		DATE: 4/22/09

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 9.00	PURGE PUMP TYPE OR BAILER: BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (19.11 feet – 9 feet) X .2 gallons/foot = 2.0 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + .1 gallons = 2.1 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 13	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 13	PURGING INITIATED AT: 1230	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1300	1.4	3	.1	9.25					137		
1315	2.8	4.5	"	"					120		
1330	4.2	6	"	"	6.27	25.0	.865	0.22	63.5	NONE	NONE
1335			"	"	6.27	25.0	.864	0.18	49.1		
1340			"	"	6.27	25.0	.863	0.2	44.6		
~~1345~~									47.1		
				ORP = 55.3							
				FCR = 2.0 NONE							

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GREG MUDD	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1345	SAMPLING ENDED AT: 1355
PUMP OR TUBING DEPTH IN WELL (feet): 13	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: (Y) N FILTER SIZE: 1 µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
			AS	AT	GW-17	PHVS:		
	5	250mL	PE		–	–	6010- FILTERED	
	CHAD TO			FILTER	BECAUSE		TURBIDITY	
			LEVELS		OFF)			

REMARKS:
STICKUP = 4.7'. * MEASURED W/ HACH TURBIDIMETER. AS SPECIATION LAB # = ASC-B-6899

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

FACILITY NAME: SARASOTA SOUTH CLSMDC	FACILITY LOCATION:	
MONITORING WELL NUM: GW-19	SAMPLE ID: GW-19	DATE: 4/22/09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 10.6	PURGE PUMP TYPE OR BAILER: AP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
= (19.8 feet – 10.6 feet) X .5 gallons/foot = 2 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + .1 gallons = 2.1 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 14	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 14	PURGING INITIATED AT: 1210	PURGING ENDED AT: 1310	TOTAL VOLUME PURGED (gallons): 2.3

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1300	1	2.1	604	10.7	6.57	26.9	2.37	0.12	10.7	NONE	NONE
1305	1.1	2.2	"	"	6.55	26.7	2.38	0.24		"	"
1310	1.2	2.3	"	"	6.53	26.7	2.38	0.25	8.42	"	"
					ORP = -84.6						
					Fe 2+ = 2.2 mg/L						

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: SHEG MVAS	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1315	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet): 14	SAMPLE PUMP FLOW RATE (mL per minute): 400	TUBING MATERIAL CODE:	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
			AS AT GW-17, PLUS:					
	1	PE	250mL	–	–	–	NITRATE/SULFATE	
	1	PE	250mL	–	–	–	ALKALINITY	
	1	PE	250mL	–	–	–	TDS	
	1	PE	250mL	–	–	–	NA, MN, BA, CO	

REMARKS: * MEASURED W/HACH TURBIDIMETER.
STICKUP = 4'6". AS SPECIATION LAB # = ASC-B-6608

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

all depths BTOC

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sarasota County CCSWDC		SITE LOCATION: Sarasota County Landfill	
WELL NO: GW-15	SAMPLE ID: GW-15		DATE: 4/23/09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet	STATIC DEPTH TO WATER (feet): 11.08	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (20 feet – 11.08 feet) X 0.16 gallons/foot = 1.43 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0026 gallons/foot X 15 feet) + 0.1 gallons = 0.14 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 15	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15	PURGING INITIATED AT: 8:55	PURGING ENDED AT: 9:41	TOTAL VOLUME PURGED (gallons): 4.8

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
9:11	2	2	0.125	12.97	6.63	23.79	2738	1.80	2.30	Clear	None
9:21	1	3	0.1	13.12	6.73	23.93	2737	1.72	7.20	↓	↓
9:25	0.36	3.36	0.09	13.23	6.71	23.81	2747	1.59	6.3	↓	↓
9:29	0.36	3.72	0.09	13.32	6.65	23.87	2754	1.34	9.1	↓	↓
9:32	0.27	3.99	0.09	13.30	6.63	23.99	2754	1.32	7.8	↓	↓
9:35	0.27	4.26	0.09	13.32	6.63	23.98	2754	1.31	7.5	↓	↓
9:38	0.27	4.53	0.09	13.31	6.63	23.99	2757	1.30	7.7	↓	↓
9:41	0.27	4.80	0.09	13.30	6.63	24.09	2757	1.30	8.1	↓	↓

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Brad Bayne / PBS+J	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 9:41	SAMPLING ENDED AT: 10:15
PUMP OR TUBING DEPTH IN WELL (feet): 15	TUBING MATERIAL CODE: PP	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N replaced)	DUPLICATE: (Y) N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
								APP	2 150
								↓	↓
See Chain of Custody for 4/23/09									

REMARKS: ORP = -122.8 / Fe^{2+} = 3.5

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

all depths BTOC

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sarasota County CCSWDC		SITE LOCATION: Sarasota County Landfill	
WELL NO: GW-16	SAMPLE ID: GW-16		DATE: 4/23/09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet	STATIC DEPTH TO WATER (feet): 11.39	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (20 feet – 11.39 feet) X 0.16 gallons/foot = 1.38 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0026 gallons/foot X 14 feet) + 0.1 gallons = 0.14 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 14	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 14	PURGING INITIATED AT: 11:05	PURGING ENDED AT: 11:48	TOTAL VOLUME PURGED (gallons): 4.6

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
11:21	2	2	0.125	11.84	6.85	24.21	1675	1.67	0.65	Clear	None
11:31	1	3	0.1	11.88	6.64	24.36	1673	1.25	0.25	↓	↓
11:35	0.4	3.4	0.1	11.89	6.62	24.39	1674	1.23	0.85	↓	↓
11:38	0.3	3.7	0.1	11.90	6.61	24.40	1674	1.13	1.1	↓	↓
11:42	0.3	4.0	0.1	11.88	6.60	24.41	1675	1.09	0.8	↓	↓
11:45	0.3	4.3	0.1	11.89	6.62	24.26	1671	0.87	0.9	↓	↓
11:48	0.3	4.6	0.1	11.88	6.62	24.26	1671	0.86	0.85	↓	↓

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Brad Bayne / PBS&J	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 11:48	SAMPLING ENDED AT: 12:30
PUMP OR TUBING DEPTH IN WELL (feet): 14	TUBING MATERIAL CODE: PP	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N replaced) DUPLICATE: (Y) N

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
								APP	2 150
								↓	↓
See Chain of Custody for 4/23/09									

REMARKS: ORP = -132.4 / Fe^{2+} = 2.8

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

FACILITY NAME: SANFORD CITY CLEANERS	FACILITY LOCATION:	
MONITORING WELL NUM: GW-17	SAMPLE ID: GW-17	DATE: 4/22/09

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 9.42	PURGE PUMP TYPE OR BAILER: BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (17.80 feet – 9.42 feet) X .2 gallons/foot = 1.7 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + .1 gallons = .8 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 13	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 13	PURGING INITIATED AT: 1055	PURGING ENDED AT: 1205	TOTAL VOLUME PURGED (gallons): 7.2

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1115	1	1.8	1.3	9.41					45		
1135	2	3.6	"	"					39.1		
1145	2.5	4.5	"	"					34.1		
1155	3	5.4	"	"	6.83	25.41	1.69	0.2	16.5	None	None
1200	3.5	6.3			6.81	25.37	1.69	0.2	12.3		
1205	4	7.7			6.80	25.4	1.69	0.2	9.8*		
				Fe II =	1.4 mg/L						
				ORP =	-36.7						

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GES MUNDAPATT	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1210	SAMPLING ENDED AT: 1220
PUMP OR TUBING DEPTH IN WELL (feet): 13	SAMPLE PUMP FLOW RATE (mL per minute): 130	TUBING MATERIAL CODE:	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
	1	PE	250ML	NITRIC	-	-	6010 (AS+Fe)	
	1	PE	50ML	H2SO4	-	-	AMMONIA	
	1	PE	500ML	-	-	-	TDS	
	1	PE	100ML	-	-	-	AS SPECIATION	

REMARKS:
STICKUP = 4.95', ± MEASURED w/ NACH METER. ARSENIC SPECIATION SAMPLE # AGL-B-6901

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sarasota County CCSWDC		SITE LOCATION: Sarasota County Landfill	
WELL NO: GW-18	SAMPLE ID: GW-18		DATE: 4/22/09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet	STATIC DEPTH TO WATER (feet): 11.83	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (20 feet – 11.83 feet) X 0.16 gallons/foot = 1.31 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0026 gallons/foot X 14 feet) + 0.1 gallons = 0.14 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 14	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 14	PURGING INITIATED AT: 8:55	PURGING ENDED AT: 9:37	TOTAL VOLUME PURGED (gallons): 4.6

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
9:11	2	2	0.125	12.40	6.25	23.16	1053	1.89	3.65	Yellow	None
9:21	1	3	0.1	12.42	6.41	23.28	1092	1.73	2.31	Lt. Yell	↓
9:25	0.4	3.4	0.1	12.48	6.32	23.27	1093	1.62	2.22	↓	↓
9:28	0.3	3.7	0.1	12.49	6.22	23.37	1094	1.58	2.29	↓	↓
9:31	0.3	4.0	0.1	12.45	6.20	23.38	1097	1.43	2.69	↓	↓
9:34	0.3	4.3	0.1	12.42	6.20	23.41	1100	1.36	1.91	↓	↓
9:37	0.3	4.6	0.1	12.43	6.23	23.48	1105	1.27	2.22	↓	↓

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Brad Bayne / PBSJ	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 9:37	SAMPLING ENDED AT: 9:45
PUMP OR TUBING DEPTH IN WELL (feet): 14	TUBING MATERIAL CODE: PP	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
								APP	200
								↓	↓
See chain of custody for 4/22/09									

REMARKS: ORP = -105.3 / Fe^{2+} = 2.1

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

FACILITY NAME: I	FACILITY LOCATION:	
MONITORING WELL NUM: GW-19	SAMPLE ID: GW-19	DATE: 3/1/22/05

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 8.23	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
= (16.75 feet – 8.23 feet) X .2 gallons/foot = 1.8 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + .1 gallons = 1.9 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 11	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 11	PURGING INITIATED AT: 1410	PURGING ENDED AT: 1505	TOTAL VOLUME PURGED (gallons): 2.1

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1455	1	1.9	.08	8.41	6.70	26.6	1.38	0.61	6.71 *	NONE	NONE
1500	1.1	2.0	"	"	6.69	26.5	"	0.48	5.36 *	"	"
1505	1.2	2.1	"	"	6.67	26.5	"	0.40	4.49 *	"	"
						ORP	= -61.3				
						Fe^{2+}	= 2.4 mg/L				

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GHG MWD	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1510	SAMPLING ENDED AT: 1520
PUMP OR TUBING DEPTH IN WELL (feet): 11	SAMPLE PUMP FLOW RATE (mL per minute): 800	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
				AS AT	GW-17			

REMARKS: STICKUP = 4.41
* MEASURED W/WQ. TURBIDIMETER. AS SPECIATION LAB # = ASC-B-5813

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

all depths BTOC
(2 ft stick up)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sarasota County CCSWDC	SITE LOCATION: Sarasota County Landfill	
WELL NO: GW-20	SAMPLE ID: GW-20	DATE: 4/22/09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 12 feet to 22 feet	STATIC DEPTH TO WATER (feet): 12.87	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (22 feet – 12.87 feet) X 0.16 gallons/foot = 1.46 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0026 gallons/foot X 16 feet) + 0.1 gallons = 0.14 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 16	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 16	PURGING INITIATED AT: 14:55	PURGING ENDED AT: 15:51	TOTAL VOLUME PURGED (gallons): 5.07

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
15:17	2	2	0.09	14.04	7.24	25.68	1447	0.65	20	Clear	None
15:28	1	3	0.09	14.03	6.99	25.51	1459	0.81	36		
15:32	0.36	3.36	0.09	14.02	6.96	25.45	1457	0.58	16		
15:36	0.36	3.72	0.09	13.97	6.90	25.46	1460	0.51	17		
15:39	0.27	3.99	0.09	13.98	6.87	25.49	14.65	0.47	7.1		
15:42	0.27	4.26	0.09	13.99	6.88	25.59	1466	0.45	8.0		
15:45	0.27	4.53	0.09	13.98	6.87	25.60	1468	0.39	4.4		
15:48	0.27	4.8	0.09	13.97	6.86	25.49	1468	0.36	8.8		
15:51	0.27	5.07	0.09	13.97	6.86	25.53	1466	0.28	9.0		

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Brad Bayne / PBSJ	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 15:51	SAMPLING ENDED AT: 16:21
PUMP OR TUBING DEPTH IN WELL (feet): 16	TUBING MATERIAL CODE: PP	FIELD-FILTERED: (Y) N Filtration Equipment Type:	FILTER SIZE: 1 µm

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N) (replaced) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
								APP	2 150
See chain of custody for 4/22/09									

REMARKS: ORP = −114.6 / Fe^{2+} = 2.6

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

FACILITY NAME: SARASOTA CNTY CLSWDC	FACILITY LOCATION:	
MONITORING WELL NUM: GW-21	SAMPLE ID: GW-21	DATE: 4/22/09

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 10.32	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (18.0 feet – 10.3 feet) X .2 gallons/foot = 1.7 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + .1 gallons = 1.8 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 13	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 13	PURGING INITIATED AT: 1530	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1610	1	1.8	.05	10.4	6.75	25.5	1.74	0.22	40	NONE	NONE
1615	1.1	1.9	"	"	6.77	25.6	1.73	0.19	40	X	"
1620	1.2	2.0	"	"	6.77	25.5	1.72	0.21	1.91*	"	"
				ORP = -83.9							
				Fe2+ = 1.6 mg/L							

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GREG MUNS	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1625	SAMPLING ENDED AT: 1635
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME	SAMPLE PRESERVATION PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
		AS AT GW-17, PLUS:						
	1	PE	125ML	–	–	–	NITRATE/SULFATE/CHLORIDE	
	1	PE	250ML	–	–	–	ALKALINITY	
	1	PE	250ML	–	–	–	TOC	
	1	PE	250ML	–	–	–	NA, MN BY 6010	

REMARKS: STICKUP = 4.5'
AS SPECIFIED LAB # = ASC-B-6784. * MEASURED W/ HACH TURBIDIMETER.

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

FACILITY NAME: SARASOTA CNTY CCSWDC	FACILITY LOCATION:	
MONITORING WELL NUM: GW-22	SAMPLE ID: GW-22	DATE: 4/23/09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 10.02	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
= (17.75 feet – 10.02 feet) X .7 gallons/foot = 1.6 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + .1 gallons = 1.7 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 13	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 13	PURGING INITIATED AT: 745	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
0840	1	1.7	.03	10.31	6.91	20.9	3.77	0.66	324	NONE	NONE
0845	1.1	1.8	"	"	6.91	20.8	3.79	0.44	238	"	"
0850	1.2	1.9	"	"	6.90	20.9	3.81	0.46	207	"	"
				ORP = -64.5							
				Fe^{2+} = 2.8 mg/L							

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GREG MUDD	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 0900	SAMPLING ENDED AT: 0910
PUMP OR TUBING DEPTH IN WELL (feet): 13	SAMPLE PUMP FLOW RATE (mL per minute): 300	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: (Y) N FILTER SIZE: 1 µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
			AS	AT GW-11, FWS				
	5	PE	250ml	NITRIC	-	-	6010 - FILTERED	

REMARKS:
STICKUP = 5.1' * MEASURED W/HACH TURBIDIMETER. AS SPECIATION LAB # = ASL-B-6800

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

FACILITY NAME: SARASOTA CUTY CCSWDC	FACILITY LOCATION:	
MONITORING WELL NUM: GW-23	SAMPLE ID: GW-23	DATE: 4/23/07

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 9.55	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (17.9 feet – 9.55 feet) X .12 gallons/foot = 1.8 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + .1 gallons = 1.9 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 13	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15	PURGING INITIATED AT: 0930	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1010	1	1.9	.05	9.78	6.66	23.3	.923	0.32	14.4	NONE	NONE
1015	1.1	2.0	"	"	"	23.5	"	0.29	10.2	"	"
1020	1.2	2.1	"	"	6.67	23.6	"	0.20	8.34	"	"
					ORP = -70.3						
					Fe2+ = 1.8 mg/L						

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GARG MUSD	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1020	SAMPLING ENDED AT: 1030
PUMP OR TUBING DEPTH IN WELL (feet): 13	SAMPLE PUMP FLOW RATE (mL per minute): 500	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
	1	250ML	PE	NITRIC	–	–	6010 (AS & Fe)	
	2	PE	500ML				TDS	
	3	PE	250ML	H_2SO_4			AMMONIA	

REMARKS:
STICKUP = 4.6' * MEASURED W/HACH METER.

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

all depths BTOC

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sarasota County CCSWDC		SITE LOCATION: Sarasota County Land Fill	
WELL NO: GW-24	SAMPLE ID: GW-24		DATE: 4/22/09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 8 feet to 18 feet	STATIC DEPTH TO WATER (feet): 9.39	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (18 feet – 9.39 feet) X 0.16 gallons/foot = 1.38 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0026 gallons/foot X 12 feet) + 0.1 gallons = 0.13 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 12	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 12	PURGING INITIATED AT: 10:35	PURGING ENDED AT: 11:17	TOTAL VOLUME PURGED (gallons): 4.6

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
10:51	2	2	0.125	9.57	7.10	23.72	1668	2.15	6.55	Lt. Yell.	None
11:01	1	3	0.1	9.61	6.88	23.60	1678	1.21	2.02	↓	↓
11:05	0.4	3.4	0.1	9.58	6.84	23.54	1678	0.97	0.85	↓	↓
11:08	0.3	3.7	0.1	9.60	6.77	23.35	1682	0.84	1.81	↓	↓
11:11	0.3	4.0	0.1	9.59	6.71	23.39	1682	0.81	2.06	↓	↓
11:14	0.3	4.3	0.1	9.59	6.74	23.53	1682	0.74	1.02	Clear	↓
11:17	0.3	4.6	0.1	9.58	6.75	23.60	1679	0.76	1.15	↓	↓

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Brad Bayne / PBSJ	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 11:17	SAMPLING ENDED AT: 11:25
PUMP OR TUBING DEPTH IN WELL (feet): 12	TUBING MATERIAL CODE: PP	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
								APP	≈ 200
								↓	↓
see chain of custody for 4/22/09									

REMARKS: ORP = -152.9 / Fe^{2+} = 2.6

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

all depths BTOC

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sarasota County CCSWDC		SITE LOCATION: Sarasota County Landfill	
WELL NO: GW-25	SAMPLE ID: GW-25		DATE: 4/22/09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 8 feet to 18 feet	STATIC DEPTH TO WATER (feet): 8.87	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (18 feet – 8.87 feet) X 0.16 gallons/foot = 1.46 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0026 gallons/foot X 11 feet) + 0.1 gallons = 0.13 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 11	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 11	PURGING INITIATED AT: 13:10	PURGING ENDED AT: 13:55	TOTAL VOLUME PURGED (gallons): 4.9

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
13:26	2	2	0.125	9.19	6.97	23.43	1323	2.19	18.9	Slt Yell	None
13:36	1	3	0.1	9.19	6.84	23.11	1310	0.87	17.5		
13:40	0.4	3.4	0.1	9.17	6.58	23.04	1305	0.47	1.34		
13:43	0.3	3.7	0.1	9.21	6.59	23.09	1306	0.46	9.76		
13:46	0.3	4.0	0.1	9.17	6.62	23.08	1306	0.45	15.4		
13:49	0.3	4.3	0.1	9.19	6.70	23.14	1305	0.49	15		
13:52	0.3	4.6	0.1	9.19	6.84	23.03	1304	0.40	16	Lt Brn	
13:55	0.3	4.9	0.1	9.18	6.82	23.04	1303	0.39	16		

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Brad Bayne/PBSTJ	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 13:55	SAMPLING ENDED AT: 14:25
PUMP OR TUBING DEPTH IN WELL (feet): 11	TUBING MATERIAL CODE: PP	FIELD-FILTERED: (Y) N Filtration Equipment Type:	FILTER SIZE: 1 µm

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N) (replaced) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
								APP	250
see chain of custody for 4/22/09									

REMARKS: ORP = -112.0 / Fe^{2+} = 2.8

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

all depths BTOC

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sarasota County CCSWDC		SITE LOCATION: Sarasota County Landfill	
WELL NO: GW-26	SAMPLE ID: GW-26		DATE: 4/22/09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet	STATIC DEPTH TO WATER (feet): 9.85	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (20 feet – 9.85 feet) X 0.16 gallons/foot = 1.62 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gallons + (0.0026 gallons/foot X 12 feet) + 0.1 gallons = 0.13 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 12	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 12	PURGING INITIATED AT: 11:50	PURGING ENDED AT: 12:35	TOTAL VOLUME PURGED (gallons): 4.90

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
12:06	2	2	0.125	10.12	6.57	23.43	1178	2.01	8.64	Lt Brn	None
12:16	1	3	0.1	10.18	6.43	23.41	1174	1.74	12.1		
12:20	0.4	3.4	0.1	10.20	6.39	23.38	1172	1.59	2.14		
12:23	0.3	3.7	0.1	10.21	6.34	23.47	1241	1.66	3.34		
12:26	0.3	4.0	0.1	10.19	6.33	23.42	1261	1.18	4.19		
12:29	0.3	4.3	0.1	10.21	6.35	23.65	1274	1.08	1.15		
12:32	0.3	4.6	0.1	10.20	6.37	23.71	1277	1.05	2.30		
12:35	0.3	4.9	0.1	10.22	6.37	23.70	1277	1.04	2.17		

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Brad Bayne / PBS&J	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 12:35	SAMPLING ENDED AT: 12:45
PUMP OR TUBING DEPTH IN WELL (feet): 12	TUBING MATERIAL CODE: PP	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
								APP	150
see chain of custody for 4/22/09									

REMARKS: ORP = -91.2 / Fe^{2+} = 2.4

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

APPENDIX D:

SURFACE WATER SAMPLING LOGS

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: SARASOTA CUTY CSOUD1		SITE LOCATION: POND 1	
WELL NO: POND 1	SAMPLE ID:		DATE: 4/9/07

PURGING DATA

WELL DIAMETER (inches): NA	TUBING DIAMETER (inches): 1/5	WELL SCREEN INTERVAL DEPTH: feet to NA feet	STATIC DEPTH TO WATER (feet): NA	PURGE PUMP TYPE OR BAILER: BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
NA = (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
NA = gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): NA	FINAL PUMP OR TUBING DEPTH IN WELL (feet): NA	PURGING INITIATED AT: 1150	PURGING ENDED AT: 1230	TOTAL VOLUME PURGED (gallons): 3 GAL

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1215	1 Gal	1 Gal			8.70	25.1	1021	9.36	412.6*	VOUS	NONE
1225									42.5		
						ORP = 42.1					
						Fe2+ = 0					

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GREG MUDD	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1230	SAMPLING ENDED AT: 1235
PUMP OR TUBING DEPTH IN WELL (feet): NA	SAMPLE PUMP FLOW RATE (mL per minute): 100 NA	TUBING MATERIAL CODE: PR	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) Filtration Equipment Type: _____ FILTER SIZE: ____ µm	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
			AS	AT	POND 7			

REMARKS:
* MEASURED W/ HACH TURBIDIMETER.

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

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Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: SARASOTA CATTLE CO SITE	SITE LOCATION: POND 2		
WELL NO: POND 2	SAMPLE ID:	DATE: 4/9/09	

PURGING DATA

WELL DIAMETER (inches): NA	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: feet to NA feet	STATIC DEPTH TO WATER (feet) NA	PURGE PUMP TYPE OR BAILER: AS

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) NA = (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) NA = gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): N/A	FINAL PUMP OR TUBING DEPTH IN WELL (feet): NA	PURGING INITIATED AT: 1115	PURGING ENDED AT: 1145	TOTAL VOLUME PURGED (gallons): 3 GAL

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1130	1 GAL		4 LPM		8.44	23.3	898	7.91	26.2*	NONE	NONE
1145									26.1		
					ORP = -42.0						
					Fe^{2+} = 0						

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GWG MVBD	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1145	SAMPLING ENDED AT: 1150
PUMP OR TUBING DEPTH IN WELL (feet): NA	SAMPLE PUMP FLOW RATE (mL per minute): NO NA	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
			AS	AT	POND 7			

REMARKS:
* MEASURED W/HACH TURBIDIMETER

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

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Form FD 9000-24

~~GROUNDWATER~~ SURFACE WATER SAMPLING LOG

SITE NAME: SARASOTA COUNTY CCSWDC		SITE LOCATION: POND 3	
WELL NO: POND 3	SAMPLE ID:		DATE: 4/2/09

PURGING DATA

WELL DIAMETER (inches): NA	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: NA feet to feet	STATIC DEPTH TO WATER (feet): NA	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
NA = (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
NA = gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): NA	FINAL PUMP OR TUBING DEPTH IN WELL (feet): NA	PURGING INITIATED AT: 0815	PURGING ENDED AT: 0900	TOTAL VOLUME PURGED (gallons): 2 GAL

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
0845	1 GALLON		1 LPM		8.48	19.1	323	9.42	49.7*	NONE	NONE
0855									48.4		
				Fe2+ = 0							
				ORP = -1.2							

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: CARG MUDD	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 0900	SAMPLING ENDED AT: 0905
PUMP OR TUBING DEPTH IN WELL (feet): NA	SAMPLE PUMP FLOW RATE (mL per minute): 100 ~~NA~~	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
			AS	AT	POND	7		

REMARKS:
* MEASURED W/HACH TURBIDIMETER.

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

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MUDD A-1
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Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: SARASOTA COUNTY CCSMX		SITE LOCATION: POND 4	
WELL NO: POND 4	SAMPLE ID:		DATE: 4/20/09

PURGING DATA

WELL DIAMETER (inches): NA	TUBING DIAMETER (inches): 1.25	WELL SCREEN INTERVAL DEPTH: NA feet to feet	STATIC DEPTH TO WATER (feet): NA	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
NA = (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
NA = gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): NA	FINAL PUMP OR TUBING DEPTH IN WELL (feet): NA	PURGING INITIATED AT: 0730	PURGING ENDED AT: 0735	TOTAL VOLUME PURGED (gallons): 3 GAL

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
0750	1 GAL		4 LPM		8.29	16.47	314	8.11	21.7	Rust	none
0800									19.2		
					Fe 2.2						
					ORP = 2.5						

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GREG MUDD	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 0800	SAMPLING ENDED AT: 0805
PUMP OR TUBING DEPTH IN WELL (feet): NA	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: PR	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) Filtration Equipment Type: _____ FILTER SIZE: ____ µm	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
		AS	HT	POND 7				

REMARKS:
* MEASURED W/ HACH TURBIDIMETER

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: SARASOTA COUNTY OCSWD		SITE LOCATION: POND 5	
WELL NO: POND 5	SAMPLE ID:		DATE: 4/2/07

PURGING DATA

WELL DIAMETER (inches): NA	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: NA feet to feet	STATIC DEPTH TO WATER (feet): NA	PURGE PUMP TYPE OR BAILER: BS

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
NA = (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
NA = gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): NA	FINAL PUMP OR TUBING DEPTH IN WELL (feet): NA	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1550	1 GAL		<1 LPM	NA	8.82	25.37	301	10.24	30.3	NONE	NONE
1600									34.9*		
			ORP = 34.5								
			Fe^{2+} = 0								

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GARG MUDD	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1600	SAMPLING ENDED AT: 1605
PUMP OR TUBING DEPTH IN WELL (feet): NA	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) Filtration Equipment Type: FILTER SIZE: ____ µm	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
			AS	AT	POND 7			

REMARKS: MEASURED W/ HACH TURBIDIMETER
* ATTEMPTED TO PURGE FOR AWHILE TO SEE IF TURBIDITY WOULD DROP.

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

NOTES: **1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.** BUT DID NOT.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: SARASOTA COUNTY CCSWDC	SITE LOCATION: POND 6	
WELL NO: POND 6	SAMPLE ID:	DATE: 4/8/09

PURGING DATA

WELL DIAMETER (inches): NA	TUBING DIAMETER (inches): 2.5	WELL SCREEN INTERVAL DEPTH: NA feet to feet	STATIC DEPTH TO WATER (feet): NA	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
NA = (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
NA = gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): NA	FINAL PUMP OR TUBING DEPTH IN WELL (feet): NA	PURGING INITIATED AT: 1630	PURGING ENDED AT: 1700	TOTAL VOLUME PURGED (gallons): 3 GAL

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1650		1 GAL	4 LPM		9.27	23.51	368	12.51	56.1*	clear	none
1700									49.7		
					ORP = -28.3						
					Fe 2+ = 0						

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GREG MYERS	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1700	SAMPLING ENDED AT: 1705
PUMP OR TUBING DEPTH IN WELL (feet): NA	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
			AG	AT	POND 7			

REMARKS:
* MEASURED W/HACH TURBIDIMETER.

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

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Form FD 9000-24

~~GROUNDWATER~~ SURFACE WATER SAMPLING LOG

SITE NAME: SARASOTA COUNTY CCSWMC	SITE LOCATION: POND 7
WELL NO: POND 7	SAMPLE ID:
DATE: 4/2/09	

PURGING DATA

WELL DIAMETER (inches): NA	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: NA feet to feet	STATIC DEPTH TO WATER (feet): NA	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) NA = (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) NA = gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): NA	FINAL PUMP OR TUBING DEPTH IN WELL (feet): NA	PURGING INITIATED AT: 1430	PURGING ENDED AT: 1500	TOTAL VOLUME PURGED (gallons): 2 GAL

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1500	1 GAL		4 LPM		8.56	24.3	370	9.46	17.7*	NONE	NONE
						ORP =		-36.3			
						Fe^{2+} =		0 mg/L			

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: GRG MDD	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1500	SAMPLING ENDED AT: 1505
PUMP OR TUBING DEPTH IN WELL (feet): NA	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE:	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) Filtration Equipment Type: FILTER SIZE: ____ µm	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
PE	1		250 ML		250 ML		TS & FC	B9
POND 7							EPA METHOD	
							6010	

REMARKS:
* MEASURED W/HACH TURBIDIMETER.

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

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APPENDIX E:

LABORATORY ANALYTICAL REPORT FOR APRIL 2008 SPECIATION SAMPLING

APPLIED SPECIATION AND CONSULTING, LLC

953 Industry Drive Tukwila, WA 98188
Tel: (206) 219-3779 Fax: (206) 388-3485
www.appliedspeciation.com

May 12, 2008

Brad Bayne
5300 West Cypress Street, Suite 200
Tampa, FL 33607-1784
(813) 282 7275

Re: Sarasota Landfill

Dear Mr. Bayne,

Attached is the report associated with eleven (11) solid and four (4) liquid samples submitted for arsenic speciation analysis on April 23, 2008. All samples were received on April 24, 2008 in a sealed containers at 2.1°C and 3.8°C, respectively. Arsenic speciation analysis in solid samples was performed via pH-controlled phosphate extractions followed by ion chromatography inductively coupled plasma dynamic reaction cell mass spectrometry (IC-ICP-DRC-MS). The liquid samples were analyzed for arsenic speciation using IC-ICP-DRC-MS. Total arsenic analysis was performed by inductively coupled plasma dynamic reaction cell mass spectrometry (ICP-DRC-MS). Any analytical issues associated with the analysis are addressed in the following report.

If you have any questions, please feel free to contact me at your convenience.

Sincerely,

HAKAN GÜRLEYÜK

Hakan Gürleyük
Senior Scientist
Applied Speciation and Consulting, LLC

Applied Speciation and Consulting, LLC

Report Prepared for:

Brad Bayne
5300 West Cypress Street, Suite 200
Tampa, FL 33607-1784

May 12, 2008

1. Sample Reception

Eleven (11) solid and four (4) liquid samples were submitted for arsenic speciation analysis on April 23, 2008. All samples were received in acceptable condition on April 24, 2008 in sealed containers at 2.1°C and 3.8°C, respectively.

All samples were received in a laminar flow clean hood void of trace metals contamination and ultra-violet radiation. The samples were designated discrete sample identifiers upon reception and then stored in a secure polyethylene container known to be free from trace metals contamination until the samples could be prepared.

2. Sample Preparation

All sample preparation is performed in laminar flow clean hoods known to be free from trace metals contamination. All applied water for dilutions and sample preservatives are also monitored for contamination to account for any biases associated with the sample results.

Total Arsenic Quantification by ICP-DRC-MS (Solid) Prior to analysis, approximately 0.5g of the sample was digested with concentrated HNO_3 in a hot block digestion apparatus.

Arsenite Speciation Analysis by IC-ICP-DRC-MS Approximately 1.0g of each sample was transferred to 50mL polypropylene centrifuge tubes. A known volume of a H_3PO_4 solution was then added to each sample. All extractions were placed on an inverted shaker for 24 hours at 80RPM. All extracts were then centrifuged for 1 hour and the supernatant was decanted, filtered with a syringe filter (0.45µm), and injected directly into sealed autosampler vials. All sample extracts were analyzed by ion chromatography inductively coupled plasma dynamic reaction cell mass spectrometry (IC-ICP-DRC-MS).

Arsenate Speciation Analysis by IC-ICP-DRC-MS Approximately 1.0g of each sample was transferred to 50mL polypropylene centrifuge tubes. A known volume of a Na_3PO_4 solution was then added to each sample. All extractions were placed on an

inverted shaker for 24 hours at 80RPM. All extracts were then centrifuged for 1 hour and the supernatant was decanted, filtered with a syringe filter (0.45μm), and injected directly into sealed autosampler vials. All sample extracts were analyzed by ion chromatography inductively coupled plasma dynamic reaction cell mass spectrometry (IC-ICP-DRC-MS).

Arsenic Speciation Analysis by IC-ICP-MS Prior to analysis, all liquid samples were filtered with a syringe filter (0.45μm) and injected directly into sealed autosampler vials. No further sample preparation was performed as any chemical alteration of the samples may shift the equilibrium of the system resulting in changes in speciation ratios.

3. Sample Analysis

All samples analysis is precluded by a minimum of a five-point calibration curve spanning the entire concentration range of interest. Calibration curves are performed at the beginning of each analytical day. All calibration curves, associated with each species of interest, are standardized by linear regression resulting in a response factor. All sample results are **instrument blank corrected** to account for any operational biases.

Prior to sample analysis, all calibration curves are verified using second source standards which are identified as initial calibration verification standards (ICV).

Ongoing instrument performance is identified by the analysis of continuing calibration verification standards (CCV) and continuing calibration blanks (CCB) at a minimal interval of every ten analytical runs.

Total Arsenic Quantification by ICP-DRC-MS All sample digests for total arsenic quantification were analyzed by inductively coupled plasma dynamic reaction cell mass spectrometry (ICP-DRC-MS). Aliquots of each sample digest are introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through a pressurized chamber (DRC) containing a specific reactive gas which preferentially reacts with either interfering ions of the same target mass to charge ratios (m/z) or with the target analyte, producing an entirely different mass to charge ratio (m/z) which can then be differentiated from the initial interferences. A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system.

Arsenic Speciation Analysis by IC-ICP-DRC-MS All samples for arsenic speciation analysis were analyzed by ion chromatography inductively coupled plasma dynamic reaction cell mass spectrometry (IC-ICP-DRC-MS). Aliquots of each sample extract are injected onto an anion exchange column and mobilized by an acidic (pH < 7) gradient. The eluting arsenic species are then introduced into a radio frequency (RF)

plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through a pressurized chamber (DRC) containing a specific reactive gas which preferentially reacts with arsenic, producing an entirely different mass to charge ratio (m/z) which can then be differentiated from the initial isobaric interferences. A solid-state detector detects ions transmitted through the mass analyzer on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system.

Retention times for each eluting species are compared to known standards for species identification.

4. Analytical Issues

The overall analyses went very well and no significant analytical issues were encountered. All quality control associated with these samples was within acceptance limits with the following exceptions:

The estimated method detection limits (eMDLs) for all arsenic species are generated from replicate analyses of the lowest standard in the calibration curve. Not all arsenic species are present in preparation blanks; therefore, eMDL calculations based on preparation blanks are artificially biased low. For MMAs and DMAs, the highest eMDL obtained for the inorganic species were used for each analysis since no species specific eMDL was calculated for these species.

If you have any questions or concerns regarding this report, please feel free to contact me at (206) 219-3779.

Sincerely,

HAKAN GÜRLEYÜK

Hakan Gürleyük
Senior Scientist
Applied Speciation and Consulting, LLC

Arsenic Results for PBS&J
Project Name: Sarasota Landfill
Contact: Brad Bayne

Date: May 12, 2008
Report Generated by: Hakan Gürleyük
Applied Speciation and Consulting, LLC

Sample Results (Solid)

Sample ID	As(III) (mg/Kg)	As(V) (mg/Kg)	DMAs (mg/Kg)	MMAs (mg/Kg)	Unknown As Species (n)	Tot As (mg/Kg)
Mulch A	ND (<0.022)	0.15	ND (<0.030)	ND (<0.030)	0 (0)	3.01
SB-1R-1	0.05	0.20	ND (<0.030)	ND (<0.030)	0 (0)	0.93
SB-8A-1	0.14	0.19	ND (<0.030)	ND (<0.030)	0 (0)	1.36
SB-9-1	0.27	0.66	ND (<0.030)	ND (<0.030)	0 (0)	0.76
SB-9-2	0.69	3.01	ND (<0.030)	ND (<0.030)	0.12 (1)	2.59
SB-11R-3	1.87	8.05	ND (<0.030)	ND (<0.030)	0.08 (1)	27.8
SB-11R-2	0.10	0.16	ND (<0.030)	ND (<0.030)	0 (0)	1.37
SB-11R-1	0.31	0.52	ND (<0.030)	ND (<0.030)	0 (0)	0.61
SB-CDV-1	ND (<0.022)	0.23	ND (<0.030)	ND (<0.030)	0 (0)	0.53
SB-CDV-2	ND (<0.022)	0.09	ND (<0.030)	ND (<0.030)	0 (0)	2.04
SB-8A-2	0.09	0.10	ND (<0.030)	ND (<0.030)	0 (0)	0.40

Sample Results (Liquid)

Sample ID	As(III) (ug/L)	As(V) (ug/L)	DMAs (ug/L)	MMAs (ug/L)	Unknown As Species (n)
MW-1R	0.28	0.44	ND (<0.087)	ND (<0.087)	0 (0)
CW-8A	21.7	13.1	ND (<0.087)	ND (<0.087)	0 (0)
CW-9	36.0	26.6	ND (<0.087)	ND (<0.087)	0 (0)
CW-11R	16.2	12.4	0.14	ND (<0.087)	2.29 (3)

ND = Not detected
Unknown As Species = Total concentration of all unknown As species observed by IC-ICP-MS
n = number of unknown As species observed

Arsenic Results for PBS&J
Project Name: Sarasota Landfill
Contact: Brad Bayne

Date: May 12, 2008
Report Generated by: Hakan Gürleyük
Applied Speciation and Consulting, LLC

Quality Control Summary - Preparation Blank Summary

Analyte (mg/kg)	PBW1	PBW2	PBW3	PBW4	Mean	StdDev	eMDL*
As(III)	0.000	0.000	0.000	0.000	0.000	0.000	0.023
As(V)	0.016	-0.007	-0.019	-0.020	-0.008	0.017	0.030
Tot As	0.002	0.005	-0.001	0.000	0.001	0.002	0.007

* Please see narrative regarding eMDL calculations

Quality Control Summary - Certified Reference Materials

Analyte (mg/kg)	CRM	True Value	Result	Recovery
As(III)	LCS	50.0	48.9	97.9
As(V)	LCS	50.0	44.5	89.0
Tot As	NIST 2711	90.0	94.1	104.6

Arsenic Results for PBS&J
Project Name: Sarasota Landfill
Contact: Brad Bayne

Date: May 12, 2008
Report Generated by: Hakan Gürleyük
Applied Speciation and Consulting, LLC

Quality Control Summary - Matrix Duplicates

Analyte (mg/kg)	Sample ID	Rep 1	Rep 2	Mean	RPD
As(III)	SB-CDV-2	ND (<0.22)	ND (<0.22)	NC	NC
As(V)	SB-CDV-2	0.092	0.082	0.087	11.5
Tot As	SB-CDV-2	2.04	1.94	1.99	5.0

NC = Not calculated due to one or more concentrations below the eMDL.

Quality Control Summary - Matrix Spike/ Matrix Spike Duplicate

Analyte (mg/kg)	Sample ID	Spike Conc	MS Result	Recovery	Spike Conc	MSD Result	Recovery	RPD
As(III)	SB-CDV-2	50.15	40.93	81.6	50.20	38.15	76.0	7.2
As(V)	SB-CDV-2	50.46	45.65	90.3	50.56	47.78	94.3	4.3
Tot As	SB-CDV-2	101.4	81.02	77.9	98.23	80.24	79.7	2.2

Arsenic Results for PBS&J
Project Name: Sarasota Landfill
Contact: Brad Bayne

Date: May 12, 2008
Report Generated by: Hakan Gürleyük
Applied Speciation and Consulting, LLC

Quality Control Summary - Preparation Blank Summary

Analyte (ug/L)	PBW1	PBW2	PBW3	PBW4	Mean	StdDev	eMDL*
As(III)	0.000	0.000	0.000	0.000	0.000	0.000	0.087
As(V)	0.055	0.042	0.040	0.029	0.042	0.011	0.058

* Please see narrative regarding eMDL calculations

Quality Control Summary - Certified Reference Materials

Analyte (ug/L)	CRM	True Value	Result	Recovery
As(III)	LCS	2.00	1.73	86.3
As(V)	NIST 1640	26.7	27.3	102.4

Arsenic Results for PBS&J
Project Name: Sarasota Landfill
Contact: Brad Bayne

Date: May 12, 2008
Report Generated by: Hakan Gürleyük
Applied Speciation and Consulting, LLC

Quality Control Summary - Matrix Duplicates

Analyte (ug/L)	Sample ID	Rep 1	Rep 2	Mean	RPD
As(III)	CW-11R	16.240	18.494	17.367	13.0
As(V)	CW-11R	13.840	14.748	14.294	6.4

NC = Not calculated due to one or more concentrations below the eMDL.

Quality Control Summary - Matrix Spike/ Matrix Spike Duplicate

Analyte (ug/L)	Sample ID	Spike Conc	MS Result	Recovery	Spike Conc	MSD Result	Recovery	RPD
As(III)	CW-11R	20.00	40.80	117.1	20.00	40.89	117.6	0.4
As(V)	CW-11R	20.00	35.94	108.2	20.00	38.83	122.7	12.5

APPLIED SPECIATION AND CONSULTING, LLC

953 Industry Drive
Tukwila, WA 98188
Phone (206) 219-3779
Fax (206) 388-3485

Company Name: PBS&J
Contact Person: Brad Bayne
Address: 5300 West Cypress Street, Suite 200
Tampa, FL 33607-1784
Phone Number: 813-282-7275 ex 8377
Fax Number: 813-281-0954
Email Address: bjbayne@pbsj.com
Project Name: Sarasota Landfill
Project Number: WA # 07-07-CN 2007-292
PO Number: —

ASC Project Manager: Russ Gerad

By submitting of samples the client agrees to all terms and conditions set forth in the quotation provided by the ASC project manager. If you are not familiar with the term and conditions associated with your project, please contact your ASC representative as soon as possible (206) 219-3779.

Requested Turn Around Time: Standard
Method of Sample Delivery: Fedex
Currier Tracking Number: 8656 3922 2944
Confirmation of Sample Reception: ☒ Yes ☐ No

Sample ID	Bottle ID	Date and Time	Matrix*	Volume	Preservative	Initials	Requested Analytes and Methods	Comments
MULCH	MULCH	4/22 0930	O	1 l	—	BB	Total Arsenic	
SB-1R-1	SB-1R-1	4/22 1037	SL	1 l	—	BB		
SB-8A-1	SB-8A-1	4/22 1215	SL	8 oz	—	BB		
SB-8A-2	SB-8A-2	4/22 1300	SL	8 oz	—	BB		
SB-9-1	SB-9-1	4/22 1430	SL	8 oz	—	BB		
SB-9-2	SB-9-2	4/22 1515	SL	8 oz	—	BB		
SB-11R-3	SB-11R-3	4/23 0850	SL	2 oz	—	BB		Vol ?
SB-11R-2	SB-11R-2	4/23 0905	SL	8 oz	—	BB		
SB-11R-1	SB-11R-1	4/23 0925	SL	8 oz	—	BB		
SB-CDV-1	SB-CDV-1	4/23 1050	SL	8 oz	—	BB		
SB-CDV-2	SB-CDV-2	4/23 1110	SL	1 l	—	BB		Vol ?

Relinquished by: (sign) [signature] (print) Brad Bayne Date/Time: 4/23 4pm
Received by: (sign) _____ (print) _____ Date/Time: _____
Comments:
Temp:

Relinquished by: (sign) _____ (print) _____ Date/Time: _____
Received by: (sign) _____ (print) _____ Date/Time: _____
Comments:
Temp:

Please account for each sample bottle as a seperate line item for verification purposes.

*Matrix: Air, Freshwater (FW), seawater (SW), groundwater (GW), wastewater (WW), soil (SL), sediment (SD), tissue (TS), product (P), other (O)

APPLIED SPECIATION AND CONSULTING, LLC

953 Industry Drive
Tukwila, WA 98188
Phone (206) 219-3779
Fax (206) 388-3485

Company Name: PBS & J
Contact Person: Brad Bayne
Address: 5300 West Cypress Street, Suite 200
Tampa, FL 33607-1784
Phone Number: 813-282-7275 ex 8377
Fax Number: 813-281-0954
Email Address: bjbayne@pbsj.com
Project Name: Sarasota Landfill
Project Number: WA # 07-07, CN 2007-292
PO Number: —

ASC Project Manager: Russ Gerad

By submitting of samples the client agrees to all terms and conditions set forth in the quotation provided by the ASC project manager. If you are not familiar with the term and conditions associated with your project, please contact your ASC representative as soon as possible (206) 219-3779.

Requested Turn Around Time: Standard
Method of Sample Delivery: Fedex
Currier Tracking Number: 8656 3922 2955
Confirmation of Sample Reception: ☒ Yes ☐ No

Sample ID	Bottle ID	Date and Time		Matrix*	Volume	Preservative	Initials	Requested Analytes and Methods	Comments
MW-1R	ASC-B-1458	4/22	1235	GW	100 ml	—	BB	Speciated Arsenic	
CW-8A	ASC-B-3821	4/22	1345	GW	100 ml	—	BB		
CW-9	ASCB-3823	4/22	1500	GW	100 ml	—	BB		
CW-11R	ASC-B-3822	4/22	1615	GW	100 ml	—	BB		
SB-1R-1	SB-1R-1	4/22	1037	SL	2 oz	—	BB	Speciated Arsenic	
SB-8A-1	SB-8A-1	4/22	1215	SL	2 oz	—	BB		
SB-8A-2	SB-8A-2	4/22	1300	SL	2 oz	—	BB		
SB-9-1	SB-9-1	4/22	1430	SL	2 oz	—	BB		
SB-9-2	SB-9-2	4/22	1515	SL	2 oz	—	BB		
MULCH	MULCH	4/22	0930	O	2 oz	—	BB		
SB-11R-3	SB-11R-3	4/23	0850	SL	2 oz	—	BB		
SB-11R-2	SB-11R-2	4/43	0905	SL	2 oz	—	BB		
SB-11R-1	SB-11R-1	4/23	0925	SL	2 oz	—	BB		
SB-CDV-1	SB-CDV-1	4/23	1050	SL	2 oz	—	BB		
SB-CDV-2	SB-CDV-2	4/23	1110	SL	2 oz	—	BB		
Blank 1+2	—	4/22		O	2-100ml	—	BB	Per Lab Request	Empty
Blank 1+2	—	4/22		O	2-2oz	—	BB	Per Lab Request	Empty

Relinquished by: (sign) [signature] (print) Brad Bayne Date/Time: 4/23 4pm
Received by: (sign) _____ (print) _____ Date/Time: _____
Comments:
Temp:

Relinquished by: (sign) _____ (print) _____ Date/Time: _____
Received by: (sign) _____ (print) _____ Date/Time: _____
Comments:
Temp:

Please account for each sample bottle as a seperate line item for verification purposes.

*Matrix: Air, Freshwater (FW), seawater (SW), groundwater (GW), wastewater (WW), soil (SL), sediment (SD), tissue (TS), product (P), other (O)

APPENDIX F:

LABORATORY ANALYTICAL REPORT FOR APRIL 2009 SOIL SPECIATION SAMPLING

APPLIED SPECIATION AND CONSULTING, LLC

953 Industry Drive Tukwila, WA 98188
Tel: (206) 219-3779 Fax: (206) 388-3485
www.appliedspeciation.com

May 14, 2009

PBS&J
Brad Bayne
5300 West Cypress Street #200
Tampa, FL 33607
(813) 282-7275 Ext. 8377

Project Name: Sarasota Landfill
Project Number: 100007910-03

Dear Mr. Bayne,

Attached is the report associated with twelve (12) soil samples submitted for arsenite, arsenate, monomethylarsonic acid, and dimethylarsinic acid quantification on April 29, 2009. All samples were received on April 30, 2009 in a sealed cooler at 2.7°C. Arsenic speciation analysis was performed via a series of pH-controlled extractions followed by ion chromatography inductively coupled plasma dynamic reaction cell mass spectrometry (IC-ICP-DRC-MS). Any issues associated with the analyses are addressed in the following report.

If you have any questions, please feel free to contact me at your convenience.

Sincerely,

Ben Wozniak
Project Manager
Applied Speciation and Consulting, LLC

Applied Speciation and Consulting, LLC

Report Prepared for:

PBS&J
Brad Bayne
5300 West Cypress Street #200
Tampa, FL 33607

Project Name: Sarasota Landfill
Project Number: 100007910-03

May 14, 2009

1. Sample Reception

Twelve (12) soil samples were submitted for arsenite, arsenate, monomethylarsonic acid (MMAs), and dimethylarsinic acid (DMAs) quantification on April 29, 2009. All samples were received in acceptable condition on April 30, 2009 in a sealed container at 2.7°C.

All samples were received in a laminar flow clean hood void of trace metals contamination and ultra-violet radiation. Upon reception, all samples were designated discrete sample identifiers and placed in a secure refrigerator (maintained at a temperature of ≤4°C) until the extractions and analyses could be performed.

2. Sample Preparation

All sample preparation is performed in laminar flow clean hoods known to be free from trace metals contamination. All applied water for dilutions and sample preservatives are also monitored for contamination to account for any biases associated with the sample results.

For each extraction procedure three sets of laboratory control samples (LCS) and matrix spikes were prepared to monitor any potential species conversion attributable to either the applied extraction procedure or the sample matrices. One set contained only arsenite, the second set contained only arsenate, and the third set contained monomethylarsonic acid and dimethylarsinic acid.

Arsenite Speciation Analysis by IC-ICP-DRC-MS On May 4, 2009, aliquots of approximately 1.0g of each sample were transferred to 50mL polypropylene centrifuge tubes. A known volume of a H_3PO_4 solution was then added to each sample. All extractions were placed on an inverting shaker for approximately 16 hours at 80RPM. All extracts were then centrifuged and the supernatant was

decanted, filtered with a syringe filter (0.45μm), and injected directly into sealed autosampler vials.

Arsenate, Monomethylarsonic Acid, and Dimethylarsinic Acid Speciation Analysis by IC-ICP-DRC-MS On May 4, 2009 aliquots of approximately 1.0g of each sample were transferred to 50mL polypropylene centrifuge tubes. A known volume of a Na_3PO_4 solution was then added to each sample. All extractions were placed on an inverting shaker for approximately 16 hours at 80RPM. All extracts were then centrifuged and the supernatant was decanted, filtered with a syringe filter (0.45μm), and injected directly into sealed autosampler vials.

3. Sample Analysis

All sample analysis is precluded by a minimum of a five-point calibration curve spanning the entire concentration range of interest. Calibration curves are performed at the beginning of each analytical day. All calibration curves, associated with each species of interest, are standardized by linear regression resulting in a response factor. The response factors of MMAs and DMAs are set equal to the average response factor of arsenite and arsenate. The calibration does not contain MMAs or DMAs due to impurities in these standards which would bias the results for other arsenic species. All sample results are **instrument blank corrected** to account for any operational biases.

Prior to sample analysis, all calibration curves are verified using second source standards which are identified as initial calibration verification standards (ICV).

Ongoing instrument performance is identified by the analysis of continuing calibration verification standards (CCV) and continuing calibration blanks (CCB) at a minimal interval of every ten analytical runs.

Arsenic Speciation Analysis by IC-ICP-DRC-MS All sample extracts for arsenic speciation analysis were analyzed by ion chromatography inductively coupled plasma dynamic reaction cell mass spectrometry (IC-ICP-DRC-MS) on May 5, 2009. Aliquots of each sample extract are injected onto an anion exchange column and are mobilized by an alkaline (pH > 7) gradient. The eluting arsenic species are then introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and separated on the basis of their mass-to-charge ratio (m/z) by a mass spectrometer. A solid-state detector detects ions transmitted through the mass analyzer and the resulting current is processed by a data handling system.

Retention times for each eluting species are compared to known standards for species identification.

4. Analytical Issues

The overall analyses went well and no significant analytical issues were encountered. All results have been corrected in accordance with the continuing calibration verification recoveries to account for perceived instrument drift. All quality control parameters associated with these samples were within acceptance limits with the following exceptions:

The recovery associated with the arsenite matrix spike (MS) performed on the sample identified as SB-P4-8-6 was below the established control limit of 75% (74.1%). Speciation analysis of this MS indicated that 22.5% of the arsenite spike was recovered as arsenate (data not shown in final results table). Although the recovery associated with the arsenite MSD performed on this same sample was within control (79.1%), part of the arsenite spike was also recovered as arsenate (20.3%; data not shown in final results table). The recovery associated with the arsenite LCS was within control (109.0%), demonstrating that the applied extraction and analysis procedures stabilize this species in solution. Since the conversion of arsenite to arsenate in the arsenite MS/MSD set is a function of the sample matrix and the recoveries confirm a mass balance, no corrective action was required. The low recovery of the arsenite MS suggests that this particular sample matrix induces partial oxidation of arsenite.

The RPD associated with the matrix duplicate (MD) performed on the sample identified as SB-P4-8-6 was above the established control limit of 25% for arsenite (38.3%). The concentrations of arsenite in the parent sample and MD are less than ten times the estimated method detection limit (eMDL). Since greater variability is expected as sample concentrations approach the eMDL, the elevated RPD is identified as an inherent limitation of any quantitative method and does not impact the validity of the reported results. The acceptable RPD obtained for the matrix spike duplicate (MSD) performed on this sample for arsenite (6.5%) instead demonstrates the precision of the preparation and analysis.

The estimated method detection limits (eMDLs) for arsenite and arsenate are generated from the standard deviation of the preparation blanks. The eMDLs for MMAs and DMAs are set equal to the arsenate eMDL from the Na_3PO_4 extraction due to the absence of these species from the preparation blanks.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Ben Wozniak

Ben Wozniak
Project Manager
Applied Speciation and Consulting, LLC

Arsenic Speciation Results for PBS&J
Contact: Brad Bayne
Project Name: Sarasota Landfill

Date: May 14, 2009
Report Generated by: Ben Wozniak
Applied Speciation and Consulting, LLC

Sample Results

Sample ID	As(III)	As(V)	MMAs	DMAs
SB-P4-1-2	0.029	ND (<0.15)	ND (<0.15)	ND (<0.15)
SB-P4-2-2	0.029	0.71	ND (<0.15)	ND (<0.15)
SB-P4-3-4	ND (<0.026)	ND (<0.15)	ND (<0.15)	ND (<0.15)
SB-P4-4-4	ND (<0.026)	ND (<0.15)	ND (<0.15)	ND (<0.15)
SB-P4-5-2	0.028	ND (<0.15)	ND (<0.15)	ND (<0.15)
SB-P4-5-6	0.125	ND (<0.15)	ND (<0.15)	ND (<0.15)
SB-P4-6-6	0.055	ND (<0.15)	ND (<0.15)	ND (<0.15)
SB-P4-7-6	ND (<0.026)	ND (<0.15)	ND (<0.15)	ND (<0.15)
SB-P4-8-4	0.285	0.22	ND (<0.15)	ND (<0.15)
SB-P4-8-6	0.132	ND (<0.15)	ND (<0.15)	ND (<0.15)
SB-P4-11-6	ND (<0.026)	ND (<0.15)	ND (<0.15)	ND (<0.15)
SB-P4-12-6	0.049	ND (<0.15)	ND (<0.15)	ND (<0.15)

All results are reported as received and in mg/kg (wet wt.)
ND = Not detected at the applied dilution

Arsenic Speciation Results for PBS&J
Contact: Brad Bayne
Project Name: Sarasota Landfill

Date: May 14, 2009
Report Generated by: Ben Wozniak
Applied Speciation and Consulting, LLC

Quality Control Summary - Preparation Blank Summary

Analyte (mg/kg)	PBS1	PBS2	PBS3	PBS4	Mean	StdDev	eMDL*
As(III)	0.046	0.031	0.033	0.025	0.034	0.009	0.026
As(V)	-0.01	-0.14	-0.09	-0.09	-0.08	0.05	0.15
MMAs	0.00	0.00	0.00	0.00	0.00	0.00	0.15
DMAs	0.00	0.00	0.00	0.00	0.00	0.00	0.15

eMDL = Estimated Method Detection Limit
* Please see narrative regarding eMDL calculations

Quality Control Summary - Certified Reference Materials

Analyte (mg/kg)	CRM	True Value	Result	Recovery
As(III)	LCS	50.00	54.49	109.0
As(V)	LCS	50.00	52.68	105.4
MMAs	LCS	52.35	51.07	97.6
DMAs	LCS	52.45	55.40	105.6

Arsenic Speciation Results for PBS&J
Contact: Brad Bayne
Project Name: Sarasota Landfill

Date: May 14, 2009
Report Generated by: Ben Wozniak
Applied Speciation and Consulting, LLC

Quality Control Summary - Matrix Duplicates

Analyte (mg/kg)	Sample ID	Rep 1	Rep 2	Mean	RPD
As(III)	SB-P4-8-6	0.132	0.090	0.111	38.3*
As(V)	SB-P4-4-4	ND (<0.15)	ND (<0.15)	NC	NC
MMAs	SB-P4-4-4	ND (<0.15)	ND (<0.15)	NC	NC
DMAs	SB-P4-4-4	ND (<0.15)	ND (<0.15)	NC	NC

ND = Not detected at the applied dilution
NC = Not calculated due to one or more concentrations below the reporting limit.
* Sample concentrations are less than ten times the eMDL

Quality Control Summary - Matrix Spike/ Matrix Spike Duplicate

Analyte (mg/kg)	Sample ID	Spike Conc	MS Result	Recovery	Spike Conc	MSD Result	Recovery	RPD
As(III)	SB-P4-8-6	46.01	34.11	74.1*	42.80	33.97	79.1	6.5
As(V)	SB-P4-4-4	44.17	48.52	109.8	45.52	50.40	110.7	0.8
MMAs	SB-P4-4-4	51.58	51.88	100.6	48.67	47.87	98.4	2.2
DMAs	SB-P4-4-4	51.68	55.78	107.9	48.76	51.86	106.4	1.5

*The recovery is below the established control limit of 75%; please see narrative.

APPLIED SPECIATION AND CONSULTING, LLC

953 Industry Drive
Tukwila, WA 98188

Phone (206) 219-3779
Fax (206) 388-3485

Company Name: PBS+J
Contact Person: Brad Bayne
Address: 5300 West Cypress Street, #200
Tampa, FL 33607
Phone Number: 813-282-7275 ext. 8377
Fax Number: —
Email Address: bjbayne@pbsj.com
Project Name: Sarasota Landfill
Project Number: 10000-7910-03
PO Number: same

ASC Project Manager: Ben Wozniak

By submitting of samples the client agrees to all terms and conditions set forth in the quotation provided by the ASC project manager. If you are not familiar with the term and conditions associated with your project, please contact your ASC representative as soon as possible (206) 219-3779.

Requested Turn Around Time: Standard
Method of Sample Delivery: Fed Ex
Currier Tracking Number: 8665 4599 3246
Confirmation of Sample Reception: ☑ Yes ☐ No

Sample ID	Bottle ID	Date and Time	Matrix*	Volume	Preservative	Initials	Requested Analytes and Methods	Comments
SB-P4-1-2	—	4/28 917	Soil	2 oz	—	BB	Arsenic Speciation	
SB-P4-2-2	—	4/28 940	Soil	2 oz	—	BB		
SB-P4-3-4	—	4/28 1015	Soil	2 oz	—	BB		
SB-P4-4-4	—	4/28 1040	Soil	2 oz	—	BB		
SB-P4-5-2	—	4/28 1100	Soil	2 oz	—	BB		
SB-P4-5-6	—	4/28 1110	Soil	2 oz	—	BB		
SB-P4-6-6	—	4/28 1130	Soil	2 oz	—	BB		
SB-P4-7-6	—	4/28 1150	Soil	2 oz	—	BB		
SB-P4-8-4	—	4/28 1305	Soil	2 oz	—	BB		
SB-P4-8-6	—	4/28 1310	Soil	2 oz	—	BB		
SB-P4-11-6	—	4/28 1425	Soil	2 oz	—	BB		
SB-P4-12-6	—	4/28 1445	Soil	2 oz	—	BB		
Blank 1						BB		
Blank 2								empty
								empty

Relinquished by: (sign) [signature] (print) Brad Bayne Date/Time: 4/29 9 am
Received by: (sign) [signature] (print) Jeremy Maute Date/Time: 4/30/09, 1211
Comments:
Temp: 2.7°C

Relinquished by: (sign) _____ (print) _____ Date/Time: _____
Received by: (sign) _____ (print) _____ Date/Time: _____
Comments:
Temp:

Please account for each sample bottle as a seperate line item for verification purposes.

*Matrix: Air, Freshwater (FW), seawater (SW), groundwater (GW), wastewater (WW), soil (SL), sediment (SD), tissue (TS), product (P), other (O)

Rev 1.1 (April 2005)

APPENDIX G:

SOIL LABORATORY ANALYTICAL DATA

June 19, 2008

Brad Bayne
PBS&J
5300 West Cypress St.
Suite #200
Tampa, FL 33607

Re: SunLabs Project Number: **080522.01**
Client Project Description: **Arsenic Delineation**

Dear Mr. Bayne:

Enclosed is the report of laboratory analysis for the following samples:

Sample Number	Sample Description	Date Collected
66685	SB-11R-4-2	5/21/2008
66686	SPLP/66685 (SB-11R-4-2)	
66687	SB-11R-4-4	5/21/2008
66688	SPLP/66687 (SB-11R-4-4)	
66689	SB-11R-4-6	5/21/2008
66690	SPLP/66689 (SB-11R-4-6)	
66691	Duplicate A	5/21/2008
66692	SB-11R-5-2	5/21/2008
66693	SB-11R-5-4	5/21/2008
66694	SB-11R-5-6	5/21/2008
66695	SPLP/66694 (SB-11R-5-6)	
66696	SB-11R-6-2	5/21/2008
66697	SB-11R-6-4	5/21/2008
66698	SB-11R-6-6	5/21/2008
66699	SB-11R-7-2	5/21/2008
66700	SB-11R-7-4	5/21/2008
66701	SB-11R-7-6	5/21/2008
66702	Duplicate B	5/21/2008
66703	SB-11R-8-2	5/21/2008
66704	SB-11R-8-4	5/21/2008
66705	SB-11R-8-6	5/21/2008
66706	SB-11R-9-2	5/21/2008
66707	SB-11R-9-4	5/21/2008
66708	SB-11R-9-6	5/21/2008
66709	SB-11R-10-2	5/21/2008
66710	Duplicate C	5/21/2008
66711	SB-11R-10-4	5/21/2008
66712	SB-11R-10-6	5/21/2008
66713	SB-11R-11-2	5/21/2008
66714	SB-11R-11-4	5/21/2008

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520
Tampa, FL 33634

Phone: (813) 881-9401
Email: Info@SunLabsInc.com
Website: www.SunLabsInc.com

Unless Otherwise Noted and Where Applicable:

Sample Number	Sample Description	Date Collected
66715	SB-11R-11-6	5/21/2008
66716	SB-11R-12-2	5/21/2008
66717	SB-11R-12-4	5/21/2008
66718	SB-11R-12-6	5/21/2008
66719	SB-11R-13-2	5/21/2008
66720	SB-11R-13-4	5/21/2008
66721	SB-11R-13-6	5/21/2008
66722	SB-11R-14-2	5/21/2008
66723	SB-11R-14-4	5/21/2008
66724	SB-11R-14-6	5/21/2008
66725	Duplicate D	5/21/2008
66726	SB-11R-15-2	5/21/2008
66727	SB-11R-15-4	5/21/2008
66728	SB-11R-15-6	5/21/2008

Copies of the Chain(s)-of-Custody, if received, are attached to this report.

If you have any questions or comments concerning this report, please do not hesitate to contact us.

Michael W. Palmer

Michael W. Palmer
Vice President, Laboratory Operations

Enclosures

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66685**				Matrix		Soil		
Sample Designation	**SB-11R-4-2**				Date Collected		5/21/2008 09:10		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	10			0.11		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 16:51	
Arsenic	6010	mg/kg	0.57 I	1	0.22	0.89	7440-38-2	05/28/08 16:51	05/28/08 08:45
Iron									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/29/2008	10				05/29/08 10:38	
Iron	6010	mg/kg	1600	10	1.1	4.4	7439-89-6	05/29/08 10:38	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 18:57	
Chromium	6010	mg/kg	7.2	1	0.22	0.89	7440-47-3	06/03/08 18:57	05/28/08 08:45
Copper	6010	mg/kg	0.067 U	1	0.067	0.27	7440-50-8	06/03/08 18:57	05/28/08 08:45
Lead	6010	mg/kg	2.0	1	0.22	0.89	7439-92-1	06/03/08 18:57	05/28/08 08:45
Synthetic Precipitation Leaching Procedure									
SPLP - Date Leached	1312		05/22/08	1				05/22/08	05/22/08
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	224	1	4	12		06/18/08 12:39	
End of Sample No: 66685									
SunLabs Sample Number	**66686**				Matrix		Leachate		
Sample Designation	**SPLP/66685 (SB-11R-4-2)**				Date Collected				
					Date Received				
Anions by Ion Chromatography									
Date Analyzed			06/04/08	1				06/04/08 20:44	06/04/08 14:22
Nitrate-N	300.0	mg/L	2.4	1	0.014	0.056		06/04/08 20:44	06/04/08 14:22
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.21	1	0.01	0.03		06/06/08 16:29	06/06/08 16:29
Arsenic by ICP									
Date Digested	3010		5/28/2008						05/28/08 09:00
Date Analyzed	6010		5/28/2008	1				05/28/08 16:17	
Arsenic	6010	mg/L	0.011 I	1	0.0048	0.019	7440-38-2	05/28/08 16:17	05/28/08 09:00
End of Sample No: 66686									

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520
Tampa, FL 33634

Laboratory ID Number - E84809

Phone: (813) 881-9401
Email: Info@SunLabsInc.com
Website: www.SunLabsInc.com

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66687**				Matrix		Soil		
Sample Designation	**SB-11R-4-4**				Date Collected		5/21/2008 09:15		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	23			0.13		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 16:58	
Arsenic	6010	mg/kg	0.26 U	1	0.26	1	7440-38-2	05/28/08 16:58	05/28/08 08:45
Iron									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/29/2008	1				05/29/08 09:23	
Iron	6010	mg/kg	43	1	0.13	0.52	7439-89-6	05/29/08 09:23	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 19:12	
Chromium	6010	mg/kg	0.26 U	1	0.26	1	7440-47-3	06/03/08 19:12	05/28/08 08:45
Copper	6010	mg/kg	0.078 U	1	0.078	0.31	7440-50-8	06/03/08 19:12	05/28/08 08:45
Lead	6010	mg/kg	0.26 U	1	0.26	1	7439-92-1	06/03/08 19:12	05/28/08 08:45
Synthetic Precipitation Leaching Procedure									
SPLP - Date Leached	1312		05/22/08	1				05/22/08	05/22/08
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	137	1	4	12		06/18/08 12:39	
End of Sample No: 66687									
SunLabs Sample Number	**66688**				Matrix		Leachate		
Sample Designation	**SPLP/66687 (SB-11R-4-4)**				Date Collected				
					Date Received				
Anions by Ion Chromatography									
Date Analyzed			06/04/08	1				06/04/08 21:47	06/04/08 14:22
Nitrate-N	300.0	mg/L	2.2	1	0.014	0.056		06/04/08 21:47	06/04/08 14:22
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.47	1	0.01	0.03		06/06/08 16:29	06/06/08 16:29
Arsenic by ICP									
Date Digested	3010		5/28/2008						05/28/08 09:00
Date Analyzed	6010		5/28/2008	1				05/28/08 16:30	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	05/28/08 16:30	05/28/08 09:00
End of Sample No: 66688									

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66689**				Matrix		Soil		
Sample Designation	**SB-11R-4-6**				Date Collected		5/21/2008 09:20		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	15			0.12		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 17:00	
Arsenic	6010	mg/kg	0.69 I	1	0.24	0.94	7440-38-2	05/28/08 17:00	05/28/08 08:45
Iron									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/29/2008	10				05/29/08 10:41	
Iron	6010	mg/kg	1900	10	1.2	4.7	7439-89-6	05/29/08 10:41	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 19:15	
Chromium	6010	mg/kg	1.1	1	0.24	0.94	7440-47-3	06/03/08 19:15	05/28/08 08:45
Copper	6010	mg/kg	0.071 U	1	0.071	0.28	7440-50-8	06/03/08 19:15	05/28/08 08:45
Lead	6010	mg/kg	0.52 I	1	0.24	0.94	7439-92-1	06/03/08 19:15	05/28/08 08:45
Synthetic Precipitation Leaching Procedure									
SPLP - Date Leached	1312		05/22/08	1				05/22/08	05/22/08
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	139	1	4	12		06/18/08 12:39	
End of Sample No: 66689									
SunLabs Sample Number	**66690**				Matrix		Leachate		
Sample Designation	**SPLP/66689 (SB-11R-4-6)**				Date Collected				
					Date Received				
Anions by Ion Chromatography									
Date Analyzed			06/04/08	1				06/04/08 22:03	06/04/08 14:22
Nitrate-N	300.0	mg/L	2.0	1	0.014	0.056		06/04/08 22:03	06/04/08 14:22
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.42	1	0.01	0.03		06/06/08 16:30	06/06/08 16:30
Arsenic by ICP									
Date Digested	3010		5/28/2008						05/28/08 09:00
Date Analyzed	6010		5/28/2008	1				05/28/08 16:32	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	05/28/08 16:32	05/28/08 09:00
End of Sample No: 66690									

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66691**				Matrix		Soil		
Sample Designation	**Duplicate A**				Date Collected		5/21/2008 09:20		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	17			0.12		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 17:02	
Arsenic	6010	mg/kg	0.28 I	1	0.24	0.96	7440-38-2	05/28/08 17:02	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 19:18	
Chromium	6010	mg/kg	0.95 I	1	0.24	0.96	7440-47-3	06/03/08 19:18	05/28/08 08:45
Copper	6010	mg/kg	0.072 U	1	0.072	0.29	7440-50-8	06/03/08 19:18	05/28/08 08:45
Lead	6010	mg/kg	0.50 I	1	0.24	0.96	7439-92-1	06/03/08 19:18	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	165	1	4	12		06/18/08 12:39	

End of Sample No: 66691

SunLabs Sample Number	**66692**				Matrix		Soil		
Sample Designation	**SB-11R-5-2**				Date Collected		5/21/2008 09:50		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	9			0.11		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 17:05	
Arsenic	6010	mg/kg	0.22 U	1	0.22	0.88	7440-38-2	05/28/08 17:05	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 19:22	
Chromium	6010	mg/kg	2.7	1	0.22	0.88	7440-47-3	06/03/08 19:22	05/28/08 08:45
Copper	6010	mg/kg	0.066 U	1	0.066	0.26	7440-50-8	06/03/08 19:22	05/28/08 08:45
Lead	6010	mg/kg	0.81 I	1	0.22	0.88	7439-92-1	06/03/08 19:22	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	343	1	4	12		06/18/08 12:39	

End of Sample No: 66692

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66693**				Matrix		Soil		
Sample Designation	**SB-11R-5-4**				Date Collected		5/21/2008 09:55		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	10			0.11		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 17:07	
Arsenic	6010	mg/kg	0.22 U	1	0.22	0.89	7440-38-2	05/28/08 17:07	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 19:25	
Chromium	6010	mg/kg	0.22 U	1	0.22	0.89	7440-47-3	06/03/08 19:25	05/28/08 08:45
Copper	6010	mg/kg	0.067 U	1	0.067	0.27	7440-50-8	06/03/08 19:25	05/28/08 08:45
Lead	6010	mg/kg	0.22 U	1	0.22	0.89	7439-92-1	06/03/08 19:25	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	60.8	1	4	12		06/18/08 12:39	

End of Sample No: 66693

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66694**				Matrix		Soil		
Sample Designation	**SB-11R-5-6**				Date Collected		5/21/2008 10:00		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	14			0.12		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 17:09	
Arsenic	6010	mg/kg	0.46 I	1	0.23	0.93	7440-38-2	05/28/08 17:09	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 19:28	
Chromium	6010	mg/kg	1.9	1	0.23	0.93	7440-47-3	06/03/08 19:28	05/28/08 08:45
Copper	6010	mg/kg	0.07 U	1	0.07	0.28	7440-50-8	06/03/08 19:28	05/28/08 08:45
Lead	6010	mg/kg	1.0	1	0.23	0.93	7439-92-1	06/03/08 19:28	05/28/08 08:45
Synthetic Precipitation Leaching Procedure									
SPLP - Date Leached	1312		05/22/08	1				05/22/08	05/22/08
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	83.4	1	4	12		06/18/08 12:39	
End of Sample No: 66694									
SunLabs Sample Number	**66695**				Matrix		Leachate		
Sample Designation	**SPLP/66694 (SB-11R-5-6)**				Date Collected				
					Date Received				
Anions by Ion Chromatography									
Date Analyzed			06/04/08	1				06/04/08 22:19	06/04/08 14:22
Nitrate-N	300.0	mg/L	2.1	1	0.014	0.056		06/04/08 22:19	06/04/08 14:22
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.51	1	0.01	0.03		06/06/08 16:30	06/06/08 16:30
Arsenic by ICP									
Date Digested	3010		5/28/2008						05/28/08 09:00
Date Analyzed	6010		5/28/2008	1				05/28/08 16:35	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	05/28/08 16:35	05/28/08 09:00
End of Sample No: 66695									

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66696**				Matrix		Soil		
Sample Designation	**SB-11R-6-2**				Date Collected		5/21/2008 10:20		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	9			0.11		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 17:12	
Arsenic	6010	mg/kg	0.60 I	1	0.22	0.88	7440-38-2	05/28/08 17:12	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 19:32	
Chromium	6010	mg/kg	16	1	0.22	0.88	7440-47-3	06/03/08 19:32	05/28/08 08:45
Copper	6010	mg/kg	0.066 U	1	0.066	0.26	7440-50-8	06/03/08 19:32	05/28/08 08:45
Lead	6010	mg/kg	2.5	1	0.22	0.88	7439-92-1	06/03/08 19:32	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	155	1	4	12		06/18/08 12:39	

End of Sample No: 66696

SunLabs Sample Number	**66697**				Matrix		Soil		
Sample Designation	**SB-11R-6-4**				Date Collected		5/21/2008 10:25		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	10			0.11		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 17:14	
Arsenic	6010	mg/kg	0.77 I	1	0.22	0.89	7440-38-2	05/28/08 17:14	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 19:36	
Chromium	6010	mg/kg	17	1	0.22	0.89	7440-47-3	06/03/08 19:36	05/28/08 08:45
Copper	6010	mg/kg	0.067 U	1	0.067	0.27	7440-50-8	06/03/08 19:36	05/28/08 08:45
Lead	6010	mg/kg	2.5	1	0.22	0.89	7439-92-1	06/03/08 19:36	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	137	1	4	12		06/18/08 12:39	

End of Sample No: 66697

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number **66698**									
Sample Designation **SB-11R-6-6**									
Matrix			Soil						
Date Collected			5/21/2008 10:30						
Date Received			5/22/2008 09:35						
Percent Moisture									
% Moisture	160.3M	%	15			0.12		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 17:16	
Arsenic	6010	mg/kg	0.24 U	1	0.24	0.94	7440-38-2	05/28/08 17:16	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 19:39	
Chromium	6010	mg/kg	1.1	1	0.24	0.94	7440-47-3	06/03/08 19:39	05/28/08 08:45
Copper	6010	mg/kg	0.071 U	1	0.071	0.28	7440-50-8	06/03/08 19:39	05/28/08 08:45
Lead	6010	mg/kg	0.53 I	1	0.24	0.94	7439-92-1	06/03/08 19:39	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	61.3	1	4	12		06/18/08 12:39	
End of Sample No: 66698									
SunLabs Sample Number **66699**									
Sample Designation **SB-11R-7-2**									
Matrix			Soil						
Date Collected			5/21/2008 10:55						
Date Received			5/22/2008 09:35						
Percent Moisture									
% Moisture	160.3M	%	10			0.11		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 17:19	
Arsenic	6010	mg/kg	0.84 I *	1	0.22	0.89	7440-38-2	05/28/08 17:19	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 19:43	
Chromium	6010	mg/kg	17	1	0.22	0.89	7440-47-3	06/03/08 19:43	05/28/08 08:45
Copper	6010	mg/kg	0.067 U	1	0.067	0.27	7440-50-8	06/03/08 19:43	05/28/08 08:45
Lead	6010	mg/kg	2.5	1	0.22	0.89	7439-92-1	06/03/08 19:43	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	214	1	4	12		06/18/08 12:39	
End of Sample No: 66699									

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66700**								
Sample Designation	**SB-11R-7-4**								
Matrix			Soil						
Date Collected			5/21/2008 11:00						
Date Received			5/22/2008 09:35						
Percent Moisture									
% Moisture	160.3M	%	17			0.12		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 21:15	
Arsenic	6010	mg/kg	0.34 I	1	0.24	0.96	7440-38-2	05/28/08 21:15	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 19:53	
Chromium	6010	mg/kg	13	1	0.24	0.96	7440-47-3	06/03/08 19:53	05/28/08 08:45
Copper	6010	mg/kg	0.072 U	1	0.072	0.29	7440-50-8	06/03/08 19:53	05/28/08 08:45
Lead	6010	mg/kg	2.4	1	0.24	0.96	7439-92-1	06/03/08 19:53	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	93.9	1	4	12		06/18/08 12:39	
End of Sample No: 66700									
SunLabs Sample Number	**66701**								
Sample Designation	**SB-11R-7-6**								
Matrix			Soil						
Date Collected			5/21/2008 11:05						
Date Received			5/22/2008 09:35						
Percent Moisture									
% Moisture	160.3M	%	17			0.12		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 21:18	
Arsenic	6010	mg/kg	0.24 U	1	0.24	0.96	7440-38-2	05/28/08 21:18	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 19:57	
Chromium	6010	mg/kg	0.71 I	1	0.24	0.96	7440-47-3	06/03/08 19:57	05/28/08 08:45
Copper	6010	mg/kg	0.072 U	1	0.072	0.29	7440-50-8	06/03/08 19:57	05/28/08 08:45
Lead	6010	mg/kg	0.24 U	1	0.24	0.96	7439-92-1	06/03/08 19:57	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	86.1	1	4	12		06/18/08 12:39	
End of Sample No: 66701									

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66702**				Matrix		Soil		
Sample Designation	**Duplicate B**				Date Collected		5/21/2008 11:00		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	11			0.11		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 21:20	
Arsenic	6010	mg/kg	0.61 I	1	0.22	0.9	7440-38-2	05/28/08 21:20	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 20:00	
Chromium	6010	mg/kg	13	1	0.22	0.9	7440-47-3	06/03/08 20:00	05/28/08 08:45
Copper	6010	mg/kg	0.067 U	1	0.067	0.27	7440-50-8	06/03/08 20:00	05/28/08 08:45
Lead	6010	mg/kg	2.1	1	0.22	0.9	7439-92-1	06/03/08 20:00	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	82.6	1	4	12		06/18/08 12:39	

End of Sample No: 66702

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66703**				Matrix		Soil		
Sample Designation	**SB-11R-8-2**				Date Collected		5/21/2008 11:35		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	20			0.12		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 21:22	
Arsenic	6010	mg/kg	3.8	1	0.25	1	7440-38-2	05/28/08 21:22	05/28/08 08:45
Iron									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/29/2008	10				05/29/08 10:43	
Iron	6010	mg/kg	2400	10	1.2	5	7439-89-6	05/29/08 10:43	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 20:04	
Chromium	6010	mg/kg	22	1	0.25	1	7440-47-3	06/03/08 20:04	05/28/08 08:45
Copper	6010	mg/kg	1.0	1	0.075	0.3	7440-50-8	06/03/08 20:04	05/28/08 08:45
Lead	6010	mg/kg	1.7	1	0.25	1	7439-92-1	06/03/08 20:04	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	50.2	1	4	12		06/18/08 12:39	

End of Sample No: 66703

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66704**				Matrix		Soil		
Sample Designation	**SB-11R-8-4**				Date Collected		5/21/2008 11:40		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	19			0.12		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 21:25	
Arsenic	6010	mg/kg	0.25 U	1	0.25	0.99	7440-38-2	05/28/08 21:25	05/28/08 08:45
Iron									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/29/2008	1				05/29/08 09:35	
Iron	6010	mg/kg	120	1	0.12	0.49	7439-89-6	05/29/08 09:35	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 20:08	
Chromium	6010	mg/kg	0.26 I	1	0.25	0.99	7440-47-3	06/03/08 20:08	05/28/08 08:45
Copper	6010	mg/kg	0.074 U	1	0.074	0.3	7440-50-8	06/03/08 20:08	05/28/08 08:45
Lead	6010	mg/kg	0.25 U	1	0.25	0.99	7439-92-1	06/03/08 20:08	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	375	1	4	12		06/18/08 12:39	

End of Sample No: 66704

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66705**				Matrix		Soil		
Sample Designation	**SB-11R-8-6**				Date Collected		5/21/2008 11:45		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	16			0.12		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 21:27	
Arsenic	6010	mg/kg	0.24 U	1	0.24	0.95	7440-38-2	05/28/08 21:27	05/28/08 08:45
Iron									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/29/2008	1				05/29/08 09:37	
Iron	6010	mg/kg	150	1	0.12	0.48	7439-89-6	05/29/08 09:37	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 20:11	
Chromium	6010	mg/kg	1.0	1	0.24	0.95	7440-47-3	06/03/08 20:11	05/28/08 08:45
Copper	6010	mg/kg	0.071 U	1	0.071	0.29	7440-50-8	06/03/08 20:11	05/28/08 08:45
Lead	6010	mg/kg	0.24 U	1	0.24	0.95	7439-92-1	06/03/08 20:11	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	172	1	4	12		06/18/08 12:39	

End of Sample No: 66705

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number **66706**					Matrix		Soil		
Sample Designation **SB-11R-9-2**					Date Collected		5/21/2008 12:05		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	11			0.11		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 21:46	
Arsenic	6010	mg/kg	1.0	1	0.22	0.9	7440-38-2	05/28/08 21:46	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 20:39	
Chromium	6010	mg/kg	23	1	0.22	0.9	7440-47-3	06/03/08 20:39	05/28/08 08:45
Copper	6010	mg/kg	1.3	1	0.067	0.27	7440-50-8	06/03/08 20:39	05/28/08 08:45
Lead	6010	mg/kg	2.6	1	0.22	0.9	7439-92-1	06/03/08 20:39	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	111	1	4	12		06/18/08 12:39	
End of Sample No: 66706									
SunLabs Sample Number **66707**					Matrix		Soil		
Sample Designation **SB-11R-9-4**					Date Collected		5/21/2008 12:10		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	19			0.12		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 21:48	
Arsenic	6010	mg/kg	0.83 I	1	0.25	0.99	7440-38-2	05/28/08 21:48	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 20:43	
Chromium	6010	mg/kg	17	1	0.25	0.99	7440-47-3	06/03/08 20:43	05/28/08 08:45
Copper	6010	mg/kg	0.074 U	1	0.074	0.3	7440-50-8	06/03/08 20:43	05/28/08 08:45
Lead	6010	mg/kg	2.6	1	0.25	0.99	7439-92-1	06/03/08 20:43	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	119	1	4	12		06/18/08 12:39	
End of Sample No: 66707									

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66708**				Matrix		Soil		
Sample Designation	**SB-11R-9-6**				Date Collected		5/21/2008 12:15		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	19			0.12		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 21:50	
Arsenic	6010	mg/kg	0.25 U	1	0.25	0.99	7440-38-2	05/28/08 21:50	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 20:46	
Chromium	6010	mg/kg	0.29 I	1	0.25	0.99	7440-47-3	06/03/08 20:46	05/28/08 08:45
Copper	6010	mg/kg	0.074 U	1	0.074	0.3	7440-50-8	06/03/08 20:46	05/28/08 08:45
Lead	6010	mg/kg	0.25 U	1	0.25	0.99	7439-92-1	06/03/08 20:46	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	32.8	1	4	12		06/18/08 12:39	

End of Sample No: 66708

SunLabs Sample Number	**66709**				Matrix		Soil		
Sample Designation	**SB-11R-10-2**				Date Collected		5/21/2008 13:40		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	21			0.13		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 21:52	
Arsenic	6010	mg/kg	2.2	1	0.25	1	7440-38-2	05/28/08 21:52	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 20:50	
Chromium	6010	mg/kg	15	1	0.25	1	7440-47-3	06/03/08 20:50	05/28/08 08:45
Copper	6010	mg/kg	0.076 U	1	0.076	0.3	7440-50-8	06/03/08 20:50	05/28/08 08:45
Lead	6010	mg/kg	2.6	1	0.25	1	7439-92-1	06/03/08 20:50	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	90.7	1	4	12		06/18/08 12:39	

End of Sample No: 66709

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66710**				Matrix		Soil		
Sample Designation	**Duplicate C**				Date Collected		5/21/2008 13:40		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	10			0.11		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 21:55	
Arsenic	6010	mg/kg	1.4	1	0.22	0.89	7440-38-2	05/28/08 21:55	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 20:53	
Chromium	6010	mg/kg	13	1	0.22	0.89	7440-47-3	06/03/08 20:53	05/28/08 08:45
Copper	6010	mg/kg	0.067 U	1	0.067	0.27	7440-50-8	06/03/08 20:53	05/28/08 08:45
Lead	6010	mg/kg	2.5	1	0.22	0.89	7439-92-1	06/03/08 20:53	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	95.5	1	4	12		06/18/08 12:39	
End of Sample No: 66710									
SunLabs Sample Number	**66711**				Matrix		Soil		
Sample Designation	**SB-11R-10-4**				Date Collected		5/21/2008 13:45		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	11			0.11		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 21:57	
Arsenic	6010	mg/kg	0.44 I	1	0.22	0.9	7440-38-2	05/28/08 21:57	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 20:57	
Chromium	6010	mg/kg	25	1	0.22	0.9	7440-47-3	06/03/08 20:57	05/28/08 08:45
Copper	6010	mg/kg	0.99	1	0.067	0.27	7440-50-8	06/03/08 20:57	05/28/08 08:45
Lead	6010	mg/kg	3.8	1	0.22	0.9	7439-92-1	06/03/08 20:57	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	158	1	4	12		06/18/08 12:39	
End of Sample No: 66711									

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66712**				Matrix		Soil		
Sample Designation	**SB-11R-10-6**				Date Collected		5/21/2008 13:50		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	17			0.12		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 21:59	
Arsenic	6010	mg/kg	0.24 U	1	0.24	0.96	7440-38-2	05/28/08 21:59	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 21:01	
Chromium	6010	mg/kg	1.7	1	0.24	0.96	7440-47-3	06/03/08 21:01	05/28/08 08:45
Copper	6010	mg/kg	0.072 U	1	0.072	0.29	7440-50-8	06/03/08 21:01	05/28/08 08:45
Lead	6010	mg/kg	0.24 U	1	0.24	0.96	7439-92-1	06/03/08 21:01	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	51.9	1	4	12		06/18/08 12:39	
End of Sample No: 66712									
SunLabs Sample Number	**66713**				Matrix		Soil		
Sample Designation	**SB-11R-11-2**				Date Collected		5/21/2008 14:15		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	11			0.11		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 22:02	
Arsenic	6010	mg/kg	0.33 I	1	0.22	0.9	7440-38-2	05/28/08 22:02	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 21:04	
Chromium	6010	mg/kg	12	1	0.22	0.9	7440-47-3	06/03/08 21:04	05/28/08 08:45
Copper	6010	mg/kg	0.067 U	1	0.067	0.27	7440-50-8	06/03/08 21:04	05/28/08 08:45
Lead	6010	mg/kg	1.8	1	0.22	0.9	7439-92-1	06/03/08 21:04	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	181	1	4	12		06/18/08 12:39	
End of Sample No: 66713									

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number **66714**									
Sample Designation **SB-11R-11-4**									
Matrix			Soil						
Date Collected			5/21/2008 14:20						
Date Received			5/22/2008 09:35						
Percent Moisture									
% Moisture	160.3M	%	19			0.12		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 22:04	
Arsenic	6010	mg/kg	0.25 U	1	0.25	0.99	7440-38-2	05/28/08 22:04	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 21:08	
Chromium	6010	mg/kg	0.66 I	1	0.25	0.99	7440-47-3	06/03/08 21:08	05/28/08 08:45
Copper	6010	mg/kg	0.074 U	1	0.074	0.3	7440-50-8	06/03/08 21:08	05/28/08 08:45
Lead	6010	mg/kg	0.25 U	1	0.25	0.99	7439-92-1	06/03/08 21:08	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	104	1	4	12		06/18/08 12:39	
End of Sample No: 66714									
SunLabs Sample Number **66715**									
Sample Designation **SB-11R-11-6**									
Matrix			Soil						
Date Collected			5/21/2008 14:25						
Date Received			5/22/2008 09:35						
Percent Moisture									
% Moisture	160.3M	%	13			0.11		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 22:11	
Arsenic	6010	mg/kg	1.5	1	0.23	0.92	7440-38-2	05/28/08 22:11	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 21:18	
Chromium	6010	mg/kg	0.62 I	1	0.23	0.92	7440-47-3	06/03/08 21:18	05/28/08 08:45
Copper	6010	mg/kg	0.069 U	1	0.069	0.28	7440-50-8	06/03/08 21:18	05/28/08 08:45
Lead	6010	mg/kg	0.23 U	1	0.23	0.92	7439-92-1	06/03/08 21:18	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	149	1	4	12		06/18/08 12:39	
End of Sample No: 66715									

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66716**				Matrix		Soil		
Sample Designation	**SB-11R-12-2**				Date Collected		5/21/2008 14:35		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	9			0.11		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 22:13	
Arsenic	6010	mg/kg	0.45 I	1	0.22	0.88	7440-38-2	05/28/08 22:13	05/28/08 08:45
Iron									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/29/2008	5				05/29/08 10:48	
Iron	6010	mg/kg	690	5	0.55	2.2	7439-89-6	05/29/08 10:48	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 21:22	
Chromium	6010	mg/kg	4.4	1	0.22	0.88	7440-47-3	06/03/08 21:22	05/28/08 08:45
Copper	6010	mg/kg	0.066 U	1	0.066	0.26	7440-50-8	06/03/08 21:22	05/28/08 08:45
Lead	6010	mg/kg	0.90	1	0.22	0.88	7439-92-1	06/03/08 21:22	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	202	1	4	12		06/18/08 12:39	

End of Sample No: 66716

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66717**				Matrix		Soil		
Sample Designation	**SB-11R-12-4**				Date Collected		5/21/2008 14:40		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	12			0.11		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 22:16	
Arsenic	6010	mg/kg	0.23 U	1	0.23	0.91	7440-38-2	05/28/08 22:16	05/28/08 08:45
Iron									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/29/2008	1				05/29/08 09:56	
Iron	6010	mg/kg	16	1	0.11	0.45	7439-89-6	05/29/08 09:56	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 21:25	
Chromium	6010	mg/kg	0.23 U	1	0.23	0.91	7440-47-3	06/03/08 21:25	05/28/08 08:45
Copper	6010	mg/kg	0.068 U	1	0.068	0.27	7440-50-8	06/03/08 21:25	05/28/08 08:45
Lead	6010	mg/kg	0.23 U	1	0.23	0.91	7439-92-1	06/03/08 21:25	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	53.5	1	4	12		06/18/08 12:39	

End of Sample No: 66717

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66718**				Matrix		Soil		
Sample Designation	**SB-11R-12-6**				Date Collected		5/21/2008 14:45		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	15			0.12		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 22:18	
Arsenic	6010	mg/kg	0.69 I	1	0.24	0.94	7440-38-2	05/28/08 22:18	05/28/08 08:45
Iron									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/29/2008	10				05/29/08 10:50	
Iron	6010	mg/kg	1900	10	1.2	4.7	7439-89-6	05/29/08 10:50	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 21:29	
Chromium	6010	mg/kg	0.69 I	1	0.24	0.94	7440-47-3	06/03/08 21:29	05/28/08 08:45
Copper	6010	mg/kg	0.071 U	1	0.071	0.28	7440-50-8	06/03/08 21:29	05/28/08 08:45
Lead	6010	mg/kg	0.24 U	1	0.24	0.94	7439-92-1	06/03/08 21:29	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	95.0	1	4	12		06/18/08 12:39	

End of Sample No: 66718

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66719**				Matrix		Soil		
Sample Designation	**SB-11R-13-2**				Date Collected		5/21/2008 14:55		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	10			0.11		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 22:20	
Arsenic	6010	mg/kg	1.4	1	0.22	0.89	7440-38-2	05/28/08 22:20	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 21:33	
Chromium	6010	mg/kg	18	1	0.22	0.89	7440-47-3	06/03/08 21:33	05/28/08 08:45
Copper	6010	mg/kg	1.0	1	0.067	0.27	7440-50-8	06/03/08 21:33	05/28/08 08:45
Lead	6010	mg/kg	2.2	1	0.22	0.89	7439-92-1	06/03/08 21:33	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	280	1	4	12		06/18/08 12:39	
End of Sample No: 66719									
SunLabs Sample Number	**66720**				Matrix		Soil		
Sample Designation	**SB-11R-13-4**				Date Collected		5/21/2008 15:00		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	11			0.11		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 22:22	
Arsenic	6010	mg/kg	0.22 U	1	0.22	0.9	7440-38-2	05/28/08 22:22	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 21:36	
Chromium	6010	mg/kg	0.34 I	1	0.22	0.9	7440-47-3	06/03/08 21:36	05/28/08 08:45
Copper	6010	mg/kg	0.067 U	1	0.067	0.27	7440-50-8	06/03/08 21:36	05/28/08 08:45
Lead	6010	mg/kg	0.22 U	1	0.22	0.9	7439-92-1	06/03/08 21:36	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	82.0	1	4	12		06/18/08 12:39	
End of Sample No: 66720									

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66721**				Matrix		Soil		
Sample Designation	**SB-11R-13-6**				Date Collected		5/21/2008 15:05		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	12			0.11		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 22:25	
Arsenic	6010	mg/kg	0.23 U	1	0.23	0.91	7440-38-2	05/28/08 22:25	05/28/08 08:45
Iron									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/29/2008	2				05/29/08 10:53	
Iron	6010	mg/kg	310	2	0.22	0.9	7439-89-6	05/29/08 10:53	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 21:40	
Chromium	6010	mg/kg	0.76 I	1	0.23	0.91	7440-47-3	06/03/08 21:40	05/28/08 08:45
Copper	6010	mg/kg	0.068 U	1	0.068	0.27	7440-50-8	06/03/08 21:40	05/28/08 08:45
Lead	6010	mg/kg	0.23 U	1	0.23	0.91	7439-92-1	06/03/08 21:40	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	104	1	4	12		06/18/08 12:39	

End of Sample No: 66721

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66722**				Matrix		Soil		
Sample Designation	**SB-11R-14-2**				Date Collected		5/21/2008 15:15		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	11			0.11		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 22:27	
Arsenic	6010	mg/kg	1.4	1	0.22	0.9	7440-38-2	05/28/08 22:27	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 21:43	
Chromium	6010	mg/kg	2.3	1	0.22	0.9	7440-47-3	06/03/08 21:43	05/28/08 08:45
Copper	6010	mg/kg	0.067 U	1	0.067	0.27	7440-50-8	06/03/08 21:43	05/28/08 08:45
Lead	6010	mg/kg	0.95	1	0.22	0.9	7439-92-1	06/03/08 21:43	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	203	1	4	12		06/18/08 12:39	

End of Sample No: 66722

SunLabs Sample Number	**66723**				Matrix		Soil		
Sample Designation	**SB-11R-14-4**				Date Collected		5/21/2008 15:20		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	12			0.11		05/28/08	
Arsenic									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		5/28/2008	1				05/28/08 22:30	
Arsenic	6010	mg/kg	1.7	1	0.23	0.91	7440-38-2	05/28/08 22:30	05/28/08 08:45
RCRA Metals-Totals									
Date Digested	3050		5/28/2008						05/28/08 08:45
Date Analyzed	6010		6/3/2008	1				06/03/08 21:47	
Chromium	6010	mg/kg	0.55 I	1	0.23	0.91	7440-47-3	06/03/08 21:47	05/28/08 08:45
Copper	6010	mg/kg	0.068 U	1	0.068	0.27	7440-50-8	06/03/08 21:47	05/28/08 08:45
Lead	6010	mg/kg	0.23 U	1	0.23	0.91	7439-92-1	06/03/08 21:47	05/28/08 08:45
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	174	1				06/18/08 12:39	

End of Sample No: 66723

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66724**								
Sample Designation	**SB-11R-14-6**								
				Matrix			Soil		
				Date Collected			5/21/2008 15:25		
				Date Received			5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	21			0.13		05/28/08	
Arsenic									
Date Digested	3050		5/29/2008						05/29/08 08:00
Date Analyzed	6010		5/29/2008	1				05/29/08 20:00	
Arsenic	6010	mg/kg	3.2	1	0.25	1	7440-38-2	05/29/08 20:00	05/29/08 08:00
RCRA Metals-Totals									
Date Digested	3050		5/29/2008						05/29/08 08:00
Date Analyzed	6010		5/29/2008	1				05/29/08 20:00	
Chromium	6010	mg/kg	0.59 I	1	0.25	1	7440-47-3	05/29/08 20:00	05/29/08 08:00
Copper	6010	mg/kg	0.076 U	1	0.076	0.3	7440-50-8	05/29/08 20:00	05/29/08 08:00
Lead	6010	mg/kg	0.25 U	1	0.25	1	7439-92-1	05/29/08 20:00	05/29/08 08:00
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	37.8	1	4	12		06/18/08 12:39	
End of Sample No: 66724									
SunLabs Sample Number	**66725**								
Sample Designation	**Duplicate D**								
				Matrix			Soil		
				Date Collected			5/21/2008 15:25		
				Date Received			5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	16			0.12		05/28/08	
Arsenic									
Date Digested	3050		5/29/2008						05/29/08 08:00
Date Analyzed	6010		5/29/2008	1				05/29/08 20:51	
Arsenic	6010	mg/kg	2.8	1	0.24	0.95	7440-38-2	05/29/08 20:51	05/29/08 08:00
RCRA Metals-Totals									
Date Digested	3050		5/29/2008						05/29/08 08:00
Date Analyzed	6010		6/2/2008	1				06/03/08 21:50	
Chromium	6010	mg/kg	0.54 I	1	0.24	0.95	7440-47-3	06/03/08 21:50	05/29/08 08:00
Copper	6010	mg/kg	0.071 U	1	0.071	0.29	7440-50-8	06/03/08 21:50	05/29/08 08:00
Lead	6010	mg/kg	0.24 U	1	0.24	0.95	7439-92-1	06/03/08 21:50	05/29/08 08:00
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 12:39	
Total Nitrogen	351.2/353.2	mg/kg	29.9	1	4	12		06/18/08 12:39	
End of Sample No: 66725									

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66726**				Matrix		Soil		
Sample Designation	**SB-11R-15-2**				Date Collected		5/21/2008 15:45		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	9			0.11		05/28/08	
Arsenic									
Date Digested	3050		5/29/2008						05/29/08 08:00
Date Analyzed	6010		5/29/2008	1				05/29/08 20:53	
Arsenic	6010	mg/kg	1.2	1	0.22	0.88	7440-38-2	05/29/08 20:53	05/29/08 08:00
RCRA Metals-Totals									
Date Digested	3050		5/29/2008						05/29/08 08:00
Date Analyzed	6010		6/2/2008	1				06/03/08 22:01	
Chromium	6010	mg/kg	7.1	1	0.22	0.88	7440-47-3	06/03/08 22:01	05/29/08 08:00
Copper	6010	mg/kg	0.066 U	1	0.066	0.26	7440-50-8	06/03/08 22:01	05/29/08 08:00
Lead	6010	mg/kg	1.2	1	0.22	0.88	7439-92-1	06/03/08 22:01	05/29/08 08:00
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 14:16	
Total Nitrogen	351.2/353.2	mg/kg	151	1	4	12		06/18/08 14:16	
End of Sample No: 66726									
SunLabs Sample Number	**66727**				Matrix		Soil		
Sample Designation	**SB-11R-15-4**				Date Collected		5/21/2008 15:50		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	12			0.11		05/28/08	
Arsenic									
Date Digested	3050		5/29/2008						05/29/08 08:00
Date Analyzed	6010		5/29/2008	1				05/29/08 20:55	
Arsenic	6010	mg/kg	1.6	1	0.23	0.91	7440-38-2	05/29/08 20:55	05/29/08 08:00
RCRA Metals-Totals									
Date Digested	3050		5/29/2008						05/29/08 08:00
Date Analyzed	6010		6/2/2008	1				06/03/08 22:05	
Chromium	6010	mg/kg	12	1	0.23	0.91	7440-47-3	06/03/08 22:05	05/29/08 08:00
Copper	6010	mg/kg	0.068 U	1	0.068	0.27	7440-50-8	06/03/08 22:05	05/29/08 08:00
Lead	6010	mg/kg	2.0	1	0.23	0.91	7439-92-1	06/03/08 22:05	05/29/08 08:00
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 14:16	
Total Nitrogen	351.2/353.2	mg/kg	119	1	4	12		06/18/08 14:16	
End of Sample No: 66727									

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
SunLabs Sample Number	**66728**				Matrix		Soil		
Sample Designation	**SB-11R-15-6**				Date Collected		5/21/2008 15:55		
					Date Received		5/22/2008 09:35		
Percent Moisture									
% Moisture	160.3M	%	13			0.11		05/28/08	
Arsenic									
Date Digested	3050		5/29/2008						05/29/08 08:00
Date Analyzed	6010		5/29/2008	1				05/29/08 20:57	
Arsenic	6010	mg/kg	0.9 I	1	0.23	0.92	7440-38-2	05/29/08 20:57	05/29/08 08:00
RCRA Metals-Totals									
Date Digested	3050		5/29/2008						05/29/08 08:00
Date Analyzed	6010		6/2/2008	1				06/03/08 22:08	
Chromium	6010	mg/kg	0.54 I	1	0.23	0.92	7440-47-3	06/03/08 22:08	05/29/08 08:00
Copper	6010	mg/kg	0.069 U	1	0.069	0.28	7440-50-8	06/03/08 22:08	05/29/08 08:00
Lead	6010	mg/kg	0.23 U	1	0.23	0.92	7439-92-1	06/03/08 22:08	05/29/08 08:00
Total Nitrogen in Solids									
Date Analyzed			6/18/08 S8	1				06/18/08 14:16	
Total Nitrogen	351.2/353.2	mg/kg	116	1	4	12		06/18/08 14:16	

End of Sample No: 66728

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep

Footnotes

*	SunLabs is not currently NELAC certified for this analyte.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MB	Method Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NA	Sample not analyzed at client's request.
RL	RL(reporting limit) = PQL(practical quantitation limit).
RPD	Relative Percent Difference
S8	This analysis performed by Sanders Laboratories, Inc, Certification number E84380.
U	Compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.

Quality Control Data

Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Batch No: C5063

Test: RCRA Metals by EPA Method 6010

TestCode: 6010-S

Associated Samples
66685, 66687, 66689, 66691, 66692, 66693, 66694, 66696, 66697, 66698, 66699, 66700, 66701, 66702, 66703, 66704, 66705

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*66657*	*66657*					
Arsenic	0.2 U	1000	93	90	3	5	85-108	1000	91	91	0	12	59-120		
Iron	0.1 U	1000	97	94	3	6	80-112	1000	0	0	NA	0	0-219		

Batch No: C5064

Test: RCRA Metals by EPA Method 6010

TestCode: 6010-S

Associated Samples
66706, 66707, 66708, 66709, 66710, 66711, 66712, 66713, 66714, 66715, 66716, 66717, 66718, 66719, 66720, 66721, 66722, 66723

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*66706*	*66706*					
Arsenic	0.2 U	1000	95	94	1	5	85-108	1000	94	95	1	12	59-120		
Iron	0.1 U	1000	112	93	19 *	6	80-112	1000	0	0	NA	0	0-219		

Batch No: C5065

Test: Arsenic by ICP

TestCode: Arsenic-w

Associated Samples
66686, 66688, 66690, 66695

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*66686*						
Date Digested	5/28/2008 U														
Date Analyzed	5/28/2008 U														
Arsenic	0.0048 U							1000	102				59-120		

Batch No: C5085

Test: RCRA Metals by EPA Method 6010

TestCode: 6010-S

Associated Samples
66724, 66725, 66726, 66727, 66728

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*66724*	*66724*					
Aluminum	0.5 U	1000	94	95	1			1000	0	0	NA				
Antimony	0.3 U	1000	91	95	4			1000	90	92	2				
Arsenic	0.2 U	1000	91	95	4	5	85-108	1000	89	91	2	12	59-120		
Barium	0.05 U	1000	92	93	1	8	66-113	1000	94	95	1	104	33-148		
Beryllium	0.02 U	1000	91	93	2			1000	94	94	0				
Cadmium	0.03 U	1000	88	91	3	6	74-104	1000	89	90	1	6	69-111		
Calcium	1.3 I	1.00	87	89	2			1.00	0	0	NA				
Chromium	0.2 U	1000	94	92	2	7	78-106	1000	92	95	3	15	60-122		
Cobalt	0.06 U	1000	91	92	1			1000	90	91	1				
Copper	0.06 U	1000	92	91	1	7	78-104	1000	83	86	4	47	49-134		
Iron	0.1 U	1000	95	98	3	6	80-112	1000	0	0	NA	0	0-219		
Lead	0.2 U	1000	88	91	3	9	64-109	1000	86	86	0	40	54-118		
Magnesium	0.085 I	1.00	96	97	1			1.00	89	83	7				
Manganese	0.03 U	1000	94	96	2			1000	95	96	1				
Nickel	0.1 U	1000	90	91	1			1000	89	91	2				
Potassium	4.80 U	10.0	100	101	1			10.0	105	101	4				
Selenium	0.2 U	1000	89	91	2	8	76-101	1000	88	91	3	8	66-111		
Silver	0.2 U	1000	93	93	0	6	72-108	1000	92	93	1	7	62-113		
Sodium	0.6 U	10.0	102	101	1			10.0	101	100	1				
Thallium	0.1 U	1000	87	88	1			1000	86	89	3				
Vanadium	0.06 U	1000	93	94	1			1000	95	96	1				

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520
Tampa, FL 33634

Laboratory ID Number - E84809

Phone: (813) 881-9401
Email: Info@SunLabsInc.com
Website: www.SunLabsInc.com

Quality Control Data

Project Number	PBS&J
080522.01	Project Description: Arsenic Delineation

June 19, 2008

Batch No: C5085

Test: RCRA Metals by EPA Method 6010

TestCode: 6010-S

Associated Samples
66724, 66725, 66726, 66727, 66728

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*66724*	*66724*					
Zinc	0.15 U	1000	87	91	4			1000	88	90	2				

Batch No: C5124

Test: RCRA Metals-Totals

TestCode: RCRA-7+Cu-s

Associated Samples
66685, 66687, 66689, 66691, 66692, 66693, 66694, 66696, 66697, 66698, 66699, 66700, 66701, 66702, 66703, 66704, 66705

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*66657*	*66657*					
Chromium	0.2 U	1000	97	94	3	7	78-106	1000	101	92	9	15	60-122		
Copper	0.06 U	1000	94	92	2	7	78-104	1000	90	91	1	47	49-134		
Lead	0.2 U	1000	93	89	4	9	64-109	1000	103	90	13	40	54-118		

Batch No: C5125

Test: RCRA Metals-Totals

TestCode: RCRA-7+Cu-s

Associated Samples
66706, 66707, 66708, 66709, 66710, 66711, 66712, 66713, 66714, 66715, 66716, 66717, 66718, 66719, 66720, 66721, 66722, 66723

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*66706*	*66706*					
Chromium	0.2 U	1000	91	90	1	7	78-106	1000	83	85	2	15	60-122		
Copper	0.06 U	1000	90	89	1	7	78-104	1000	78	76	3	47	49-134		
Lead	0.2 U	1000	88	85	3	9	64-109	1000	77	76	1	40	54-118		

Batch No: C5165

Test: Anions by Ion Chromatography

TestCode: 300.0

Associated Samples
66686, 66688, 66690, 66695

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*67125*	*67125*					
Chloride	0.045 U	5.00	108	107	1	8	19-162	5.00	101	107	6	15	0-207		
Nitrite-N	0.016 U	5.00	107	110	3	3	21-171	5.00	107	109	2	8	43-152		
Nitrate-N	0.014 U	5.00	100	102	2	5	19-168	5.00	102	103	1	11	42-152		
Sulfate	0.036 U	5.00	105	108	3	6	21-169	5.00	106	106	0	21	0-236		

* indicates value is outside control limits for %Recovery or greater than acceptance criteria for RP

Footnotes

U — *Compound was analyzed for but not detected.*

SunLabs, Inc. Chain of Custody

(1)

№ 16390

Client Name: PBS&J
Contact: Brad Bayne
Address: 5300 West Cypress St., #200
Tampa, FL 33607
Phone / Fax: 813-282-7275
E-Mail: bjbayne@pbsj.com

SunLabs Project # 080522.01

Project Name: Arsenic Delineation
Project #: WA-09
PO #: —
Alt Bill To:

SunLabs Sample #	Sample Description	Sample Date	Sample Time	# of Bottles	Arsenic	Iron	SPLP-As
Bottle Type					S	S	S
Preservative					I	I	I
Matrix					SO	SO	SO
66685/86	SB-11R-4-2	5/21	910	2	✓	✓	✓
66687/88	SB-11R-4-4	5/21	915	2	✓	✓	✓
66689/90	SB-11R-4-6	5/21	920	2	✓	✓	✓
66691	~~SB~~ Duplicate A	5/21	920	1	✓		
66692	SB-11R-5-2	5/21	950	1	✓		
66693	SB-11R-5-4	5/21	955	1	✓		
66694/95	SB-11R-5-6	5/21	1000	2	✓	✓	
66696	SB-11R-6-2	5/21	1020	1	✓		
66697	SB-11R-6-4	5/21	1025	1	✓		
66698	SB-11R-6-6	5/21	1030	1	✓		
66699	SB-11R-7-2	5/21	1055	1	✓		
66700	SB-11R-7-4	5/21	1100	1	✓		
66701	SB-11R-7-6	5/21	1105	1	✓		
66702	~~SB-11R~~ Duplicate B	5/21	1100	1	✓		

Due Date Requested: Standard

☐ FDEP PreApproval site
☒ Current rates ☐ Old rates
☐ Cash rates

Remarks / Comments:

Add Cu, Cr, Pb, TN to all samples

Add Nitrate, NH3 to leachates

Sampler Signature / Date: 5/22/08

Printed Name / Affiliation: Brad Bayne / PBS&J

SUNLABS, INC. RESERVES THE RIGHT TO BILL FOR UNUSED/UNRETURNED SAMPLES AND TO RETURN UNUSED SAMPLES

Relinquished By:	Relinquished To:	Date:	Time:
		5/19	4pm
	LA Palmer	5/22	0935

Bottle Type Codes:

GV = Glass Vial
GA = Glass Amber
P = Plastic
S = Soil Jar
GVS = Low Level Volatile Kit
T = Tedlar Bag
O = Other

Preservative Codes:

H = Hydrochloric Acid + Ice
I = Ice only
N = Nitric Acid + Ice
S = Sulfuric Acid + Ice
VS = MeOH, OFW, + Ice
O = Other (Specify)

Matrix Codes:

A = Air
DW = Drinking Water
GW = Ground Water
SE = Sediment
SO = Soil
SOL = Solid
SW = Surface Water
W = Water (Blanks)
O = Other (Specify)

Internal Use Only:

Sample Condition Upon Receipt:

Custody Seals present? Y / N / NA
Shipping Bills attached? Y / N / NA
Sample containers intact? Y / N / NA
Samples within holding times? Y / N / NA
Sufficient volume for all analyses? Y / N / NA
Are vials head-space free? Y / N / NA
Proper containers and preservatives? Y / N / NA

Temp 5.7 °C

Received on Ice? Y / N / NA

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520, Tampa, Florida 33634
Phone: 813-881-9401 / Fax: 813-354-4661
e-mail: info@SunLabsInc.com www.SunLabsInc.com

(2)

SunLabs, Inc. Chain of Custody

№ 16389

Client Name: PBS&J
Contact: Brad Bayne
Address: 5300 West Cypress St, # 200
Tampa, FL 33607
Phone / Fax: 813-282-7275
E-Mail: bjbayne@pbsj.com

SunLabs Project # 080522.01

Project Name: Arsenic Delineation
Project #: WA-09
PO #: —
Alt Bill To:

SunLabs Sample #	Sample Description	Sample Date	Sample Time	# of Bottles	Arsenic	Iron
Bottle Type					S	S
Preservative					I	I
Matrix					SO	SO
66703	SB-11R-8-2	5/21	1135	1	✓	✓
66704	SB-11R-8-4	5/21	1140	1	✓	✓
66705	SB-11R-8-6	5/21	1145	1	✓	✓
66706	SB-11R-9-2	5/21	1205	1	✓	
66707	SB-11R-9-4	5/21	1210	1	✓	
66708	SB-11R-9-6	5/21	1215	1	✓	
66709	SB-11R-10-2	5/21	1340	1	✓	
66710	Duplicate C	5/21	1340	1	✓	
66711	SB-11R-10-4	5/21	1345	1	✓	
66712	SB-11R-10-6	5/21	1350	1	✓	
66713	SB-11R-11-2	5/21	1415	1	✓	
66714	SB-11R-11-4	5/21	1420	1	✓	
66715	SB-11R-11-6	5/21	1425	1	✓	
66716	SB-11R-12-2	5/21	1435	1	✓	✓

Due Date Requested: Standard

☐ FDEP PreApproval site
☒ Current rates ☐ Old rates

☐ Cash rates

Remarks / Comments:

Sampler Signature / Date: Brad Bayne 5/22/08

Printed Name / Affiliation: Brad Bayne / PBS&J

Bottle Type Codes:

GV = Glass Vial
GVS = Low Level Volatile Kit
GA = Glass Amber
T = Tedlar Bag
P = Plastic
O = Other
S = Soil Jar

Preservative Codes:

H = Hydrochloric Acid + Ice
S = Sulfuric Acid + Ice
I = Ice only
VS = MeOH, OFW, + Ice
N = Nitric Acid + Ice
O = Other (Specify)

Matrix Codes:

A = Air
SO = Soil
DW = Drinking Water
SOL = Solid
GW = Ground Water
SW = Surface Water
SE = Sediment
W = Water (Blanks)
O = Other (Specify)

Temp 5.7°C

Received on Ice? (Y) / N / NA

Internal Use Only

Sample Condition Upon Receipt

Custody Seals present? Y / N / (NA)
Shipping Bills attached? Y / N / (NA)
Sample containers intact? (Y) / N / NA
Samples within holding times? (Y) / N / NA
Sufficient volume for all analyses? (Y) / N / NA
Are vials head-space free? Y / N / (NA)
Proper containers and preservatives? (Y) / N / NA

SUNLABS, INC. RESERVES THE RIGHT TO BILL FOR UNUSED/UNRETURNED SAMPLES AND TO RETURN UNUSED SAMPLES.

Relinquished By:	Relinquished To:	Date:	Time:
[illegible]	Brad Bayne	5/19	4 pm
Brad Bayne	LA Palmer	5/22	0935

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520, Tampa, Florida 33634
Phone: 813-881-9401 / Fax: 813-354-4661
e-mail: info@SunLabsInc.com www.SunLabsInc.com

SunLabs, Inc. Chain of Custody

(3)

№ 16388

Client Name: PBS&J
Contact: Brad Bayne
Address: 5300 W. Cypress St. #200
Tampa, FL 33607
Phone / Fax: 813-282-7275
E-Mail: bjbayne@pbsj.com

SunLabs Project # 080522.01

Project Name: Arsenic Delineation
Project #: WA-09
PO #: —
Alt Bill To:

SunLabs Sample #	Sample Description	Sample Date	Sample Time	# of Bottles	Arsenic	Iron
Bottle Type					S	S
Preservative					I	I
Matrix					SO	SO
66717	SB-11R-12-4	5/21	1440	1	✓	✓
66718	SB-11R-12-6	5/21	1445	1	✓	✓
66719	SB-11R-13-2	5/21	1455	1	✓	
66720	SB-11R-13-4	5/21	1500	1	✓	
66721	SB-11R-13-6	5/21	1505	1	✓	✓
66722	SB-11R-14-2	5/21	1515	1	✓	
66723	SB-11R-14-4	5/21	1520	1	✓	
66724	SB-11R-14-6	5/21	1525	1	✓	
66725	Duplicate D	5/21	1525	1	✓	
66726	SB-11R-15-2	5/21	1545	1	✓	
66727	SB-11R-15-4	5/21	1550	1	✓	
66728	SB-11R-15-6	5/21	1555	1	✓	

Due Date Requested: Standard

☐ FDEP PreApproval site
☒ Current rates ☐ Old rates
☐ Cash rates

Remarks / Comments:

Sampler Signature / Date: 5/22/08

Printed Name / Affiliation: Brad Bayne / PBS&J

Bottle Type Codes:

GV = Glass Vial
GA = Glass Amber
P = Plastic
S = Soil Jar
GVS = Low Level Volatile Kit
T = Tedlar Bag
O = Other

Preservative Codes:

H = Hydrochloric Acid + Ice
I = Ice only
N = Nitric Acid + Ice
S = Sulfuric Acid + Ice
VS = MeOH, OFW, + Ice
O = Other (Specify)

Matrix Codes:

A = Air
DW = Drinking Water
GW = Ground Water
SE = Sediment
SO = Soil
SOL = Solid
SW = Surface Water
W = Water (Blanks)
O = Other (Specify)

Temp 5.7°C

Received on ice? (Y) / N / NA

Internal Use Only

Sample Condition Upon Receipt:

Custody Seals present? Y / N / (NA)
Shipping Bills attached? Y / N / (NA)
Sample containers intact? (Y) / N / NA
Samples within holding times? (Y) / N / NA
Sufficient volume for all analyses? (Y) / N / NA
Are vials head-space free? Y / N / (NA)
Proper containers and preservatives? (Y) / N / NA

SUNLABS, INC. RESERVES THE RIGHT TO BILL FOR UNUSED & UNRETURNED SAMPLES AND TO RETURN UNUSED SAMPLES.

Relinquished By:	Relinquished To:	Date:	Time:
[signature]	[signature]	5/19	4pm
[signature]	LA Palmer	5/21	0935

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520, Tampa, Florida 33634
Phone: 813-881-9401 / Fax: 813-354-4661
e-mail: info@SunLabsInc.com www.SunLabsInc.com

July 23, 2008

Brad Bayne
PBS&J
5300 West Cypress St.
Suite #200
Tampa, FL 33607

Re: SunLabs Project Number: **080707.07**
Client Project Description: **Arsenic Delineation**

Dear Mr. Bayne:

Enclosed is the report of laboratory analysis for the following samples:

Sample Number	Sample Description	Date Collected
68966	SB-11R-3-2	7/7/2008
68967	SB-11R-3-4	7/7/2008
68968	SB-11R-3-6	7/7/2008

Copies of the Chain(s)-of-Custody, if received, are attached to this report.

If you have any questions or comments concerning this report, please do not hesitate to contact us.

Michael W. Palmer
Vice President, Laboratory Operations

Enclosures

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080707.07	Project Description: Arsenic Delineation

July 23, 2008

SunLabs Sample Number **68966**
Sample Designation **SB-11R-3-2**

Matrix: Soil
Date Collected: 7/7/2008 12:45
Date Received: 7/7/2008 16:35

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	27			0.14		07/09/08	
RCRA Metals by EPA Method 6010									
Date Digested	3050		7/10/2008						07/10/08 05:30
Date Analyzed	6010		7/11/2008	1				07/11/08 11:50	
Arsenic	6010	mg/kg	0.27 U	1	0.27	1.1	7440-38-2	07/11/08 11:50	07/10/08 05:30
Chromium	6010	mg/kg	5.9	1	0.27	1.1	7440-47-3	07/11/08 11:50	07/10/08 05:30
Copper	6010	mg/kg	0.082 U	1	0.082	0.33	7440-50-8	07/11/08 11:50	07/10/08 05:30
Iron	6010	mg/kg	720	5	0.14	0.55	7439-89-6	07/10/08 15:03	07/10/08 05:30
Lead	6010	mg/kg	2.1	1	0.27	1.1	7439-92-1	07/11/08 11:50	07/10/08 05:30
Total Nitrogen in Solids									
Date Analyzed			7/21/08 S8	1				07/21/08 16:48	
Total Nitrogen	351.2/353.2	mg/kg	200	1	100			07/21/08 16:48	

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080707.07	Project Description: Arsenic Delineation

July 23, 2008

SunLabs Sample Number **68967**
Sample Designation **SB-11R-3-4**

Matrix: Soil
Date Collected: 7/7/2008 12:50
Date Received: 7/7/2008 16:35

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	8			0.11		07/09/08	
RCRA Metals by EPA Method 6010									
Date Digested	3050		7/10/2008						07/10/08 05:30
Date Analyzed	6010		7/11/2008	1				07/11/08 11:54	
Arsenic	6010	mg/kg	0.22 U	1	0.22	0.87	7440-38-2	07/11/08 11:54	07/10/08 05:30
Chromium	6010	mg/kg	2.3	1	0.22	0.87	7440-47-3	07/11/08 11:54	07/10/08 05:30
Copper	6010	mg/kg	0.065 U	1	0.065	0.26	7440-50-8	07/11/08 11:54	07/10/08 05:30
Iron	6010	mg/kg	330	2	0.22	0.86	7439-89-6	07/10/08 15:05	07/10/08 05:30
Lead	6010	mg/kg	1.1	1	0.22	0.87	7439-92-1	07/11/08 11:54	07/10/08 05:30
Total Nitrogen in Solids									
Date Analyzed			7/21/08 S8	1				07/21/08 16:48	
Total Nitrogen	351.2/353.2	mg/kg	200	1	100			07/21/08 16:48	

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080707.07	Project Description: Arsenic Delineation

July 23, 2008

SunLabs Sample Number **68968**
Sample Designation **SB-11R-3-6**

Matrix: Soil
Date Collected: 7/7/2008 12:55
Date Received: 7/7/2008 16:35

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	17			0.12		07/09/08	
RCRA Metals by EPA Method 6010									
Date Digested	3050		7/10/2008						07/10/08 05:30
Date Analyzed	6010		7/11/2008	1				07/11/08 11:58	
Arsenic	6010	mg/kg	4.3	1	0.24	0.96	7440-38-2	07/11/08 11:58	07/10/08 05:30
Chromium	6010	mg/kg	1.7	1	0.24	0.96	7440-47-3	07/11/08 11:58	07/10/08 05:30
Copper	6010	mg/kg	0.072 U	1	0.072	0.29	7440-50-8	07/11/08 11:58	07/10/08 05:30
Iron	6010	mg/kg	6800	50	6	24	7439-89-6	07/10/08 15:15	07/10/08 05:30
Lead	6010	mg/kg	1.0	1	0.24	0.96	7439-92-1	07/11/08 11:58	07/10/08 05:30
Total Nitrogen in Solids									
Date Analyzed			7/21/08 S8	1				07/21/08 16:48	
Total Nitrogen	351.2/353.2	mg/kg	100 U	1	100			07/21/08 16:48	

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520
Tampa, FL 33634

Laboratory ID Number - E84809

Phone: (813) 881-9401
Email: Info@SunLabsInc.com
Website: www.SunLabsInc.com

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080707.07	Project Description: Arsenic Delineation

July 23, 2008

Footnotes	
*	SunLabs is not currently NELAC certified for this analyte.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MB	Method Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NA	Sample not analyzed at client's request.
RL	RL(reporting limit) = PQL(practical quantitation limit).
RPD	Relative Percent Difference
S8	This analysis performed by Sanders Laboratories, Inc, Certification number E84380.
U	Compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.

Quality Control Data

Project Number	PBS&J
080707.07	Project Description: Arsenic Delineation

July 23, 2008

Batch No: **C5607**

Test: RCRA Metals by EPA Method 6010

TestCode: 6010-S

Associated Samples
68966, 68967, 68968

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*68966*	*68966*					
Arsenic	0.2 U	1000	95	93	2	7	71-105	1000	95	94	1	12	59-120		
Chromium	0.2 U	1000	98	97	1	7	78-106	1000	101	102	1	15	60-122		
Copper	0.06 U	1000	99	98	1	7	78-104	1000	99	98	1	47	49-134		
Iron	0.1 U	1000	98	98	0	6	80-112	1000	550 *	629 *	13 *	0	0-219		
Lead	0.2 U	1000	97	94	3	9	64-109	1000	99	97	2	40	54-118		

* indicates value is outside control limits for %Recovery or greater than acceptance criteria for RP

Footnotes

U — *Compound was analyzed for but not detected.*

SunLabs, Inc. Chain of Custody

№ 17104

Client Name: PBS+J
Contact: Brad Bayne
Address: 5300 W Cypress St. Tampa, FL 33607
Phone / Fax: 813-282-7275
E-Mail: bjbayne@pbsj.com

SunLabs Project # 080707.07

Project Name: AS Delineation
Project #: WA-11
PO #:
Alt Bill To:

SunLabs Sample #	Sample Description	Sample Date	Sample Time	# of Bottles	As	Pb	Cr	Cu	Pb	Total N	Cr+Cu
Bottle Type					S	S	S	S	S	S	C
Preservative					I	I	I	I	I	I	I
Matrix					SO	SO	SO	SO	SO	SO	SO
68[illegible]66	SB-11R-3-2	7/7/08	1245	2	✓	✓	✓	✓	✓	✓	
68[illegible]67	SB-11R-3-4	7/7/08	1250	2	✓	✓	✓	✓	✓	✓	
68[illegible]68	SB-11R-3-6	7/7/08	1255	2	✓	✓	✓	✓	✓	✓	

Due Date Requested: Standard

☐ FDEP PreApproval site
☒ Current rates ☐ Old rates
☐ Cash rates

Remarks / Comments:

Sampler Signature / Date: 7/7/08

Printed Name / Affiliation: Brad Bayne / PBS+J

Bottle Type Codes:

GV = Glass Vial
GA = Glass Amber
P = Plastic
S = Soil Jar
GVS = Low Level Volatile Kit
T = Tedlar Bag
O = Other

Preservative Codes:

H = Hydrochloric Acid + Ice
I = Ice only
N = Nitric Acid + Ice
S = Sulfuric Acid + Ice
VS = MeOH, OFW, + Ice
O = Other (Specify)

Matrix Codes:

A = Air
DW = Drinking Water
GW = Ground Water
SE = Sediment
SO = Soil
SOL = Solid
SW = Surface Water
W = Water (Blanks)
O = Other (Specify)

Temp. 11°C

Received on Ice? (Y) N / NA

Internal Use Only

Sample Condition Upon Receipt

Custody Seals present? Y / N / (NA)
Shipping Bills attached? Y / N / (NA)
Sample containers intact? (Y) / N / NA
Samples within holding time? (Y) / N / NA
Sufficient volume for all analyses? (Y) / N / NA
Are vials head-space free? Y / N / (NA)
Proper containers and preservatives? (Y) / N / NA

SUNLABS, INC. RESERVES THE RIGHT TO BILL FOR UNUSED/UNRETURNED SAMPLES AND TO RETURN UNUSED SAMPLES.

Relinquished By:	Relinquished To:	Date:	Time:
[illegible]	B Bayne	7/3/08	1100
[illegible]	LA Palmer	7/7/08	Time: pm 4:35

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520, Tampa, Florida 33634
Phone: 813-881-9401 / Fax: 813-354-4661
e-mail: info@SunLabsInc.com www.SunLabsInc.com

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090410.09	Project Description: Sarasota Landfill Surface Water & Wetlands Assessm

April 20, 2009

SunLabs Sample Number **82951**
Sample Designation **Temp Well #1**

Matrix: Soil
Date Collected: 4/9/2009 13:45
Date Received: 4/10/2009 14:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	20			0.12		04/14/09	
RCRA Metals by EPA Method 6010									
Date Digested	3050		4/16/2009						04/16/09 09:20
Date Analyzed	6010		4/17/2009	1				04/17/09 18:38	
Arsenic	6010	mg/kg	0.25 U	1	0.25	1	7440-38-2	04/17/09 18:38	04/16/09 09:20
Iron	6010	mg/kg	240	1	0.12	0.5	7439-89-6	04/16/09 19:32	04/16/09 09:20

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090410.09	Project Description: Sarasota Landfill Surface Water & Wetlands Assessm

April 20, 2009

SunLabs Sample Number **82953**
Sample Designation **Temp Well #2**

Matrix: Soil
Date Collected: 4/9/2009 14:30
Date Received: 4/10/2009 14:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	19			0.12		04/14/09	
RCRA Metals by EPA Method 6010									
Date Digested	3050		4/16/2009						04/16/09 09:20
Date Analyzed	6010		4/17/2009	1				04/17/09 18:40	
Arsenic	6010	mg/kg	0.25 U	1	0.25	0.99	7440-38-2	04/17/09 18:40	04/16/09 09:20
Iron	6010	mg/kg	550	5	0.6	2.4	7439-89-6	04/17/09 11:06	04/16/09 09:20

May 19, 2009

Brad Bayne
PBS&J
5300 West Cypress St.
Suite #200
Tampa, FL 33607

Re: SunLabs Project Number: **090429.02**
Client Project Description: **Sarasota Landfill**

Dear Mr. Bayne:

Enclosed is the report of laboratory analysis for the following samples:

Sample Number	Sample Description	Date Collected
83684	SB-P4-1-2	4/28/2009
83685	SPLP Leachate/83684 (SB-P4-1-2)	
83686	SB-P4-1-4	4/28/2009
83687	SB-P4-1-6	4/28/2009
83688	SB-P4-2-2	4/28/2009
83689	SPLP Leachate/83688 (SB-P4-2-2)	
83690	SB-P4-2-4	4/28/2009
83691	SB-P4-2-6	4/28/2009
83692	SB-P4-3-2	4/28/2009
83693	SB-P4-3-4	4/28/2009
83694	SPLP Leachate/83693 (SB-P4-3-4)	
83695	SB-P4-3-6	4/28/2009
83696	SB-DUP A	4/28/2009
83697	SB-P4-4-2	4/28/2009
83698	SB-P4-4-4	4/28/2009
83699	SPLP Leachate/83698 (SB-P4-4-4)	
83700	SB-P4-4-6	4/28/2009
83701	SB-P4-5-2	4/28/2009
83702	SPLP Leachate/83701 (SB-P4-5-2)	
83703	SB-P4-5-4	4/28/2009
83704	SB-P4-5-6	4/28/2009
83705	SPLP Leachate/83704 (SB-P4-5-6)	
83706	SB-P4-6-2	4/28/2009
83707	SB-P4-6-4	4/28/2009
83708	SB-P4-6-6	4/28/2009
83709	SPLP Leachate/83708 (SB-P4-6-6)	
83710	SB-DUP B	4/28/2009
83711	SB-P4-7-2	4/28/2009
83712	SB-P4-7-4	4/28/2009
83713	SB-P4-7-6	4/28/2009

Sample Number	Sample Description	Date Collected
83714	SPLP Leachate/83713 (SB-P4-7-6)	
83715	SB-P4-8-2	4/28/2009
83716	SB-P4-8-4	4/28/2009
83717	SPLP Leachate/83716 (SB-P4-8-4)	
83718	SB-P4-8-6	4/28/2009
83719	SPLP Leachate/83718 (SB-P4-8-6)	
83720	SB-P4-9-2	4/28/2009
83721	SB-P4-9-4	4/28/2009
83722	SB-P4-9-6	4/28/2009
83723	SB-DUP C	4/28/2009
83724	SB-P4-10-2	4/28/2009
83725	SB-P4-10-4	4/28/2009
83726	SB-P4-10-6	4/28/2009
83727	SB-P4-11-2	4/28/2009
83728	SB-P4-11-4	4/28/2009
83729	SB-P4-11-6	4/28/2009
83730	SPLP Leachate/83729 (SB-P4-11-6)	
83731	SB-P4-12-2	4/28/2009
83732	SB-P4-12-4	4/28/2009
83733	SB-P4-12-6	4/28/2009
83734	SPLP Leachate/83733 (SB-P4-12-6)	
83735	SB-DUP D	4/28/2009

Ammonia was analyzed by Benchmark Enviroanalytical, Inc. NELAC# E84167.

Copies of the Chain(s)-of-Custody, if received, are attached to this report.

If you have any questions or comments concerning this report, please do not hesitate to contact us.

Sincerely,

Michael W. Palmer

Michael W. Palmer
Vice President, Laboratory Operations

Enclosures

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83684**
Sample Designation **SB-P4-1-2**

Matrix: Soil
Date Collected: 4/28/2009 09:17
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	14			0.12		04/30/09	
RCRA Metals by EPA Method 6010									
Date Digested	3050		5/1/2009						05/01/09 08:50
Date Analyzed	6010		5/5/2009	1				05/05/09 17:19	
Arsenic	6010	mg/kg	1.0	1	0.23	0.93	7440-38-2	05/04/09 18:44	05/01/09 08:50
Chromium	6010	mg/kg	22	1	0.23	0.93	7440-47-3	05/04/09 18:44	05/01/09 08:50
Copper	6010	mg/kg	1.0	1	0.07	0.28	7440-50-8	05/04/09 18:44	05/01/09 08:50
Iron	6010	mg/kg	2800	20	2.4	9.4	7439-89-6	05/05/09 17:19	05/01/09 08:50
Lead	6010	mg/kg	2.3	1	0.23	0.93	7439-92-1	05/04/09 18:44	05/01/09 08:50
Synthetic Precipitation Leaching Procedure									
SPLP - Date Leached	1312		04/30/09	1				04/30/09 08:00	04/30/09
Total Nitrogen in Solids									
Date Analyzed			5/14/09 S10	1				05/14/09 13:04	
Total Nitrogen	351.2/353.2	mg/kg	1300	1	4.7	14		05/14/09 13:04	

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520
Tampa, FL 33634

Laboratory ID Number - E84809

Phone: (813) 881-9401
Email: Info@SunLabsInc.com
Website: www.SunLabsInc.com

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83685**
Sample Designation **SPLP Leachate/83684 (SB-P4-1-2)**

Matrix: SPLP Leachate
Date Collected:
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			05/01/2009	1				05/01/09 02:23	04/30/09 19:30
Nitrate as N	300.0	mg/L	2.0 V	1	0.014	0.056	14797-55-8	05/01/09 02:23	04/30/09 19:30
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.051	1	0.002	0.008		05/11/09 15:29	
Arsenic by ICP									
Date Digested	3010		5/1/2009						05/01/09 09:00
Date Analyzed	6010		5/4/2009	1				05/04/09 15:40	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	05/04/09 15:40	05/01/09 09:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83686**
Sample Designation **SB-P4-1-4**

Matrix: Soil
Date Collected: 4/28/2009 09:22
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	25			0.13		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/5/2009	1				05/05/09 18:42	
Arsenic	6010	mg/kg	1.0 I	1	0.27	1.1	7440-38-2	05/05/09 18:42	05/05/09 08:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83687**
Sample Designation **SB-P4-1-6**

Matrix: Soil
Date Collected: 4/28/2009 09:27
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	19			0.12		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/5/2009	1				05/05/09 18:44	
Arsenic	6010	mg/kg	3.8	1	0.25	0.99	7440-38-2	05/05/09 18:44	05/05/09 08:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83688**
Sample Designation **SB-P4-2-2**

Matrix: Soil
Date Collected: 4/28/2009 09:40
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	15			0.12		04/30/09	
RCRA Metals by EPA Method 6010									
Date Digested	3050		5/1/2009						05/01/09 08:50
Date Analyzed	6010		5/5/2009	1				05/05/09 17:21	
Arsenic	6010	mg/kg	2.0	1	0.24	0.94	7440-38-2	05/04/09 18:48	05/01/09 08:50
Chromium	6010	mg/kg	24	1	0.24	0.94	7440-47-3	05/04/09 18:48	05/01/09 08:50
Copper	6010	mg/kg	1.1	1	0.071	0.28	7440-50-8	05/04/09 18:48	05/01/09 08:50
Iron	6010	mg/kg	4000	20	2.4	9.4	7439-89-6	05/05/09 17:21	05/01/09 08:50
Lead	6010	mg/kg	2.6	1	0.24	0.94	7439-92-1	05/04/09 18:48	05/01/09 08:50
Synthetic Precipitation Leaching Procedure									
SPLP - Date Leached	1312		04/30/09	1				04/30/09 08:00	04/30/09
Total Nitrogen in Solids									
Date Analyzed			5/14/09 S10	1				05/14/09 13:04	
Total Nitrogen	351.2/353.2	mg/kg	1220	1	4.7	14		05/14/09 13:04	

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83689**
Sample Designation **SPLP Leachate/83688 (SB-P4-2-2)**

Matrix: SPLP Leachate
Date Collected:
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			05/01/2009	1				05/01/09 02:50	04/30/09 19:30
Nitrate as N	300.0	mg/L	2.0 V	1	0.014	0.056	14797-55-8	05/01/09 02:50	04/30/09 19:30
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.100	1	0.002	0.008		05/11/09 15:29	
Arsenic by ICP									
Date Digested	3010		5/1/2009						05/01/09 09:00
Date Analyzed	6010		5/4/2009	1				05/04/09 15:48	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	05/04/09 15:48	05/01/09 09:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83690**
Sample Designation **SB-P4-2-4**

Matrix: Soil
Date Collected: 4/28/2009 09:45
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	15			0.12		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/5/2009	1				05/05/09 18:46	
Arsenic	6010	mg/kg	1.1	1	0.24	0.94	7440-38-2	05/05/09 18:46	05/05/09 08:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83691**
Sample Designation **SB-P4-2-6**

Matrix: Soil
Date Collected: 4/28/2009 09:50
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	22			0.13		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/5/2009	1				05/05/09 18:53	
Arsenic	6010	mg/kg	0.39 I	1	0.26	1	7440-38-2	05/05/09 18:53	05/05/09 08:00

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83692**
Sample Designation **SB-P4-3-2**

Matrix: Soil
Date Collected: 4/28/2009 10:10
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	13			0.11		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/5/2009	1				05/05/09 18:55	
Arsenic	6010	mg/kg	3.0	1	0.23	0.92	7440-38-2	05/05/09 18:55	05/05/09 08:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83693**
Sample Designation **SB-P4-3-4**

Matrix: Soil
Date Collected: 4/28/2009 10:15
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	27			0.14		04/30/09	
RCRA Metals by EPA Method 6010									
Date Digested	3050		5/1/2009						05/01/09 08:50
Date Analyzed	6010		5/5/2009	1				05/05/09 15:15	
Arsenic	6010	mg/kg	0.27 U	1	0.27	1.1	7440-38-2	05/04/09 18:52	05/01/09 08:50
Chromium	6010	mg/kg	0.71 I	1	0.27	1.1	7440-47-3	05/04/09 18:52	05/01/09 08:50
Copper	6010	mg/kg	0.082 U	1	0.082	0.33	7440-50-8	05/04/09 18:52	05/01/09 08:50
Iron	6010	mg/kg	270	1	0.14	0.55	7439-89-6	05/05/09 15:15	05/01/09 08:50
Lead	6010	mg/kg	1.0 I	1	0.27	1.1	7439-92-1	05/04/09 18:52	05/01/09 08:50
Synthetic Precipitation Leaching Procedure									
SPLP - Date Leached	1312		04/30/09	1				04/30/09 08:00	04/30/09
Total Nitrogen in Solids									
Date Analyzed			5/14/09 S10	1				05/14/09 13:04	
Total Nitrogen	351.2/353.2	mg/kg	3700	1	5.5	16		05/14/09 13:04	

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83694**
Sample Designation **SPLP Leachate/83693 (SB-P4-3-4)**

Matrix: SPLP Leachate
Date Collected:
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			05/01/2009	1				05/01/09 03:17	04/30/09 19:30
Nitrate as N	300.0	mg/L	2.3 V	1	0.014	0.056	14797-55-8	05/01/09 03:17	04/30/09 19:30
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.147	1	0.002	0.008		05/11/09 15:29	
Arsenic by ICP									
Date Digested	3010		5/1/2009						05/01/09 09:00
Date Analyzed	6010		5/4/2009	1				05/04/09 15:50	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	05/04/09 15:50	05/01/09 09:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83695**
Sample Designation **SB-P4-3-6**

Matrix: Soil
Date Collected: 4/28/2009 10:20
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	20			0.12		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/5/2009	1				05/05/09 18:58	
Arsenic	6010	mg/kg	0.25 U	1	0.25	1	7440-38-2	05/05/09 18:58	05/05/09 08:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83696**
Sample Designation **SB-DUP A**

Matrix: Soil
Date Collected: 4/28/2009 10:10
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	22			0.13		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/5/2009	1				05/05/09 19:00	
Arsenic	6010	mg/kg	0.75 I	1	0.26	1	7440-38-2	05/05/09 19:00	05/05/09 08:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83697**
Sample Designation **SB-P4-4-2**

Matrix: Soil
Date Collected: 4/28/2009 10:35
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	18			0.12		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/5/2009	1				05/05/09 19:02	
Arsenic	6010	mg/kg	0.24 U	1	0.24	0.98	7440-38-2	05/05/09 19:02	05/05/09 08:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83698**
Sample Designation **SB-P4-4-4**

Matrix: Soil
Date Collected: 4/28/2009 10:40
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	16			0.12		04/30/09	
RCRA Metals by EPA Method 6010									
Date Digested	3050		5/1/2009						05/01/09 08:50
Date Analyzed	6010		5/5/2009	1				05/05/09 15:17	
Arsenic	6010	mg/kg	0.24 U	1	0.24	0.95	7440-38-2	05/04/09 18:56	05/01/09 08:50
Chromium	6010	mg/kg	0.24 U	1	0.24	0.95	7440-47-3	05/04/09 18:56	05/01/09 08:50
Copper	6010	mg/kg	0.071 U	1	0.071	0.29	7440-50-8	05/04/09 18:56	05/01/09 08:50
Iron	6010	mg/kg	73	1	0.12	0.48	7439-89-6	05/05/09 15:17	05/01/09 08:50
Lead	6010	mg/kg	0.67 I	1	0.24	0.95	7439-92-1	05/04/09 18:56	05/01/09 08:50
Synthetic Precipitation Leaching Procedure									
SPLP - Date Leached	1312		04/30/09	1				04/30/09 08:00	04/30/09
Total Nitrogen in Solids									
Date Analyzed			5/14/09 S10	1				05/14/09 13:04	
Total Nitrogen	351.2/353.2	mg/kg	3000	1	4.8	14		05/14/09 13:04	

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83699**
Sample Designation **SPLP Leachate/83698 (SB-P4-4-4)**

Matrix: SPLP Leachate
Date Collected:
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			05/01/2009	1				05/01/09 03:43	04/30/09 19:30
Nitrate as N	300.0	mg/L	2.1 V	1	0.014	0.056	14797-55-8	05/01/09 03:43	04/30/09 19:30
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.224	1	0.002	0.008		05/11/09 15:29	
Arsenic by ICP									
Date Digested	3010		5/1/2009						05/01/09 09:00
Date Analyzed	6010		5/4/2009	1				05/04/09 15:53	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	05/04/09 15:53	05/01/09 09:00

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83700**
Sample Designation **SB-P4-4-6**

Matrix: Soil
Date Collected: 4/28/2009 10:45
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	18			0.12		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/5/2009	1				05/05/09 19:05	
Arsenic	6010	mg/kg	0.24 U	1	0.24	0.98	7440-38-2	05/05/09 19:05	05/05/09 08:00

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83701**
Sample Designation **SB-P4-5-2**

Matrix: Soil
Date Collected: 4/28/2009 11:00
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	22			0.13		04/30/09	
RCRA Metals by EPA Method 6010									
Date Digested	3050		5/1/2009						05/01/09 08:50
Date Analyzed	6010		5/5/2009	1				05/05/09 17:23	
Arsenic	6010	mg/kg	0.94 I	1	0.26	1	7440-38-2	05/04/09 19:00	05/01/09 08:50
Chromium	6010	mg/kg	13	1	0.26	1	7440-47-3	05/04/09 19:00	05/01/09 08:50
Copper	6010	mg/kg	0.077 U	1	0.077	0.31	7440-50-8	05/04/09 19:00	05/01/09 08:50
Iron	6010	mg/kg	2600	20	2.6	10	7439-89-6	05/05/09 17:23	05/01/09 08:50
Lead	6010	mg/kg	1.9	1	0.26	1	7439-92-1	05/04/09 19:00	05/01/09 08:50
Synthetic Precipitation Leaching Procedure									
SPLP - Date Leached	1312		04/30/09	1				04/30/09 08:00	04/30/09
Total Nitrogen in Solids									
Date Analyzed			5/14/09 S10	1				05/14/09 13:04	
Total Nitrogen	351.2/353.2	mg/kg	1200	1	5.1	15		05/14/09 13:04	

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83702**
Sample Designation **SPLP Leachate/83701 (SB-P4-5-2)**

Matrix: SPLP Leachate
Date Collected:
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			05/01/2009	1				05/01/09 04:10	04/30/09 19:30
Nitrate as N	300.0	mg/L	1.8 V	1	0.014	0.056	14797-55-8	05/01/09 04:10	04/30/09 19:30
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.580	1	0.002	0.008		05/11/09 15:29	
Arsenic by ICP									
Date Digested	3010		5/1/2009						05/01/09 09:00
Date Analyzed	6010		5/4/2009	1				05/04/09 15:55	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	05/04/09 15:55	05/01/09 09:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83703**
Sample Designation **SB-P4-5-4**

Matrix: Soil
Date Collected: 4/28/2009 11:05
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	20			0.12		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/5/2009	1				05/05/09 19:07	
Arsenic	6010	mg/kg	0.98 I	1	0.25	1	7440-38-2	05/05/09 19:07	05/05/09 08:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83704**
Sample Designation **SB-P4-5-6**

Matrix: Soil
Date Collected: 4/28/2009 11:10
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	18			0.12		04/30/09	
RCRA Metals by EPA Method 6010									
Date Digested	3050		5/1/2009						05/01/09 08:50
Date Analyzed	6010		5/5/2009	1				05/05/09 17:26	
Arsenic	6010	mg/kg	8.9	1	0.24	0.98	7440-38-2	05/04/09 19:04	05/01/09 08:50
Chromium	6010	mg/kg	5.0	1	0.24	0.98	7440-47-3	05/04/09 19:04	05/01/09 08:50
Copper	6010	mg/kg	0.073 U	1	0.073	0.29	7440-50-8	05/04/09 19:04	05/01/09 08:50
Iron	6010	mg/kg	6800	50	6	24	7439-89-6	05/05/09 17:26	05/01/09 08:50
Lead	6010	mg/kg	0.82 I	1	0.24	0.98	7439-92-1	05/04/09 19:04	05/01/09 08:50
Synthetic Precipitation Leaching Procedure									
SPLP - Date Leached	1312		04/30/09	1				04/30/09 08:00	04/30/09
Total Nitrogen in Solids									
Date Analyzed			5/14/09 S10	1				05/14/09 13:04	
Total Nitrogen	351.2/353.2	mg/kg	1900	1	4.9	15		05/14/09 13:04	

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83705**
Sample Designation **SPLP Leachate/83704 (SB-P4-5-6)**

Matrix: SPLP Leachate
Date Collected:
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			05/01/2009	1				05/01/09 04:37	04/30/09 19:30
Nitrate as N	300.0	mg/L	2.2 V	1	0.014	0.056	14797-55-8	05/01/09 04:37	04/30/09 19:30
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.557	1	0.002	0.008		05/11/09 15:29	
Arsenic by ICP									
Date Digested	3010		5/1/2009						05/01/09 09:00
Date Analyzed	6010		5/4/2009	1				05/04/09 15:57	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	05/04/09 15:57	05/01/09 09:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83706**
Sample Designation **SB-P4-6-2**

Matrix: Soil
Date Collected: 4/28/2009 11:20
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	22			0.13		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/5/2009	1				05/05/09 19:09	
Arsenic	6010	mg/kg	0.75 I	1	0.26	1	7440-38-2	05/05/09 19:09	05/05/09 08:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83707**
Sample Designation **SB-P4-6-4**

Matrix: Soil
Date Collected: 4/28/2009 11:25
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	17			0.12		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/5/2009	1				05/05/09 19:12	
Arsenic	6010	mg/kg	0.38 I	1	0.24	0.96	7440-38-2	05/05/09 19:12	05/05/09 08:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83708**
Sample Designation **SB-P4-6-6**

Matrix: Soil
Date Collected: 4/28/2009 11:30
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	17			0.12		04/30/09	
RCRA Metals by EPA Method 6010									
Date Digested	3050		5/4/2009						
Date Analyzed	6010		5/5/2009	1				05/05/09 17:40	05/04/09 09:00
Arsenic	6010	mg/kg	0.39 I	1	0.24	0.96	7440-38-2	05/04/09 17:25	05/04/09 09:00
Chromium	6010	mg/kg	0.90 I	1	0.24	0.96	7440-47-3	05/04/09 17:25	05/04/09 09:00
Copper	6010	mg/kg	0.072 U	1	0.072	0.29	7440-50-8	05/04/09 17:25	05/04/09 09:00
Iron	6010	mg/kg	460 V	2	0.24	0.96	7439-89-6	05/05/09 17:40	05/04/09 09:00
Lead	6010	mg/kg	0.87 I	1	0.24	0.96	7439-92-1	05/04/09 14:29	05/04/09 09:00
Synthetic Precipitation Leaching Procedure									
SPLP - Date Leached	1312		04/30/09	1				04/30/09 08:00	04/30/09
Total Nitrogen in Solids									
Date Analyzed			5/14/09 S10	1				05/14/09 13:04	
Total Nitrogen	351.2/353.2	mg/kg	400	1	4.8	14		05/14/09 13:04	

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83709**
Sample Designation **SPLP Leachate/83708 (SB-P4-6-6)**

Matrix: SPLP Leachate
Date Collected:
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			05/01/2009	1				05/01/09 06:24	04/30/09 19:30
Nitrate as N	300.0	mg/L	2.2 V	1	0.014	0.056	14797-55-8	05/01/09 06:24	04/30/09 19:30
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.154	1	0.002	0.008		05/11/09 15:29	
Arsenic by ICP									
Date Digested	3010		5/1/2009						05/01/09 09:00
Date Analyzed	6010		5/4/2009	1				05/04/09 16:00	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	05/04/09 16:00	05/01/09 09:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83710**
Sample Designation **SB-DUP B**

Matrix: Soil
Date Collected: 4/28/2009 11:25
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	19			0.12		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/5/2009	1				05/05/09 19:14	
Arsenic	6010	mg/kg	0.47 I	1	0.25	0.99	7440-38-2	05/05/09 19:14	05/05/09 08:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83711**
Sample Designation **SB-P4-7-2**

Matrix: Soil
Date Collected: 4/28/2009 11:40
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	19			0.12		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/5/2009	1				05/05/09 19:21	
Arsenic	6010	mg/kg	0.25 U	1	0.25	0.99	7440-38-2	05/05/09 19:21	05/05/09 08:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83712**
Sample Designation **SB-P4-7-4**

Matrix: Soil
Date Collected: 4/28/2009 11:45
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	19			0.12		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/5/2009	1				05/05/09 19:23	
Arsenic	6010	mg/kg	0.25 U	1	0.25	0.99	7440-38-2	05/05/09 19:23	05/05/09 08:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83713**
Sample Designation **SB-P4-7-6**

Matrix: Soil
Date Collected: 4/28/2009 11:50
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	18			0.12		04/30/09	
RCRA Metals by EPA Method 6010									
Date Digested	3050		5/1/2009						05/01/09 08:50
Date Analyzed	6010		5/5/2009	1				05/05/09 17:28	
Arsenic	6010	mg/kg	0.24 U	1	0.24	0.98	7440-38-2	05/04/09 19:08	05/01/09 08:50
Chromium	6010	mg/kg	2.2	1	0.24	0.98	7440-47-3	05/04/09 19:08	05/01/09 08:50
Copper	6010	mg/kg	0.073 U	1	0.073	0.29	7440-50-8	05/04/09 19:08	05/01/09 08:50
Iron	6010	mg/kg	820	5	0.6	2.4	7439-89-6	05/05/09 17:28	05/01/09 08:50
Lead	6010	mg/kg	0.93 I	1	0.24	0.98	7439-92-1	05/04/09 19:08	05/01/09 08:50
Synthetic Precipitation Leaching Procedure									
SPLP - Date Leached	1312		04/30/09	1				04/30/09 08:00	04/30/09
Total Nitrogen in Solids									
Date Analyzed			5/14/09 S10	1				05/14/09 13:04	
Total Nitrogen	351.2/353.2	mg/kg	660	1	4.9	15		05/14/09 13:04	

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83714**
Sample Designation **SPLP Leachate/83713 (SB-P4-7-6)**

Matrix: SPLP Leachate
Date Collected:
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			05/01/2009						
Nitrate as N	300.0	mg/L	2.1 V	1	0.014	0.056	14797-55-8	05/01/09 06:51	04/30/09 19:30
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.148	1	0.002	0.008		05/11/09 15:29	
Arsenic by ICP									
Date Digested	3010		5/1/2009						05/01/09 09:00
Date Analyzed	6010		5/4/2009					05/04/09 16:02	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	05/04/09 16:02	05/01/09 09:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

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SunLabs Sample Number **83715**
Sample Designation **SB-P4-8-2**

Matrix: Soil
Date Collected: 4/28/2009 13:00
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	12			0.11		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/5/2009	1				05/05/09 19:26	
Arsenic	6010	mg/kg	0.77 I	1	0.23	0.91	7440-38-2	05/05/09 19:26	05/05/09 08:00

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

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SunLabs Sample Number **83716**
Sample Designation **SB-P4-8-4**

Matrix: Soil
Date Collected: 4/28/2009 13:05
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	12			0.11		04/30/09	
RCRA Metals by EPA Method 6010									
Date Digested	3050		5/1/2009						05/01/09 08:50
Date Analyzed	6010		5/5/2009	1				05/05/09 17:31	
Arsenic	6010	mg/kg	0.34 I	1	0.23	0.91	7440-38-2	05/04/09 19:12	05/01/09 08:50
Chromium	6010	mg/kg	0.27 I	1	0.23	0.91	7440-47-3	05/04/09 19:12	05/01/09 08:50
Copper	6010	mg/kg	0.068 U	1	0.068	0.27	7440-50-8	05/04/09 19:12	05/01/09 08:50
Iron	6010	mg/kg	280	2	0.22	0.9	7439-89-6	05/05/09 17:31	05/01/09 08:50
Lead	6010	mg/kg	0.61 I	1	0.23	0.91	7439-92-1	05/04/09 19:12	05/01/09 08:50
Synthetic Precipitation Leaching Procedure									
SPLP - Date Leached	1312		04/30/09	1				04/30/09 08:00	04/30/09
Total Nitrogen in Solids									
Date Analyzed			5/14/09 S17	1				05/14/09 13:04	
Total Nitrogen	351.2/353.2	mg/kg	1600	1	4.5	14		05/14/09 13:04	

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83717**
Sample Designation **SPLP Leachate/83716 (SB-P4-8-4)**

Matrix: SPLP Leachate
Date Collected:
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			05/01/2009						
Nitrate as N	300.0	mg/L	2.2 V	1	0.014	0.056	14797-55-8	05/01/09 07:18	04/30/09 19:30
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.150	1	0.002	0.008		05/11/09 15:29	05/01/09 09:00
Arsenic by ICP									
Date Digested	3010		5/1/2009						
Date Analyzed	6010		5/4/2009	1				05/04/09 16:04	
Arsenic	6010	mg/L	0.007 I	1	0.0048	0.019	7440-38-2	05/04/09 16:04	05/01/09 09:00

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83718**
Sample Designation **SB-P4-8-6**

Matrix: Soil
Date Collected: 4/28/2009 13:10
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	15			0.12		04/30/09	
RCRA Metals by EPA Method 6010									
Date Digested	3050		5/1/2009						05/01/09 08:50
Date Analyzed	6010		5/5/2009	1				05/05/09 17:33	
Arsenic	6010	mg/kg	0.29 I	1	0.24	0.94	7440-38-2	05/04/09 19:16	05/01/09 08:50
Chromium	6010	mg/kg	0.82 I	1	0.24	0.94	7440-47-3	05/04/09 19:16	05/01/09 08:50
Copper	6010	mg/kg	0.071 U	1	0.071	0.28	7440-50-8	05/04/09 19:16	05/01/09 08:50
Iron	6010	mg/kg	1400	10	1.2	4.7	7439-89-6	05/05/09 17:33	05/01/09 08:50
Lead	6010	mg/kg	0.48 I	1	0.24	0.94	7439-92-1	05/04/09 19:16	05/01/09 08:50
Synthetic Precipitation Leaching Procedure									
SPLP - Date Leached	1312		04/30/09	1				04/30/09 08:00	04/30/09
Total Nitrogen in Solids									
Date Analyzed			5/14/09 S10	1				05/14/09 13:04	
Total Nitrogen	351.2/353.2	mg/kg	890	1	4.7	14		05/14/09 13:04	

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83719**
Sample Designation **SPLP Leachate/83718 (SB-P4-8-6)**

Matrix: SPLP Leachate
Date Collected:
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			05/01/2009	1				05/01/09 07:45	04/30/09 19:30
Nitrate as N	300.0	mg/L	2.2 V	1	0.014	0.056	14797-55-8	05/01/09 07:45	04/30/09 19:30
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.270	1	0.002	0.008		05/11/09 15:29	
Arsenic by ICP									
Date Digested	3010		5/1/2009						05/01/09 09:00
Date Analyzed	6010		5/4/2009	1				05/04/09 16:07	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	05/04/09 16:07	05/01/09 09:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83720**
Sample Designation **SB-P4-9-2**

Matrix: Soil
Date Collected: 4/28/2009 13:30
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	10			0.11		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/5/2009	1				05/05/09 19:28	
Arsenic	6010	mg/kg	1.3	1	0.22	0.89	7440-38-2	05/05/09 19:28	05/05/09 08:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83721**
Sample Designation **SB-P4-9-4**

Matrix: Soil
Date Collected: 4/28/2009 13:30
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	21			0.13		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/6/2009 *	1				05/06/09 13:52	
Arsenic	6010	mg/kg	0.25 U	1	0.25	1	7440-38-2	05/06/09 13:52	05/05/09 08:00

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83722**
Sample Designation **SB-P4-9-6**

Matrix: Soil
Date Collected: 4/28/2009 13:40
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	20			0.12		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/6/2009	1				05/06/09 13:57	
Arsenic	6010	mg/kg	0.39 I	1	0.25	1	7440-38-2	05/06/09 13:57	05/05/09 08:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83723**
Sample Designation **SB-DUP C**

Matrix: Soil
Date Collected: 4/28/2009 13:40
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	19			0.12		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/6/2009	1				05/06/09 14:00	
Arsenic	6010	mg/kg	0.45 I	1	0.25	0.99	7440-38-2	05/06/09 14:00	05/05/09 08:00

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83724**
Sample Designation **SB-P4-10-2**

Matrix: Soil
Date Collected: 4/28/2009 13:50
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	13			0.11		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/6/2009	1				05/06/09 14:02	
Arsenic	6010	mg/kg	0.41 I	1	0.23	0.92	7440-38-2	05/06/09 14:02	05/05/09 08:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83725**
Sample Designation **SB-P4-10-4**

Matrix: Soil
Date Collected: 4/28/2009 13:55
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	18			0.12		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/6/2009	1				05/06/09 14:13	
Arsenic	6010	mg/kg	0.24 U	1	0.24	0.98	7440-38-2	05/06/09 14:13	05/05/09 08:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83726**
Sample Designation **SB-P4-10-6**

Matrix: Soil
Date Collected: 4/28/2009 14:00
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	20			0.12		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/6/2009	1				05/06/09 14:16	
Arsenic	6010	mg/kg	0.59 I	1	0.25	1	7440-38-2	05/06/09 14:16	05/05/09 08:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83727**
Sample Designation **SB-P4-11-2**

Matrix: Soil
Date Collected: 4/28/2009 14:15
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	11			0.11		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/6/2009	1				05/06/09 14:18	
Arsenic	6010	mg/kg	0.22 U	1	0.22	0.9	7440-38-2	05/06/09 14:18	05/05/09 08:00

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Phone: (813) 881-9401
Email: Info@SunLabsInc.com
Website: www.SunLabsInc.com

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83728**
Sample Designation **SB-P4-11-4**

Matrix: Soil
Date Collected: 4/28/2009 14:20
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	16			0.12		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/6/2009	1				05/06/09 14:20	
Arsenic	6010	mg/kg	0.41 I	1	0.24	0.95	7440-38-2	05/06/09 14:20	05/05/09 08:00

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520
Tampa, FL 33634

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Website: www.SunLabsInc.com

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83729**
Sample Designation **SB-P4-11-6**

Matrix: Soil
Date Collected: 4/28/2009 14:25
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	16			0.12		04/30/09	
RCRA Metals by EPA Method 6010									
Date Digested	3050		5/1/2009						05/01/09 08:50
Date Analyzed	6010		5/5/2009	1				05/05/09 17:35	
Arsenic	6010	mg/kg	0.77 I	1	0.24	0.95	7440-38-2	05/04/09 19:28	05/01/09 08:50
Chromium	6010	mg/kg	14	1	0.24	0.95	7440-47-3	05/04/09 19:28	05/01/09 08:50
Copper	6010	mg/kg	0.071 U	1	0.071	0.29	7440-50-8	05/04/09 19:28	05/01/09 08:50
Iron	6010	mg/kg	2300	20	2.4	9.6	7439-89-6	05/05/09 17:35	05/01/09 08:50
Lead	6010	mg/kg	2.3	1	0.24	0.95	7439-92-1	05/04/09 19:28	05/01/09 08:50
Synthetic Precipitation Leaching Procedure									
SPLP - Date Leached	1312		04/30/09	1				04/30/09 08:00	04/30/09
Total Nitrogen in Solids									
Date Analyzed			5/14/09 S10	1				05/14/09 13:04	
Total Nitrogen	351.2/353.2	mg/kg	1500	1	4.8	14		05/14/09 13:04	

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83730**
Sample Designation **SPLP Leachate/83729 (SB-P4-11-6)**

Matrix: SPLP Leachate
Date Collected:
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			05/01/2009	1				05/01/09 08:11	04/30/09 19:30
Nitrate as N	300.0	mg/L	2.1 V	1	0.014	0.056	14797-55-8	05/01/09 08:11	04/30/09 19:30
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.126	1	0.002	0.008		05/11/09 15:29	
Arsenic by ICP									
Date Digested	3010		5/1/2009						05/01/09 09:00
Date Analyzed	6010		5/4/2009	1				05/04/09 16:09	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	05/04/09 16:09	05/01/09 09:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83731**
Sample Designation **SB-P4-12-2**

Matrix: Soil
Date Collected: 4/28/2009 14:35
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	20			0.12		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/6/2009	1				05/06/09 14:23	
Arsenic	6010	mg/kg	0.25 U	1	0.25	1	7440-38-2	05/06/09 14:23	05/05/09 08:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83732**
Sample Designation **SB-P4-12-4**

Matrix: Soil
Date Collected: 4/28/2009 14:40
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	20			0.12		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/6/2009	1				05/06/09 14:25	
Arsenic	6010	mg/kg	0.66 I	1	0.25	1	7440-38-2	05/06/09 14:25	05/05/09 08:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83733**
Sample Designation **SB-P4-12-6**

Matrix: Soil
Date Collected: 4/28/2009 14:45
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	15			0.12		04/30/09	
RCRA Metals by EPA Method 6010									
Date Digested	3050		5/1/2009						05/01/09 08:50
Date Analyzed	6010		5/5/2009	1				05/05/09 17:38	
Arsenic	6010	mg/kg	0.24 U	1	0.24	0.94	7440-38-2	05/04/09 19:32	05/01/09 08:50
Chromium	6010	mg/kg	17	1	0.24	0.94	7440-47-3	05/04/09 19:32	05/01/09 08:50
Copper	6010	mg/kg	0.071 U	1	0.071	0.28	7440-50-8	05/04/09 19:32	05/01/09 08:50
Iron	6010	mg/kg	2800	20	2.4	9.4	7439-89-6	05/05/09 17:38	05/01/09 08:50
Lead	6010	mg/kg	2.5	1	0.24	0.94	7439-92-1	05/04/09 19:32	05/01/09 08:50
Synthetic Precipitation Leaching Procedure									
SPLP - Date Leached	1312		04/30/09	1				04/30/09 08:00	04/30/09
Total Nitrogen in Solids									
Date Analyzed			5/14/09 S10	1				05/14/09 13:04	
Total Nitrogen	351.2/353.2	mg/kg	760	1	4.7	14		05/14/09 13:04	

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83734**
Sample Designation **SPLP Leachate/83733 (SB-P4-12-6)**

Matrix: SPLP Leachate
Date Collected:
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			05/01/2009	1				05/01/09 08:38	04/30/09 19:30
Nitrate as N	300.0	mg/L	2.1 V	1	0.014	0.056	14797-55-8	05/01/09 08:38	04/30/09 19:30
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.228	1	0.002	0.008		05/11/09 15:29	
Arsenic by ICP									
Date Digested	3010		5/1/2009						05/01/09 09:00
Date Analyzed	6010		5/5/2009	1				05/05/09 18:25	
Arsenic	6010	mg/L	0.010 I	1	0.0048	0.019	7440-38-2	05/05/09 18:25	05/01/09 09:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

SunLabs Sample Number **83735**
Sample Designation **SB-DUP D**

Matrix: Soil
Date Collected: 4/28/2009 14:45
Date Received: 4/29/2008 09:08

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Percent Moisture									
% Moisture	160.3M	%	16			0.12		04/30/09	
Arsenic									
Date Digested	3050		5/5/2009						05/05/09 08:00
Date Analyzed	6010		5/6/2009	1				05/06/09 14:27	
Arsenic	6010	mg/kg	0.41 I	1	0.24	0.95	7440-38-2	05/06/09 14:27	05/05/09 08:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

Footnotes	
*	SunLabs is not currently NELAC certified for this analyte.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MB	Method Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NA	Sample not analyzed at client's request.
RL	RL(reporting limit) = PQL(practical quantitation limit).
RPD	Relative Percent Difference
S10	This analysis performed by Sanders Laboratories, Inc., Certification # E85457.
S17	Analysis performed by Florida-Spectrum Environmental services. NELAC #E86006.
U	Compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.

Quality Control Data

Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

Batch No: C9083

Test: Anions by Ion Chromatography

TestCode: 300.0

Associated Samples: 83685, 83689, 83694, 83699, 83702, 83705, 83709, 83714, 83717, 83719, 83730, 83734

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*83685*	*83685*					
Nitrate as N	2.2 V	5.00	99	100	1	10	80-122	5.00	101	99	2	11	42-152		

Batch No: C9084

Test: RCRA Metals by EPA Method 6010

TestCode: 6010-S

Associated Samples: 83684, 83688, 83693, 83698, 83701, 83704, 83713, 83716, 83718, 83729, 83733

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*83684*	*83684*					
Arsenic	0.2 U	1000	87	88	1	7	71-105	1000	88	86	2	12	59-120		
Chromium	0.2 U	1000	94	94	0	7	78-106	1000	79	80	1	15	60-122		
Copper	0.06 U	1000	88	90	2	7	78-104	1000	81	80	1	47	49-134		
Iron	0.1 U	1000	100	101	1	6	80-112	1000	0	0	NA	0	0-219		
Lead	0.2 U	1000	89	87	2	9	64-109	1000	79	77	3	40	54-118		

Batch No: C9085

Test: Arsenic by ICP

TestCode: Arsenic-w

Associated Samples: 83685, 83689, 83694, 83699, 83702, 83705, 83709, 83714, 83717, 83719, 83730, 83734

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*83685*						
Date Digested	5/1/2009 U														
Date Analyzed	5/4/2009 U														
Arsenic	0.0048 U							1000	95				80-112		

Batch No: C9099

Test: RCRA Metals by EPA Method 6010

TestCode: 6010-S

Associated Samples: 83708

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*83708*	*83708*					
Arsenic	0.2 U	1000	96	89	8 *	7	71-105	1000	91	88	3	12	59-120		
Barium	0.05 U	1000	99	94	5	8	66-113	1000	97	94	3	104	33-148		
Cadmium	0.03 U	1000	92	90	2	6	74-104	1000	88	87	1	6	69-111		
Chromium	0.2 U	1000	102	98	4	7	78-106	1000	99	97	2	15	60-122		
Copper	0.06 U	1000	97	95	2	7	78-104	1000	92	92	0	47	49-134		
Iron	0.11 I	1000	103	103	0	6	80-112	1000	213	57	116 *	0	0-219		
Lead	0.2 U	1000	93	93	0	9	64-109	1000	85	84	1	40	54-118		
Selenium	0.2 U	1000	97	94	3	8	76-101	1000	93	94	1	8	66-111		
Silver	0.2 U	1000	93	93	0	6	72-108	1000	90	89	1	7	62-113		

Batch No: C9105

Test: Arsenic

TestCode: As-S-LL

Associated Samples: 83686, 83687, 83690, 83691, 83692, 83695, 83696, 83697, 83700, 83703, 83706, 83707, 83710, 83711, 83712, 83715, 83720

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*83683*	*83683*					
Date Digested	5/5/2009 U														
Date Analyzed	5/5/2009 U														

SunLabs, Inc.
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Website: www.SunLabsInc.com

Quality Control Data

Project Number	PBS&J
090429.02	Project Description: Sarasota Landfill

May 19, 2009

Batch No: C9105

Test: Arsenic

TestCode: As-S-LL

Associated Samples: 83686, 83687, 83690, 83691, 83692, 83695, 83696, 83697, 83700, 83703, 83706, 83707, 83710, 83711, 83712, 83715, 83720

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*83683*	*83683*					
Arsenic	0.2 U	1000	83	83	0	7	71-105	1000	80	84	5	12	59-120		

Batch No: C9106

Test: RCRA Metals by EPA Method 6010

TestCode: 6010-S

Associated Samples: 83721, 83722, 83723, 83724, 83725, 83726, 83727, 83728, 83731, 83732, 83735

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*83721*	*83721*					
Arsenic	0.2 U	1000	84	84	0	7	71-105	1000	79	81	2	12	59-120		
Cadmium	0.03 U	1000	82	83	1	6	74-104	1000	81	82	1	6	69-111		
Chromium	0.2 U	1000	91	89	2	7	78-106	1000	86	87	1	15	60-122		
Lead	0.2 U	1000	83	85	2	9	64-109	1000	77	82	6	40	54-118		
Nickel	0.1 U	1000	87	86	1	5	75-111	1000	82	86	5	14	52-119		
Zinc	0.35 I	1000	84	85	1	8	72-109	1000	80	83	4	153	19-156		

* indicates value is outside control limits for %Recovery or greater than acceptance criteria for RPD

Footnotes

U — *Compound was analyzed for but not detected.*

№ 20152

SunLabs, Inc. Chain of Custody

Client Name: PBSJ
Contact: Brad Bayne
Address: 5300 W. Cypress St, # 200
Tampa, FL 33607
Phone / Fax: 813-282-7275
E-Mail: bjbayne@pbsj.com

SunLabs Project # 090429.02

Project Name: Sarasota Landfill
Project #: 100007910
PO #: —
Alt Bill To: —

SunLabs Sample #	Sample Description	Sample Date	Sample Time	# of Bottles	As	Pb	Cu, Cr, Pb	Total Nitrogen	As-SPLP	SPLP Ammonia	SPLP Nitrate			
Bottle Type					S	S	S	S	S	S	S			
Preservative					I	I	I	I	I	I	I			
Matrix					SO	SO	SO	SO	SO	SO	SO			
83684/86	SB-P4-1-2	4/28	917	3	✓	✓	✓	✓	✓	✓	✓			
83685	SB-P4-1-4	4/28	922	1	✓									
83687	SB-P4-1-6	4/28	927	1	✓									
83688/89	SB-P4-2-2	4/28	940	3	✓	✓	✓	✓	✓	✓	✓			
83690	SB-P4-2-4	4/28	945	1	✓									
83691	SB-P4-2-6	4/28	950	1	✓									
83692	SB-P4-3-2	4/28	1010	1	✓									
83693/94	SB-P4-3-4	4/28	1015	3	✓	✓	✓	✓	✓	✓	✓			
83695	SB-P4-3-6	4/28	1020	1	✓									
83696	SB-Dup A	4/28	1010	1	✓									
83697	SB-P4-4-2	4/28	1035	1	✓									
83698/99	SB-P4-4-4	4/28	1040	3	✓	✓	✓	✓	✓	✓	✓			
83700	SB-P4-4-6	4/28	1045	1	✓									
83701/02	SB-P4-5-2	4/28	1100	3	✓	✓	✓	✓	✓	✓	✓			

Due Date Requested: Standard

☐ FDEP PreApproval site
☑ Current rates ☐ Old rates
☐ Cash rates

Remarks / Comments:

Sampler Signature / Date: 4/28/09

Printed Name / Affiliation: Brad Bayne / PBSJ

Bottle Type Codes:
GV = Glass Vial
GA = Glass Amber
P = Plastic
S = Soil Jar
GVS = Low Level Volatile Kit
T = Tedlar Bag
O = Other

Preservative Codes:
H = Hydrochloric Acid + Ice
I = Ice only
N = Nitric Acid + Ice
S = Sulfuric Acid + Ice
VS = MeOH, OFW, + Ice
O = Other (Specify)

Matrix Codes:
A = Air
DW = Drinking Water
GW = Ground Water
SE = Sediment
SO = Soil
SOL = Solid
SW = Surface Water
W = Water (Blanks)
O = Other (Specify)

Temp: 5.0

Received on Ice? (Y) / N / NA

Internal Use Only
Sample Condition Upon Receipt:
Custody Seals present? Y / N / (NA)
Shipping Bills attached? Y / N / (NA)
Sample containers intact? (Y) / N / NA
Samples within holding times? (Y) / N / NA
Sufficient volume for all analyses? (Y) / N / NA
Are vials head-space free? Y / N / (NA)
Proper containers and preservatives? (Y) / N / NA

SUNLABS, INC. RESERVES THE RIGHT TO BILL FOR UNUSED/ UNRETURNED SAMPLES AND TO RETURN UNUSED SAMPLES.

Relinquished By:	Relinquished To:	Date:	Time:
[signature]	[signature]	4/23/09	
Relinquished By:	Relinquished To:	Date:	Time:
[signature]	[signature]	4/29/09	906
Relinquished By:	Relinquished To:	Date:	Time:
Relinquished By:	Relinquished To:	Date:	Time:

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520, Tampa, Florida 33634
Phone: 813-881-9401 / Fax: 813-354-4661
e-mail: info@SunLabsInc.com www.SunLabsInc.com

№ 20150

SunLabs, Inc. Chain of Custody

Client Name: PBS&J
Contact: Brad Bayne
Address: 5300 W. Cypress, #200
Tampa, FL 33607
Phone / Fax: 813-282-7275
E-Mail: bjbayne@pbsj.com

SunLabs Project # 090429.02

Project Name: Sarasota LANDFILL
Project #: 100007910
PO #: —
Alt Bill To: —

SunLabs Sample #	Sample Description	Sample Date	Sample Time	# of Bottles	As	Fe	Cu, Cr, Pb	Total Nitrogen	As-SPLP	SPLP Ammonia	SPLP Nitrate			
Bottle Type					S	S	S	S	S	S	S			
Preservative					I	I	I	I	I	I	I			
Matrix					SO	SO	SO	SO	SO	SO	SO			
83703	SB-P4-5-4	4/28	1105	1	✓									
83704/05	SB-P4-5-6	4/28	1110	3	✓	✓	✓	✓	✓	✓	✓			
83706	SB-P4-6-2	4/28	1120	1	✓									
83707	SB-P4-6-4	4/28	1125	1	✓									
83708/09	SB-P4-6-6	4/28	1130	3	✓	✓	✓	✓	✓	✓	✓			
83710	SB-Dup B	4/28	1125	1	✓									
83711	SB-P4-7-2	4/28	1140	1	✓									
83712	SB-P4-7-4	4/28	1145	1	✓									
83713/14	SB-P4-7-6	4/28	1150	3	✓	✓	✓	✓	✓	✓	✓			
83715	SB-P4-8-2	4/28	1300	1	✓									
83716/17	SB-P4-8-4	4/28	1305	3	✓	✓	✓	✓	✓	✓	✓			
83718/19	SB-P4-8-6	4/28	1310	3	✓	✓	✓	✓	✓	✓	✓			
83720	SB-P4-9-2	4/28	1330	1	✓									
83721	SB-P4-9-4	4/28	1335	1	✓									

Due Date Requested: Standard

☐ FDEP PreApproval site
☑ Current rates ☐ Old rates
☐ Cash rates

Remarks / Comments:

Sampler Signature / Date: 4/28/09

Printed Name / Affiliation: Brad Bayne / PBS&J

Bottle Type Codes:
GV = Glass Vial
GA = Glass Amber
P = Plastic
S = Soil Jar
GVS = Low Level Volatile Kit
T = Tedlar Bag
O = Other

Preservative Codes:
H = Hydrochloric Acid + Ice
I = Ice only
N = Nitric Acid + Ice
S = Sulfuric Acid + Ice
VS = MeOH, OFW, + Ice
O = Other (Specify)

Matrix Codes:
A = Air
DW = Drinking Water
GW = Ground Water
SE = Sediment
SO = Soil
SOL = Solid
SW = Surface Water
W = Water (Blanks)
O = Other (Specify)

Temp: 3.0

Received on Ice? (Y) N / NA

Internal Use Only
Sample Condition Upon Receipt:
Custody Seals present? Y / N / (NA)
Shipping Bills attached? Y / N / (NA)
Sample containers intact? (Y) / N / NA
Samples within holding times? (Y) / N / NA
Sufficient volume for all analyses? (Y) / N / NA
Are vials head-space free? Y / N / (NA)
Proper containers and preservatives? (Y) / N / NA

SUNLABS, INC. RESERVES THE RIGHT TO BILL FOR UNUSED/ UNRETURNED SAMPLES AND TO RETURN UNUSED SAMPLES.

Relinquished By:	Relinquished To:	Date:	Time:
[signature]	[signature]	4/23/09	
Relinquished By:	Relinquished To:	Date:	Time:
[signature]	[signature]	4/29/09	9:08
Relinquished By:	Relinquished To:	Date:	Time:
Relinquished By:	Relinquished To:	Date:	Time:

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520, Tampa, Florida 33634
Phone: 813-881-9401 / Fax: 813-354-4661
e-mail: info@SunLabsInc.com www.SunLabsInc.com

№ 20151

SunLabs, Inc. Chain of Custody

Client Name: PBS+J
Contact: Brad Bayne
Address: 5300 W. Cypress, #200
Tampa, FL 33607
Phone / Fax: 813-282-7275
E-Mail: bjbayne@PBSJ.com

SunLabs Project # 090429.02

Project Name: Sarasota Landfill
Project #: 100007910
PO #: —
Alt Bill To: —

SunLabs Sample #	Sample Description	Sample Date	Sample Time	# of Bottles	As	Fe	Cu, Cr, Pb	Total Nitrogen	As-SPLP	Ammonia SPLP	Nitrate SPLP			
	Bottle Type				S	S	S	S	S	S	S			
	Preservative				I	I	I	I	I	I	I			
	Matrix				SO	SO	SO	SO	SO	SO	SO			
83722	SB-P4-9-6	4/28	1340	1	✓									
83723	SB-DUP C	4/28	1340	1	✓									
83724	SB-P4-10-2	4/28	1350	1	✓									
83725	SB-P4-10-4	4/28	1355	1	✓									
83726	SB-P4-10-6	4/28	1400	1	✓									
83727	SB-P4-11-2	4/28	1415	1	✓									
83728	SB-P4-11-4	4/28	1420	1	✓									
83729/30	SB-P4-11-6	4/28	1425	3	✓	✓	✓	✓	✓	✓	✓			
83731	SB-P4-12-2	4/28	1435	1	✓									
83732	SB-P4-12-4	4/28	1440	1	✓									
83733/34	SB-P4-12-6	4/28	1445	3	✓	✓	✓	✓	✓	✓	✓			
83735	SB-DUP D	4/28	1445	1	✓									

Due Date Requested: Standard

☐ FDEP PreApproval site
☑ Current rates ☐ Old rates
☐ Cash rates

Remarks / Comments:

Sampler Signature / Date: 4/28/09

Printed Name / Affiliation: Brad Bayne / PBS+J

Bottle Type Codes:
GV = Glass Vial
GA = Glass Amber
P = Plastic
S = Soil Jar
GVS = Low Level Volatile Kit
T = Tedlar Bag
O = Other

Preservative Codes:
H = Hydrochloric Acid + Ice
I = Ice only
N = Nitric Acid + Ice
S = Sulfuric Acid + Ice
VS = MeOH, OFW, + Ice
O = Other (Specify)

Matrix Codes:
A = Air
DW = Drinking Water
GW = Ground Water
SE = Sediment
SO = Soil
SOL = Solid
SW = Surface Water
W = Water (Blanks)
O = Other (Specify)

Temp: 5.0

Received on Ice? (Y) N / NA

Internal Use Only

Sample Condition Upon Receipt:
Custody Seals present? Y / N / (NA)
Shipping Bills attached? Y / N / (NA)
Sample containers intact? (Y) / N / NA
Samples within holding times? (Y) / N / NA
Sufficient volume for all analyses? (Y) / N / NA
Are vials head-space free? Y / N / (NA)
Proper containers and preservatives? (Y) / N / NA

SUNLABS, INC. RESERVES THE RIGHT TO BILL FOR UNUSED/ UNRETURNED SAMPLES AND TO RETURN UNUSED SAMPLES.

Relinquished By:	Relinquished To:	Date:	Time:
[signature]	[signature]	4/23/09	
Relinquished By: [signature]	Relinquished To: [signature]	Date: 4/29/09	Time: 9:00
Relinquished By:	Relinquished To:	Date:	Time:
Relinquished By:	Relinquished To:	Date:	Time:

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520, Tampa, Florida 33634
Phone: 813-881-9401 / Fax: 813-354-4661
e-mail: info@SunLabsInc.com www.SunLabsInc.com

APPENDIX H:

LABORATORY ANALYTICAL REPORT FOR JULY 2008 GROUNDWATER SPECIATION SAMPLING

APPLIED SPECIATION AND CONSULTING, LLC

953 Industry Drive Tukwila, WA 98188
Tel: (206) 219-3779 Fax: (206) 388-3485
www.appliedspeciation.com

August 15, 2008

George Thomas
5300 West Cypress Street, Suite 200
Tampa, FL 33607-1784
(813) 282-7275

Re: CEP Implementation

Dear Mr. Thomas,

Attached is the report associated with fourteen (14) aqueous samples submitted for arsenic speciation analysis on July 31, 2008. All samples were received on August 1, 2008 in a sealed container at 1.0°C. Arsenic speciation analysis was performed by ion chromatography inductively coupled plasma dynamic reaction cell mass spectrometry (IC-ICP-DRC-MS). Any issues associated with the analysis are addressed in the following report.

If you have any questions, please feel free to contact me at your convenience.

Sincerely,

Ben Wozniak

Ben Wozniak
Project Manager
Applied Speciation and Consulting, LLC

Applied Speciation and Consulting, LLC

Report Prepared for:

George Thomas
5300 West Cypress Street, Suite 200
Tampa, FL 33607-1784

Project: CEP Implementation

August 15, 2008

1. Sample Reception

Fourteen (14) aqueous samples were submitted for arsenic speciation analysis on July 31, 2008. All samples were received in acceptable condition on August 1, 2008 in a sealed container at 1.0°C.

The samples were received in a laminar flow clean hood void of trace metals contamination and ultra-violet radiation. Immediately upon reception an aliquot of each sample was filtered using 0.45μm syringe filters. All filtrates were then immediately analyzed by ion chromatography inductively coupled plasma dynamic reaction cell mass spectrometry (IC-ICP-DRC-MS).

2. Sample Preparation

All sample preparation is performed in laminar flow clean hoods known to be free from trace metals contamination. All applied water for dilutions and sample preservatives are also monitored for contamination to account for any biases associated with the sample results.

Arsenic Speciation Analysis by IC-ICP-DRC-MS Prior to analysis, all aqueous samples were filtered with a syringe filter (0.45μm) and injected directly into sealed autosampler vials. No further sample preparation was performed as the samples were field-preserved with an acetate-buffered EDTA solution.

3. Sample Analysis

All samples analysis is precluded by a minimum of a five-point calibration curve spanning the entire concentration range of interest. Calibration curves are performed at the beginning of each analytical day. All calibration curves, associated with each species of interest, are standardized by linear regression resulting in a response factor. All sample results are **instrument blank corrected** to account for any operational biases.

Prior to sample analysis, all calibration curves are verified using second source standards which are identified as initial calibration verification standards (ICV).

Ongoing instrument performance is identified by the analysis of continuing calibration verification standards (CCV) and continuing calibration blanks (CCB) at a minimal interval of every ten analytical runs.

Arsenic Speciation Analysis by IC-ICP-DRC-MS All samples for arsenic speciation analysis were analyzed by ion chromatography inductively coupled plasma dynamic reaction cell mass spectrometry (IC-ICP-DRC-MS) on August 1, 2008. Aliquots of each sample extract are injected onto an anion exchange column and mobilized by a basic (pH > 7) gradient. The eluting arsenic species are then introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through a pressurized chamber (DRC) containing a specific reactive gas which preferentially reacts with arsenic, producing an entirely different mass to charge ratio (m/z) which can then be differentiated from the initial isobaric interferences. A solid-state detector detects ions transmitted through the mass analyzer on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system.

Retention times for each eluting species are compared to known standards for species identification.

4. Analytical Issues

The overall analyses went very well and no significant analytical issues were encountered. All quality control parameters associated with these samples were within acceptance limits with the following exception:

The recovery of DMAs associated with the ICV was above the established control limit of 120% (120.5%). While this recovery is indicative that all results for this species may be biased high, only two samples (identified as GW-15 and GW-5) contained DMAs slightly above the detection limit. In each of these samples the quantity of DMAs detected was less than 2.5% of the total arsenic species present. Since the high recovery of DMAs does not significantly bias the overall speciation of these samples, the reported results are deemed to be representative of the submitted samples.

It should be noted that an additional arsenic species was detected in the samples identified as DGW-2 and GW-15. While its identity could not be determined at this time, the concentrations of this species never exceeded 4% of the total arsenic species detected in the aforementioned samples.

The estimated method detection limits (eMDLs) for arsenite and arsenate are generated from replicate analyses of the lowest standard in the calibration curve. Not

all arsenic species are present in preparation blanks; therefore, eMDL calculations based on preparation blanks are artificially biased low.

The eMDLs for MMAs and DMAs are calculated from the average eMDL of arsenite and arsenate. The calibration does not contain MMAs or DMAs due to impurities in these standards which would bias the results for other arsenic species.

If you have any questions or concerns regarding this report, please feel free to contact me at (206) 219-3779.

Sincerely,

Ben Wozniak

Ben Wozniak
Project Manager
Applied Speciation and Consulting, LLC

Arsenic Speciation Results for PBS&J
Project Name: CEP Implementation
Contact: George Thomas

Date: August 15, 2008
Report Generated by: Ben Wozniak
Applied Speciation and Consulting, LLC

Sample Results

Sample ID	As(III)	As(V)	DMAs	MMAs
DGW-2	5.34	0.74	ND (<0.23)	ND (<0.23)
DUP	15.3	3.54	ND (<0.23)	ND (<0.23)
GW-12	4.14	0.67	ND (<0.23)	ND (<0.23)
GW-1	0.41	ND (<0.35)	ND (<0.23)	ND (<0.23)
DGW-3	5.65	0.91	ND (<0.23)	ND (<0.23)
GW-15	183	12.5	0.25	ND (<0.23)
GW-8	5.67	0.89	ND (<0.23)	ND (<0.23)
GW-3	0.54	0.44	ND (<0.23)	ND (<0.23)
DGW-4	1.43	0.50	ND (<0.23)	ND (<0.23)
GW-5	9.63	1.58	0.27	ND (<0.23)
GW-7	18.3	3.29	ND (<0.23)	ND (<0.23)
GW-6	2.57	1.06	ND (<0.23)	ND (<0.23)
GW-10	7.29	0.91	ND (<0.23)	ND (<0.23)
GW-4	4.30	0.94	ND (<0.23)	ND (<0.23)

All results reflect the applied dilution and are reported in µg/L.
ND = Not detected at the applied dilution
As(III) = Arsenite
As(V) = Arsenate
DMAs = Dimethylarsenic
MMAs = Monomethylarsenic

Arsenic Speciation Results for PBS&J
Project Name: CEP Implementation
Contact: George Thomas

Date: August 15, 2008
Report Generated by: Ben Wozniak
Applied Speciation and Consulting, LLC

Quality Control Summary - Preparation Blank Summary

Analyte (µg/L)	PBW1	PBW2	PBW3	PBW4	Mean	StdDev	eMDL*
As(III)	0.07	0.09	0.04	0.13	0.08	0.04	0.11
As(V)	0.43	0.44	0.35	0.38	0.40	0.04	0.35
DMAs	0.00	0.00	0.00	0.00	0.00	0.00	0.23
MMAs	0.00	0.00	0.00	0.00	0.00	0.00	0.23

eMDL = Estimated Method Detection Limit
*Please see narrative regarding eMDL calculations

Quality Control Summary - Certified Reference Materials

Analyte (µg/L)	CRM	True Value	Result	Recovery
As(III)	ICV	5.000	5.140	102.8
As(V)	NIST 1640	26.67	22.77	85.4
DMAs	ICV	3.780	4.557	120.5*
MMAs	ICV	5.475	6.529	119.3

* The recovery is above the established control limit of 120%; please see narrative.

Arsenic Speciation Results for PBS&J
Project Name: CEP Implementation
Contact: George Thomas

Date: August 15, 2008
Report Generated by: Ben Wozniak
Applied Speciation and Consulting, LLC

Quality Control Summary - Matrix Duplicates

Analyte (µg/L)	Sample ID	Rep 1	Rep 2	Mean	RPD
As(III)	GW-4	4.30	4.33	4.31	0.7
As(V)	GW-4	0.94	0.97	0.95	2.6
DMAs	GW-4	ND (<0.23)	ND (<0.23)	NC	NC
MMAs	GW-4	ND (<0.23)	ND (<0.23)	NC	NC

NC = Not calculated due to one or more concentrations below the eMDL.
ND = Not detected at the applied dilution.

Quality Control Summary - Matrix Spike/ Matrix Spike Duplicate

Analyte (µg/L)	Sample ID	Spike Conc	MS Result	Recovery	Spike Conc	MSD Result	Recovery	RPD
As(III)	GW-4	50.00	53.00	97.4	50.00	57.09	105.6	8.1
As(V)	GW-4	50.00	52.00	102.1	50.00	54.76	107.6	5.3

APPENDIX I:

LABORATORY ANALYTICAL REPORT FOR APRIL 2009 GROUNDWATER SPECIATION SAMPLING

APPLIED SPECIATION AND CONSULTING, LLC

953 Industry Drive Tukwila, WA 98188
Tel: (206) 219-3779 Fax: (206) 388-3485
www.appliedspeciation.com

May 14, 2009

PBS&J
Brad Bayne
5300 West Cypress Street, Suite 200
Tampa, FL 33607
(813) 282-7275

Project Name: Sarasota Landfill
Project Number: 100007910

Dear Mr. Bayne,

Attached is the report associated with thirteen (13) aqueous samples submitted for arsenic speciation analysis on April 24, 2009. All samples were received on April 27, 2009 in a sealed container at 6.4°C. Arsenic speciation analysis was performed by ion chromatography inductively coupled plasma dynamic reaction cell mass spectrometry (IC-ICP-DRC-MS). Any issues associated with the analysis are addressed in the following report.

If you have any questions, please feel free to contact me at your convenience.

Sincerely,

Ben Wozniak
Project Manager
Applied Speciation and Consulting, LLC

Applied Speciation and Consulting, LLC

Report Prepared for:

PBS&J
Brad Bayne
5300 West Cypress Street, Suite 200
Tampa, FL 33607

Project Name: Sarasota Landfill
Project Number: 100007910

May 14, 2009

1. Sample Reception

Thirteen (13) aqueous samples were submitted for arsenic speciation analysis on April 24, 2009. All samples were received in acceptable condition on April 27, 2009 in a sealed container at 6.4°C.

The samples were received in a laminar flow clean hood void of trace metals contamination and ultra-violet radiation. Upon reception each sample was designated a discrete sample identifier and then placed in a secure, monitored refrigerator (maintained at a temperature ≤4°C) until the analyses could be performed. Prior to analysis all samples were preserved with an acetate-buffered EDTA solution and then filtered using 0.45µm syringe filters. All filtrates were then analyzed by ion chromatography inductively coupled plasma dynamic reaction cell mass spectrometry (IC-ICP-DRC-MS).

2. Sample Preparation

All sample preparation is performed in laminar flow clean hoods known to be free from trace metals contamination. All applied water for dilutions and sample preservatives are also monitored for contamination to account for any biases associated with the sample results.

Arsenic Speciation Analysis by IC-ICP-DRC-MS Prior to analysis, all aqueous samples were preserved in the laboratory with an acetate-buffered EDTA solution. All samples were then filtered, approximately 24 hours after preservation, with a syringe filter (0.45µm) and injected directly into sealed autosampler vials.

3. Sample Analysis

All samples analysis is precluded by a minimum of a five-point calibration curve spanning the entire concentration range of interest. Calibration curves are performed

at the beginning of each analytical day. All calibration curves, associated with each species of interest, are standardized by linear regression resulting in a response factor. All sample results are **instrument blank corrected** to account for any operational biases.

Prior to sample analysis, all calibration curves are verified using second source standards which are identified as initial calibration verification standards (ICV).

Ongoing instrument performance is identified by the analysis of continuing calibration verification standards (CCV) and continuing calibration blanks (CCB) at a minimal interval of every ten analytical runs.

Arsenic Speciation Analysis by IC-ICP-DRC-MS All samples for arsenic speciation analysis were analyzed by ion chromatography inductively coupled plasma dynamic reaction cell mass spectrometry (IC-ICP-DRC-MS) on May 12, 2009. Aliquots of each sample extract are injected onto an anion exchange column and mobilized by an acidic (pH < 7) gradient. The eluting arsenic species are then introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through a pressurized chamber (DRC) containing a specific reactive gas which preferentially reacts with arsenic, producing an entirely different mass to charge ratio (m/z) which can then be differentiated from the initial isobaric interferences. A solid-state detector detects ions transmitted through the mass analyzer on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system.

Retention times for each eluting species are compared to known standards for species identification.

4. Analytical Issues

The overall analyses went very well and no significant analytical issues were encountered. All quality control parameters associated with these samples were within acceptance limits.

It should be noted that all samples were initially analyzed prior to preservation with the acetate-buffered EDTA solution. Due to difficulties encountered during the analyses attributed to the sample matrices themselves, evidenced as a lack of mass balance for arsenic in the submitted samples, the original 125mL HDPE bottles were preserved with EDTA solution and reanalyzed on May 12th. A mass balance between the sum of species and the total dissolved arsenic concentrations was attained with the EDTA-preserved fractions, so these results have been provided in the attached report as representative of the submitted samples.

The estimated method detection limits (eMDLs) for arsenite and arsenate are generated from replicate analyses of the lowest standard in the calibration curve. Not

all arsenic species are present in preparation blanks; therefore, eMDL calculations based on preparation blanks may be artificially biased low.

The eMDLs for MMAs and DMAs are calculated from the average eMDL of arsenite and arsenate. The calibration does not contain MMAs or DMAs due to impurities in these standards which would bias the results for other arsenic species.

If you have any questions or concerns regarding this report, please feel free to contact me at (206) 219-3779.

Sincerely,

Ben Wozniak
Project Manager
Applied Speciation and Consulting, LLC

Arsenic Speciation Results for PBS&J
Project Name: Sarasota Landfill
Project Number: 100007910
Contact: Brad Bayne

Date: May 14, 2009
Report Generated by: Ben Wozniak
Applied Speciation and Consulting, LLC

Sample Results

Sample ID	As(III)	As(V)	MMAs	DMAs
GW-18	3.59	2.73	ND (<0.032)	ND (<0.032)
GW-24	4.33	1.40	ND (<0.032)	ND (<0.032)
GW-17	6.99	9.40	ND (<0.032)	ND (<0.032)
GW-11	1.37	0.401	ND (<0.032)	ND (<0.032)
GW-25	2.64	9.46	ND (<0.032)	ND (<0.032)
GW-19	4.24	0.561	ND (<0.032)	ND (<0.032)
GW-20	5.22	8.70	ND (<0.032)	ND (<0.032)
GW-21	4.72	1.44	ND (<0.032)	ND (<0.032)
GW-22	2.30	2.61	ND (<0.032)	ND (<0.032)
GW-15	106	40.2	ND (<0.032)	ND (<0.032)
GW-10	2.19	3.25	0.090	ND (<0.032)
GW-16	145	33.8	ND (<0.032)	ND (<0.032)
GW-14	27.1	9.61	ND (<0.032)	ND (<0.032)

All results reflect the applied dilution and are reported in µg/L.
ND = Not detected at the applied dilution
As(III) = Arsenite
As(V) = Arsenate
DMAs = Dimethylarsinic acid
MMAs = Monomethylarsonic acid

Arsenic Speciation Results for PBS&J
Project Name: Sarasota Landfill
Project Number: 100007910
Contact: Brad Bayne

Date: May 14, 2009
Report Generated by: Ben Wozniak
Applied Speciation and Consulting, LLC

Quality Control Summary - Preparation Blank Summary

Analyte (µg/L)	PBW1	PBW2	PBW3	PBW4	Mean	StdDev	eMDL*
As(III)	0.000	0.000	0.000	0.000	0.000	0.000	0.016
As(V)	0.450	0.224	0.151	0.160	0.246	0.139	0.047
MMAs	0.000	0.000	0.000	0.000	0.000	0.000	0.032
DMAs	0.000	0.000	0.000	0.000	0.000	0.000	0.032

eMDL = Estimated Method Detection Limit
*Please see narrative regarding eMDL calculations

Quality Control Summary - Certified Reference Materials

Analyte (µg/L)	CRM	True Value	Result	Recovery
As(III)	ICV	5.000	5.275	105.5
As(V)	ICV	5.000	5.006	100.1
MMAs	ICV	5.235	5.144	98.3
DMAs	ICV	5.245	5.434	103.6

Arsenic Speciation Results for PBS&J
Project Name: Sarasota Landfill
Project Number: 100007910
Contact: Brad Bayne

Date: May 14, 2009
Report Generated by: Ben Wozniak
Applied Speciation and Consulting, LLC

Quality Control Summary - Matrix Duplicates

Analyte (µg/L)	Sample ID	Rep 1	Rep 2	Mean	RPD
As(III)	GW-14	27.07	26.73	26.90	1.3
As(V)	GW-14	9.609	9.414	9.511	2.0
MMAs	GW-14	ND (<0.032)	0.048	NC	NC
DMAs	GW-14	ND (<0.032)	ND (<0.032)	NC	NC

NC = Not calculated due to one or more concentrations below the eMDL.
ND = Not detected at the applied dilution.

Quality Control Summary - Matrix Spike/ Matrix Spike Duplicate

Analyte (µg/L)	Sample ID	Spike Conc	MS Result	Recovery	Spike Conc	MSD Result	Recovery	RPD
As(III)	GW-14	50.00	78.38	102.9	50.00	78.34	102.9	0.0
As(V)	GW-14	50.00	58.65	98.3	50.00	58.99	99.0	0.6

APPLIED SPECIATION AND CONSULTING, LLC

953 Industry Drive
Tukwila, WA 98188

Phone (206) 219-3779
Fax (206) 388-3485

Company Name: PBS+J
Contact Person: Brad Bayne
Address: 5300 West Cypress St., #200
Tampa, FL 33607
Phone Number: 813-282-7275
Fax Number: —
Email Address: bjbayne@pbsj.com
Project Name: Sarasota Landfill
Project Number: 10000 7910
PO Number: —

ASC Project Manager: Russ Gerad

By submitting of samples the client agrees to all terms and conditions set forth in the quotation provided by the ASC project manager. If you are not familiar with the term and conditions associated with your project, please contact your ASC representative as soon as possible (206) 219-3779.

Requested Turn Around Time: Standard
Method of Sample Delivery: Fed Ex
Currier Tracking Number: 8665 4599 3235
Confirmation of Sample Reception: ☒ Yes ☐ No

Sample ID	Bottle ID	Date and Time	Matrix*	Volume	Preservative	Initials	Requested Analytes and Methods	Comments
GW-18	ASC-B-6894	4/22-945	GW	100 ml	None	BB	Arsenic Speciation	
GW-24	ASC-B-6802	4/22-1125	GW	100 ml	None	BB		
GW-17	ASC-B-6901	4/22-1210	GW	100 ml	None	BB		
GW-11	ASC-B-6809	4/22-1345	GW	100 ml	None	BB		
GW-25 BB	ASC-B-6620	4/22-1425	GW	100 ml	None	BB		
GW-19	ASC-B-6813	4/22-1510	GW	100 ml	None	BB		
GW-20	ASC-B-6844	4/22-1621	GW	100 ml	None	BB		
GW-21	ASC-B-6784	4/22-1625	GW	100 ml	None	BB		
GW-22	ASC-B-6800	4/23-0900	GW	100 ml	None	BB		
GW-15	ASC-B-6621	4/23-1015	GW	100 ml	None	BB		
GW-10	ASC-B-6892	4/23-1145	GW	100 ml	None	BB		
GW-16	ASC-B-6817	4/23-1230	GW	100 ml	None	BB		
GW-14	ASC-B-6808	4/23-1315	GW	100 ml	None	BB		
Blank	ASC-B-6816	4/23	—	100 ml	—	—		empty

Relinquished by: (sign) [signature] (print) Brad Bayne Date/Time: 4/24 9:00 am
Received by: (sign) [signature] (print) Jeremy Maule Date/Time: 4/27/09 1036
Comments:
Temp: 6.4°C

Relinquished by: (sign) _____ (print) _____ Date/Time: _____
Received by: (sign) _____ (print) _____ Date/Time: _____
Comments:
Temp:

Please account for each sample bottle as a seperate line item for verification purposes.

*Matrix: Air, Freshwater (FW), seawater (SW), groundwater (GW), wastewater (WW), soil (SL), sediment (SD), tissue (TS), product (P), other (O)

Rev 1.1 (April 2005)

APPENDIX J:

GROUNDWATER LABORATORY ANALYTICAL DATA

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080730.06	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70130**
Sample Designation **GW-16**

Matrix: Groundwater
Date Collected: 07/29/08 09:45
Date Received: 07/30/08 11:35

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 00:57	07/30/08 16:10
Chloride	300.0	mg/L	120	20	0.9	3.6		08/01/08 22:44	07/30/08 16:10
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/31/08 00:57	07/30/08 16:10
Sulfate	300.0	mg/L	1.8	1	0.036	0.14		07/31/08 00:57	07/30/08 16:10
Metals by EPA Method 6010									
Date Digested	3010		7/31/2008						07/31/08 08:00
Date Analyzed			8/8/2008	2				08/08/08 16:19	
Arsenic	6010	mg/L	1.1	1	0.0048	0.019	7440-38-2	08/03/08 13:14	07/31/08 08:00
Iron	6010	mg/L	19 V	5	0.012	0.046	7439-89-6	08/04/08 15:31	07/31/08 08:00
Manganese	6010	mg/L	0.016 V	1	0.0006	0.0024	7439-96-5	08/04/08 11:59	07/31/08 08:00
Sodium	6010	mg/L	140	2	0.022	0.088	7440-23-5	08/08/08 16:19	07/31/08 08:00
Total Alkalinity									
Date analyzed			8/5/2008	1				08/05/08 11:51	
Total Alkalinity as CaCO3	SM2320B	mg/L	780	1	1.2	5		08/05/08 11:51	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	25.1	1	0.005	0.020		08/05/08 11:15	
Total Dissolved Solids									
Date Analyzed			8/4/08 S7	1				08/04/08 09:10	
Total Dissolved Solids	SM2540C	mg/L	1044	1	7.26	29		08/04/08 09:10	
Total Organic Carbon									
Date Analyzed			7/31/08 S7	1				07/31/08 15:00	
Total Organic Carbon	SM5310C	mg/L	71.5	1	0.271	1.084		07/31/08 15:00	

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080729.05	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70017**
Sample Designation **GW-2**

Matrix: Groundwater
Date Collected: 07/28/08 12:10
Date Received: 07/29/08 12:01

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/29/08	1				07/29/08 21:24	07/29/08 13:45
Chloride	300.0	mg/L	53	10	0.45	1.8		07/30/08 17:51	07/29/08 13:45
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/29/08 21:24	07/29/08 13:45
Sulfate	300.0	mg/L	58	10	0.36	1.4		07/30/08 17:51	07/29/08 13:45
Metals by EPA Method 6010									
Date Digested	3010		7/30/2008						07/30/08 08:30
Date Analyzed			8/4/2008	1				08/04/08 11:15	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	08/03/08 14:36	07/30/08 08:30
Iron	6010	mg/L	6.2	2	0.0046	0.018	7439-89-6	08/04/08 15:21	07/30/08 08:30
Manganese	6010	mg/L	0.0052	1	0.0006	0.0024	7439-96-5	08/04/08 11:15	07/30/08 08:30
Sodium	6010	mg/L	46	1	0.011	0.044	7440-23-5	07/31/08 11:34	07/30/08 08:30
Total Alkalinity									
Date analyzed			8/5/2008	1				08/05/08 09:11	
Total Alkalinity as CaCO3	SM2320B	mg/L	170	1	1.2	5		08/05/08 09:11	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.120	1	0.005	0.020		08/05/08 11:15	
Total Dissolved Solids									
Date Analyzed			8/4/08 S7	1				08/04/08 09:10	
Total Dissolved Solids	SM2540C	mg/L	404	1	7.26	29		08/04/08 09:10	
Total Organic Carbon									
Date Analyzed			7/31/08 S7	1				07/31/08 15:00	
Total Organic Carbon	SM5310C	mg/L	10.8	1	0.271	1.084		07/31/08 15:00	

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080729.05	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70018**
Sample Designation **GW-2 Filtered**

Matrix: Groundwater
Date Collected: 07/28/08 12:10
Date Received: 07/29/08 12:01

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		7/30/2008						07/30/08 08:30
Date Analyzed			8/4/2008	1				08/04/08 11:30	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	08/03/08 14:38	07/30/08 08:30
Iron	6010	mg/L	1.2	1	0.0023	0.0092	7439-89-6	08/04/08 11:30	07/30/08 08:30
Manganese	6010	mg/L	0.0046	1	0.0006	0.0024	7439-96-5	08/04/08 11:30	07/30/08 08:30
Sodium	6010	mg/L	45	1	0.011	0.044	7440-23-5	07/31/08 11:36	07/30/08 08:30

Laboratory ID Number - E84809

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080730.06	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70131**
Sample Designation **GW-10**

Matrix: Groundwater
Date Collected: 07/29/08 11:25
Date Received: 07/30/08 11:35

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 01:13	07/30/08 16:10
Chloride	300.0	mg/L	62	10	0.45	1.8		08/02/08 01:06	07/30/08 16:10
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/31/08 01:13	07/30/08 16:10
Sulfate	300.0	mg/L	190	50	1.8	7.2		08/01/08 19:04	07/30/08 16:10
Metals by EPA Method 6010									
Date Digested	3010		7/31/2008						07/31/08 08:00
Date Analyzed			8/7/2008	1				08/07/08 18:08	
Arsenic	6010	mg/L	0.008 I	1	0.0048	0.019	7440-38-2	08/03/08 13:16	07/31/08 08:00
Iron	6010	mg/L	4.6 V	1	0.0023	0.0092	7439-89-6	08/04/08 12:01	07/31/08 08:00
Manganese	6010	mg/L	0.016 V-	1	0.0006	0.0024	7439-96-5	08/04/08 12:01	07/31/08 08:00
Sodium	6010	mg/L	52	1	0.011	0.044	7440-23-5	08/07/08 18:08	07/31/08 08:00
Total Alkalinity									
Date analyzed			8/5/2008	1				08/05/08 12:11	
Total Alkalinity as CaCO3	SM2320B	mg/L	390	1	1.2	5		08/05/08 12:11	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.306	1	0.005	0.020		08/05/08 11:15	
Total Dissolved Solids									
Date Analyzed			8/4/08 S7	1				08/04/08 09:10	
Total Dissolved Solids	SM2540C	mg/L	872	1	7.26	29		08/04/08 09:10	
Total Organic Carbon									
Date Analyzed			7/31/08 S7	1				07/31/08 15:00	
Total Organic Carbon	SM5310C	mg/L	13.7	1	0.271	1.084		07/31/08 15:00	

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080729.05	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70019**
Sample Designation **DGW-1**

Matrix: Groundwater
Date Collected: 07/28/08 14:20
Date Received: 07/29/08 12:01

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/29/08	1				07/29/08 21:40	07/29/08 13:45
Chloride	300.0	mg/L	970	200	9	36		08/01/08 18:32	07/29/08 13:45
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/29/08 21:40	07/29/08 13:45
Sulfate	300.0	mg/L	170	50	1.8	7.2		07/30/08 18:38	07/29/08 13:45
Metals by EPA Method 6010									
Date Digested	3010		7/30/2008						07/30/08 08:30
Date Analyzed			8/4/2008	1				08/04/08 11:32	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	08/03/08 14:40	07/30/08 08:30
Iron	6010	mg/L	0.28	1	0.0023	0.0092	7439-89-6	08/04/08 11:32	07/30/08 08:30
Manganese	6010	mg/L	0.010	1	0.0006	0.0024	7439-96-5	08/04/08 11:32	07/30/08 08:30
Sodium	6010	mg/L	260	5	0.055	0.22	7440-23-5	07/31/08 12:19	07/30/08 08:30
Total Alkalinity									
Date analyzed			8/5/2008	1				08/05/08 09:18	
Total Alkalinity as CaCO3	SM2320B	mg/L	440	1	1.2	5		08/05/08 09:18	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.534	1	0.005	0.020		08/05/08 11:15	
Total Dissolved Solids									
Date Analyzed			8/4/08 S7	1				08/04/08 09:10	
Total Dissolved Solids	SM2540C	mg/L	2320	1	7.26	29		08/04/08 09:10	
Total Organic Carbon									
Date Analyzed			7/31/08 S7	1				07/31/08 15:00	
Total Organic Carbon	SM5310C	mg/L	18.9	1	0.271	1.084		07/31/08 15:00	

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080730.06	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70132**
Sample Designation **GW-15**

Matrix: Groundwater
Date Collected: 07/29/08 13:00
Date Received: 07/30/08 11:35

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 01:13	07/30/08 16:10
Chloride	300.0	mg/L	250	50	2.2	9		08/01/08 19:19	07/30/08 16:10
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/31/08 01:13	07/30/08 16:10
Sulfate	300.0	mg/L	450	50	1.8	7.2		08/01/08 19:19	07/30/08 16:10
Metals by EPA Method 6010									
Date Digested	3010		7/31/2008						07/31/08 08:00
Date Analyzed			8/8/2008	2				08/08/08 16:21	
Arsenic	6010	mg/L	0.21	1	0.0048	0.019	7440-38-2	08/03/08 13:18	07/31/08 08:00
Iron	6010	mg/L	23 V	10	0.023	0.092	7439-89-6	08/04/08 15:33	07/31/08 08:00
Manganese	6010	mg/L	0.034 V	1	0.0006	0.0024	7439-96-5	08/04/08 12:04	07/31/08 08:00
Sodium	6010	mg/L	130	2	0.022	0.088	7440-23-5	08/08/08 16:21	07/31/08 08:00
Total Alkalinity									
Date analyzed			8/5/2008	1				08/05/08 12:22	
Total Alkalinity as CaCO3	SM2320B	mg/L	690	1	1.2	5		08/05/08 12:22	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	10.1	1	0.005	0.020		08/05/08 11:15	
Total Dissolved Solids									
Date Analyzed			8/4/08 S7	1				08/04/08 09:10	
Total Dissolved Solids	SM2540C	mg/L	2024	1	7.26	29		08/04/08 09:10	
Total Organic Carbon									
Date Analyzed			7/31/08 S7	1				07/31/08 15:00	
Total Organic Carbon	SM5310C	mg/L	73.6	1	0.271	1.084		07/31/08 15:00	

Laboratory ID Number - E84809

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080730.06	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number	**70133**	Matrix	Groundwater
Sample Designation	**Duplicate BB**	Date Collected	07/29/08 13:00
		Date Received	07/30/08 11:35

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 02:32	07/30/08 16:10
Chloride	300.0	mg/L	250	50	2.2	9		08/01/08 19:35	07/30/08 16:10
Nitrate-N	300.0	mg/L	0.23	1	0.014	0.056		07/31/08 02:32	07/30/08 16:10
Sulfate	300.0	mg/L	450	50	1.8	7.2		08/01/08 19:35	07/30/08 16:10
Metals by EPA Method 6010									
Date Digested	3010		7/31/2008						07/31/08 08:00
Date Analyzed			8/8/2008	2				08/08/08 16:24	
Arsenic	6010	mg/L	0.23	1	0.0048	0.019	7440-38-2	08/03/08 13:20	07/31/08 08:00
Iron	6010	mg/L	23 V	10	0.0023	0.0092	7439-89-6	08/04/08 15:41	07/31/08 08:00
Manganese	6010	mg/L	0.033 V	1	0.0006	0.0024	7439-96-5	08/04/08 12:06	07/31/08 08:00
Sodium	6010	mg/L	130	2	0.022	0.088	7440-23-5	08/08/08 16:24	07/31/08 08:00
Total Alkalinity									
Date analyzed			8/5/2008	1				08/05/08 13:00	
Total Alkalinity as CaCO3	SM2320B	mg/L	700	1	1.2	5		08/05/08 13:00	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	10.4	1	0.005	0.020		08/05/08 11:15	
Total Dissolved Solids									
Date Analyzed			8/4/08 S7	1				08/04/08 09:10	
Total Dissolved Solids	SM2540C	mg/L	2044	1	7.26	29		08/04/08 09:10	
Total Organic Carbon									
Date Analyzed			7/31/08 S7	1				07/31/08 15:00	
Total Organic Carbon	SM5310C	mg/L	75.4	1	0.271	1.084		07/31/08 15:00	

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080729.05	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70020**
Sample Designation **GW-11**

Matrix: Groundwater
Date Collected: 07/28/08 16:45
Date Received: 07/29/08 12:01

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/29/08	1				07/29/08 22:43	07/29/08 13:45
Chloride	300.0	mg/L	53	10	0.45	1.8		07/30/08 18:07	07/29/08 13:45
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/29/08 22:43	07/29/08 13:45
Sulfate	300.0	mg/L	3.3	1	0.036	0.14		07/29/08 22:43	07/29/08 13:45
Metals by EPA Method 6010									
Date Digested	3010		7/30/2008						07/30/08 08:30
Date Analyzed			8/4/2008	1				08/04/08 11:35	
Arsenic	6010	mg/L	0.012 I	1	0.0048	0.019	7440-38-2	08/03/08 14:44	07/30/08 08:30
Iron	6010	mg/L	48	20	0.046	0.18	7439-89-6	08/04/08 15:23	07/30/08 08:30
Manganese	6010	mg/L	0.036	1	0.0006	0.0024	7439-96-5	08/04/08 11:35	07/30/08 08:30
Sodium	6010	mg/L	68	1	0.011	0.044	7440-23-5	07/31/08 11:41	07/30/08 08:30
Total Alkalinity									
Date analyzed			8/5/2008	1				08/05/08 09:31	
Total Alkalinity as CaCO3	SM2320B	mg/L	200	1	1.2	5		08/05/08 09:31	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.306	1	0.005	0.020		08/05/08 11:15	
Total Dissolved Solids									
Date Analyzed			8/4/08 S7	1				08/04/08 09:10	
Total Dissolved Solids	SM2540C	mg/L	624	1	7.26	29		08/04/08 09:10	
Total Organic Carbon									
Date Analyzed			7/31/08 S7	1				07/31/08 15:00	
Total Organic Carbon	SM5310C	mg/L	119	1	0.271	1.084		07/31/08 15:00	

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080729.05	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70021**
Sample Designation **GW-11 Filtered**

Matrix: Groundwater
Date Collected: 07/28/08 16:45
Date Received: 07/29/08 12:01

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		7/30/2008						07/30/08 08:30
Date Analyzed			8/4/2008	1				08/04/08 11:38	
Arsenic	6010	mg/L	0.006 I	1	0.0048	0.019	7440-38-2	08/03/08 14:46	07/30/08 08:30
Iron	6010	mg/L	30	10	0.023	0.092	7439-89-6	08/04/08 15:26	07/30/08 08:30
Manganese	6010	mg/L	0.031	1	0.0006	0.0024	7439-96-5	08/04/08 11:38	07/30/08 08:30
Sodium	6010	mg/L	68	1	0.011	0.044	7440-23-5	07/31/08 11:47	07/30/08 08:30

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080730.06	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70134**
Sample Designation **DGW-2**

Matrix: Groundwater
Date Collected: 07/29/08 15:10
Date Received: 07/30/08 11:35

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 02:48	07/30/08 16:10
Chloride	300.0	mg/L	82	10	0.45	1.8		08/02/08 01:22	07/30/08 16:10
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/31/08 02:48	07/30/08 16:10
Sulfate	300.0	mg/L	0.036 U	1	0.036	0.14		07/31/08 02:48	07/30/08 16:10
Metals by EPA Method 6010									
Date Digested	3010		7/31/2008						07/31/08 08:00
Date Analyzed			8/8/2008	5				08/08/08 16:31	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	08/03/08 13:23	07/31/08 08:00
Iron	6010	mg/L	3.1 V	1	0.0023	0.0092	7439-89-6	08/04/08 12:09	07/31/08 08:00
Manganese	6010	mg/L	0.0059 V	1	0.0006	0.0024	7439-96-5	08/04/08 12:09	07/31/08 08:00
Sodium	6010	mg/L	180	5	0.055	0.22	7440-23-5	08/08/08 16:31	07/31/08 08:00
Total Alkalinity									
Date analyzed			8/5/2008	1				08/05/08 13:31	
Total Alkalinity as CaCO3	SM2320B	mg/L	760	1	1.2	5		08/05/08 13:31	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.823	1	0.005	0.020		08/05/08 11:15	
Total Dissolved Solids									
Date Analyzed			8/4/08 S7	1				08/04/08 09:10	
Total Dissolved Solids	SM2540C	mg/L	1024	1	7.26	29		08/04/08 09:10	
Total Organic Carbon									
Date Analyzed			7/31/08 S7	1				07/31/08 15:00	
Total Organic Carbon	SM5310C	mg/L	32.6	1	0.271	1.084		07/31/08 15:00	

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080729.05	Project Description CEP Impl.

August 12, 2008

Footnotes	
*	SunLabs is not currently NELAC certified for this analyte.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MB	Method Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NA	Sample not analyzed at client's request.
RL	RL(reporting limit) = PQL(practical quantitation limit).
RPD	Relative Percent Difference
S7	This analysis performed by Benchmark EnviroAnalytical, Inc., Certification number E84167.
U	Compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080730.06	Project Description CEP Impl.

August 12, 2008

Footnotes	
*	SunLabs is not currently NELAC certified for this analyte.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MB	Method Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NA	Sample not analyzed at client's request.
RL	RL(reporting limit) = PQL(practical quantitation limit).
RPD	Relative Percent Difference
S7	This analysis performed by Benchmark EnviroAnalytical, Inc., Certification number E84167.
U	Compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090410.09	Project Description: Sarasota Landfill Surface Water & Wetlands Assessm

April 20, 2009

SunLabs Sample Number **82952**
Sample Designation **Temp Well #1**

Matrix: Groundwater
Date Collected: 4/9/2009 15:15
Date Received: 4/10/2009 14:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/13/2009						04/13/09 09:00
Date Analyzed			4/14/2009	1				04/14/09 14:21	
Arsenic	6010	mg/L	0.012 I	1	0.0048	0.019	7440-38-2	04/13/09 17:22	04/13/09 09:00
Iron	6010	mg/L	3.5 V	1	0.0023	0.0092	7439-89-6	04/14/09 14:21	04/13/09 09:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090410.09	Project Description: Sarasota Landfill Surface Water & Wetlands Assessm

April 20, 2009

SunLabs Sample Number **82954**
Sample Designation **Temp Well #2**

Matrix: Groundwater
Date Collected: 4/9/2009 16:30
Date Received: 4/10/2009 14:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/13/2009						04/13/09 09:00
Date Analyzed			4/14/2009	1				04/14/09 14:24	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/13/09 17:24	04/13/09 09:00
Iron	6010	mg/L	2.2 V	1	0.0023	0.0092	7439-89-6	04/14/09 14:24	04/13/09 09:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090410.09	Project Description: Sarasota Landfill Surface Water & Wetlands Assessm

April 20, 2009

Footnotes	
*	SunLabs is not currently NELAC certified for this analyte.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MB	Method Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NA	Sample not analyzed at client's request.
RL	RL(reporting limit) = PQL(practical quantitation limit).
RPD	Relative Percent Difference
U	Compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.01	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70158**
Sample Designation **MW-8A**

Matrix: Groundwater
Date Collected: 07/29/08 11:30
Date Received: 07/31/08 07:55

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 11:09	07/31/08 09:22
Chloride	300.0	mg/L	44	5	0.22	0.9		08/02/08 06:06	07/31/08 09:22
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/31/08 11:09	07/31/08 09:22
Sulfate	300.0	mg/L	0.036 U	1	0.036	0.14		07/31/08 11:09	07/31/08 09:22
Metals by EPA Method 6010									
Date Digested	3010		7/31/2008						07/31/08 08:00
Date Analyzed			8/7/2008	1				08/07/08 18:33	
Arsenic	6010	mg/L	0.048	1	0.0048	0.019	7440-38-2	08/03/08 16:38	07/31/08 08:00
Iron	6010	mg/L	150 V	50	0.12	0.46	7439-89-6	08/04/08 15:46	07/31/08 08:00
Manganese	6010	mg/L	0.017	1	0.0006	0.0024	7439-96-5	08/04/08 12:30	07/31/08 08:00
Sodium	6010	mg/L	71	1	0.011	0.044	7440-23-5	08/07/08 18:33	07/31/08 08:00
Total Alkalinity									
Date analyzed			8/5/2008	1				08/05/08 14:07	
Total Alkalinity as CaCO3	SM2320B	mg/L	760	1	1.2	5		08/05/08 14:07	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	18.2	1	0.005	0.020		08/05/08 11:15	
Total Dissolved Solids									
Date Analyzed			8/4/08 S7	1				08/04/08 09:10	
Total Dissolved Solids	SM2540C	mg/L	876	1	7.26	29		08/04/08 09:10	
Total Organic Carbon									
Date Analyzed			7/31/08 S7	1				07/31/08 15:00	
Total Organic Carbon	SM5310C	mg/L	92.5	1	0.271	1.084		07/31/08 15:00	

Laboratory ID Number - E84809

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.01	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70159**
Sample Designation **CW-10R**

Matrix: Groundwater
Date Collected: 07/29/08 13:35
Date Received: 07/31/08 07:55

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 11:57	07/31/08 09:22
Chloride	300.0	mg/L	42	5	0.22	0.9		08/02/08 06:22	07/31/08 09:22
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/31/08 11:57	07/31/08 09:22
Sulfate	300.0	mg/L	220	50	1.8	7.2		08/01/08 19:51	07/31/08 09:22
Metals by EPA Method 6010									
Date Digested	3010		7/31/2008						07/31/08 08:00
Date Analyzed			8/7/2008	1				08/07/08 18:35	
Arsenic	6010	mg/L	0.009 I	1	0.0048	0.019	7440-38-2	08/03/08 16:41	07/31/08 08:00
Iron	6010	mg/L	15 V	5	0.012	0.046	7439-89-6	08/04/08 15:49	07/31/08 08:00
Manganese	6010	mg/L	0.052	1	0.0006	0.0024	7439-96-5	08/04/08 12:32	07/31/08 08:00
Sodium	6010	mg/L	53	1	0.011	0.044	7440-23-5	08/07/08 18:35	07/31/08 08:00
Total Alkalinity									
Date analyzed			8/5/2008	1				08/05/08 14:26	
Total Alkalinity as CaCO3	SM2320B	mg/L	470	1	1.2	5		08/05/08 14:26	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	2.52	1	0.005	0.020		08/05/08 11:15	
Total Dissolved Solids									
Date Analyzed			8/4/08 S7	1				08/04/08 09:10	
Total Dissolved Solids	SM2540C	mg/L	1024	1	7.26	29		08/04/08 09:10	
Total Organic Carbon									
Date Analyzed			7/31/08 S7	1				07/31/08 15:00	
Total Organic Carbon	SM5310C	mg/L	30.1	1	0.271	1.084		07/31/08 15:00	

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.01	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70160**
Sample Designation **CW-8A**

Matrix: Groundwater
Date Collected: 07/29/08 12:30
Date Received: 07/31/08 07:55

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 11:25	07/31/08 09:22
Chloride	300.0	mg/L	70	10	0.45	1.8		08/02/08 01:38	07/31/08 09:22
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/31/08 11:25	07/31/08 09:22
Sulfate	300.0	mg/L	28	5	0.18	0.72		08/02/08 06:38	07/31/08 09:22
Metals by EPA Method 6010									
Date Digested	3010		7/31/2008						07/31/08 08:00
Date Analyzed			8/7/2008	1				08/07/08 18:37	
Arsenic	6010	mg/L	0.053	1	0.0048	0.019	7440-38-2	08/03/08 16:43	07/31/08 08:00
Iron	6010	mg/L	62 V	20	0.046	0.18	7439-89-6	08/04/08 15:51	07/31/08 08:00
Manganese	6010	mg/L	0.018	1	0.0006	0.0024	7439-96-5	08/04/08 12:35	07/31/08 08:00
Sodium	6010	mg/L	40	1	0.011	0.044	7440-23-5	08/07/08 18:37	07/31/08 08:00
Total Alkalinity									
Date analyzed			8/5/2008	1				08/05/08 14:38	
Total Alkalinity as CaCO3	SM2320B	mg/L	150	1	1.2	5		08/05/08 14:38	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	5.68	1	0.005	0.020		08/05/08 11:15	
Total Dissolved Solids									
Date Analyzed			8/4/08 S7	1				08/04/08 09:10	
Total Dissolved Solids	SM2540C	mg/L	476	1	7.26	29		08/04/08 09:10	
Total Organic Carbon									
Date Analyzed			7/31/08	1				07/31/08 15:00	
Total Organic Carbon	SM5310C	mg/L	44.4	1	0.271	1.084		07/31/08 15:00	

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.01	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70161**
Sample Designation **MW-11R**

Matrix: Groundwater
Date Collected: 07/29/08 14:40
Date Received: 07/31/08 07:55

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 12:28	07/31/08 09:22
Chloride	300.0	mg/L	48	10	0.45	1.8		08/02/08 01:54	07/31/08 09:22
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/31/08 12:28	07/31/08 09:22
Sulfate	300.0	mg/L	150	50	1.8	7.2		08/01/08 20:07	07/31/08 09:22
Metals by EPA Method 6010									
Date Digested	3010		7/31/2008						07/31/08 08:00
Date Analyzed			8/7/2008	1				08/07/08 18:39	
Arsenic	6010	mg/L	0.014 I	1	0.0048	0.019	7440-38-2	08/03/08 16:45	07/31/08 08:00
Iron	6010	mg/L	2.9 V	1	0.0023	0.0092	7439-89-6	08/04/08 12:38	07/31/08 08:00
Manganese	6010	mg/L	0.016	1	0.0006	0.0024	7439-96-5	08/04/08 12:38	07/31/08 08:00
Sodium	6010	mg/L	44	1	0.011	0.044	7440-23-5	08/07/08 18:39	07/31/08 08:00
Total Alkalinity									
Date analyzed			8/5/2008	1				08/05/08 14:46	
Total Alkalinity as CaCO3	SM2320B	mg/L	300	1	1.2	5		08/05/08 14:46	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.594	1	0.005	0.020		08/05/08 11:15	
Total Dissolved Solids									
Date Analyzed			8/4/08 S7	1				08/04/08 09:10	
Total Dissolved Solids	SM2540C	mg/L	800	1	7.26	29		08/04/08 09:10	
Total Organic Carbon									
Date Analyzed			7/31/08 S7	1				07/31/08 15:00	
Total Organic Carbon	SM5310C	mg/L	60.6	1	0.271	1.084		07/31/08 15:00	

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.01	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70162**
Sample Designation **CW-11R**

Matrix: Groundwater
Date Collected: 07/29/08 15:25
Date Received: 07/31/08 07:55

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 13:15	07/31/08 09:22
Chloride	300.0	mg/L	15	2	0.09	0.36		08/02/08 09:31	07/31/08 09:22
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/31/08 13:15	07/31/08 09:22
Sulfate	300.0	mg/L	17	2	0.072	0.29		08/02/08 09:31	07/31/08 09:22
Metals by EPA Method 6010									
Date Digested	3010		7/31/2008						07/31/08 08:00
Date Analyzed			8/7/2008	1				08/07/08 18:45	
Arsenic	6010	mg/L	0.020	1	0.0048	0.019	7440-38-2	08/03/08 16:48	07/31/08 08:00
Iron	6010	mg/L	17 V	5	0.012	0.046	7439-89-6	08/04/08 15:53	07/31/08 08:00
Manganese	6010	mg/L	0.038	1	0.0006	0.0024	7439-96-5	08/04/08 12:40	07/31/08 08:00
Sodium	6010	mg/L	24	1	0.011	0.044	7440-23-5	08/07/08 18:45	07/31/08 08:00
Total Alkalinity									
Date analyzed			8/5/2008	1				08/05/08 14:55	
Total Alkalinity as CaCO3	SM2320B	mg/L	480	1	1.2	5		08/05/08 14:55	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	2.82	1	0.005	0.020		08/05/08 11:15	
Total Dissolved Solids									
Date Analyzed			8/4/08 S7	1				08/04/08 09:10	
Total Dissolved Solids	SM2540C	mg/L	680	1	7.26	29		08/04/08 09:10	
Total Organic Carbon									
Date Analyzed			7/31/08 S7	1				07/31/08 15:00	
Total Organic Carbon	SM5310C	mg/L	48.3	1	0.271	1.084		07/31/08 15:00	

Laboratory ID Number - E84809

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.01	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70163**
Sample Designation **MW-12R**

Matrix: Groundwater
Date Collected: 07/29/08 16:30
Date Received: 07/31/08 07:55

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 13:31	07/31/08 09:22
Chloride	300.0	mg/L	57	10	0.45	1.8		08/02/08 02:09	07/31/08 09:22
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/31/08 13:31	07/31/08 09:22
Sulfate	300.0	mg/L	93	20	0.72	2.9		08/01/08 23:00	07/31/08 09:22
Metals by EPA Method 6010									
Date Digested	3010		7/31/2008						07/31/08 08:00
Date Analyzed			8/7/2008	1				08/07/08 18:48	
Arsenic	6010	mg/L	0.012 I	1	0.0048	0.019	7440-38-2	08/03/08 16:55	07/31/08 08:00
Iron	6010	mg/L	2.0 V	1	0.0023	0.0092	7439-89-6	08/04/08 12:43	07/31/08 08:00
Manganese	6010	mg/L	0.029	1	0.0006	0.0024	7439-96-5	08/04/08 12:43	07/31/08 08:00
Sodium	6010	mg/L	47	1	0.011	0.044	7440-23-5	08/07/08 18:48	07/31/08 08:00
Total Alkalinity									
Date analyzed			8/5/2008	1				08/05/08 15:20	
Total Alkalinity as CaCO3	SM2320B	mg/L	360	1	1.2	5		08/05/08 15:20	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	1.01	1	0.005	0.020		08/05/08 11:15	
Total Dissolved Solids									
Date Analyzed			8/4/08 S7	1				08/04/08 08:30	
Total Dissolved Solids	SM2540C	mg/L	856	1	7.26	29		08/04/08 08:30	
Total Organic Carbon									
Date Analyzed			7/31/08 S7	1				07/31/08 15:00	
Total Organic Carbon	SM5310C	mg/L	75.1	1	0.271	1.084		07/31/08 15:00	

Laboratory ID Number - E84809

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.01	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70164**
Sample Designation **GW-4**

Matrix: Groundwater
Date Collected: 07/29/08 15:20
Date Received: 07/31/08 07:55

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 12:44	07/31/08 09:22
Chloride	300.0	mg/L	47	10	0.45	1.8		08/02/08 03:13	07/31/08 09:22
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/31/08 12:44	07/31/08 09:22
Sulfate	300.0	mg/L	5.0	1	0.036	0.14		07/31/08 12:44	07/31/08 09:22
Metals by EPA Method 6010									
Date Digested	3010		7/31/2008						07/31/08 08:00
Date Analyzed			8/7/2008	1				08/07/08 18:50	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	08/03/08 16:57	07/31/08 08:00
Iron	6010	mg/L	23 V	10	0.023	0.092	7439-89-6	08/04/08 15:56	07/31/08 08:00
Manganese	6010	mg/L	0.029	1	0.0006	0.0024	7439-96-5	08/04/08 12:46	07/31/08 08:00
Sodium	6010	mg/L	46	1	0.011	0.044	7440-23-5	08/07/08 18:50	07/31/08 08:00
Total Alkalinity									
Date analyzed			8/5/2008	1				08/05/08 15:30	
Total Alkalinity as CaCO3	SM2320B	mg/L	250	1	1.2	5		08/05/08 15:30	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	2.15	1	0.005	0.020		08/05/08 11:15	
Total Dissolved Solids									
Date Analyzed			8/4/08 S7	1				08/04/08 08:30	
Total Dissolved Solids	SM2540C	mg/L	492	1	7.26	29		08/04/08 08:30	
Total Organic Carbon									
Date Analyzed			7/31/08 S7	1				07/31/08 15:00	
Total Organic Carbon	SM5310C	mg/L	51.6	1	0.271	1.084		07/31/08 15:00	

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.01	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70165**
Sample Designation **GW-4 Filtered**

Matrix: Groundwater
Date Collected: 07/29/08 15:20
Date Received: 07/31/08 07:55

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		7/31/2008						07/31/08 08:00
Date Analyzed			8/7/2008	1				08/07/08 18:52	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	08/03/08 16:59	07/31/08 08:00
Iron	6010	mg/L	22 V	10	0.023	0.092	7439-89-6	08/04/08 15:58	07/31/08 08:00
Manganese	6010	mg/L	0.027	1	0.0006	0.0024	7439-96-5	08/04/08 12:48	07/31/08 08:00
Sodium	6010	mg/L	47	1	0.011	0.044	7440-23-5	08/07/08 18:52	07/31/08 08:00

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.01	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70166**
Sample Designation **GW-3**

Matrix: Groundwater
Date Collected: 07/29/08 14:10
Date Received: 07/31/08 07:55

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 12:12	07/31/08 09:22
Chloride	300.0	mg/L	38	5	0.22	0.9		08/02/08 06:54	07/31/08 09:22
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/31/08 12:12	07/31/08 09:22
Sulfate	300.0	mg/L	0.036 U	1	0.036	0.14		07/31/08 12:12	07/31/08 09:22
Metals by EPA Method 6010									
Date Digested	3010		7/31/2008						07/31/08 08:00
Date Analyzed			8/7/2008	1				08/07/08 18:54	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	08/03/08 17:02	07/31/08 08:00
Iron	6010	mg/L	18 V	5	0.012	0.046	7439-89-6	08/04/08 16:00	07/31/08 08:00
Manganese	6010	mg/L	0.0052	1	0.0006	0.0024	7439-96-5	08/04/08 12:51	07/31/08 08:00
Sodium	6010	mg/L	16	1	0.011	0.044	7440-23-5	08/07/08 18:54	07/31/08 08:00
Total Alkalinity									
Date analyzed			8/5/2008	1				08/05/08 15:38	
Total Alkalinity as CaCO3	SM2320B	mg/L	40	1	1.2	5		08/05/08 15:38	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.171	1	0.005	0.020		08/05/08 11:15	
Total Dissolved Solids									
Date Analyzed			8/4/08 S7	1				08/04/08 08:30	
Total Dissolved Solids	SM2540C	mg/L	188	1	7.26	29		08/04/08 08:30	
Total Organic Carbon									
Date Analyzed			7/31/08 S7	1				07/31/08 15:00	
Total Organic Carbon	SM5310C	mg/L	6.78	1	0.271	1.084		07/31/08 15:00	

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.01	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70167**
Sample Designation **GW-1**

Matrix: Groundwater
Date Collected: 07/29/08 11:55
Date Received: 07/31/08 07:55

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 11:25	07/31/08 09:22
Chloride	300.0	mg/L	33	5	0.22	0.9		08/02/08 07:09	07/31/08 09:22
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/31/08 11:25	07/31/08 09:22
Sulfate	300.0	mg/L	100	20	0.72	2.9		08/01/08 23:16	07/31/08 09:22
Metals by EPA Method 6010									
Date Digested	3010		7/31/2008						07/31/08 08:00
Date Analyzed			8/7/2008	1				08/07/08 18:56	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	08/03/08 17:04	07/31/08 08:00
Iron	6010	mg/L	1.4 V	1	0.0023	0.0092	7439-89-6	08/04/08 12:59	07/31/08 08:00
Manganese	6010	mg/L	0.016	1	0.0006	0.0024	7439-96-5	08/04/08 12:59	07/31/08 08:00
Sodium	6010	mg/L	14	1	0.011	0.044	7440-23-5	08/07/08 18:56	07/31/08 08:00
Total Alkalinity									
Date analyzed			8/5/2008	1				08/05/08 15:41	
Total Alkalinity as CaCO3	SM2320B	mg/L	160	1	1.2	5		08/05/08 15:41	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	1.30	1	0.005	0.020		08/05/08 11:15	
Total Dissolved Solids									
Date Analyzed			8/4/08 S7	1				08/04/08 08:30	
Total Dissolved Solids	SM2540C	mg/L	532	1	7.26	29		08/04/08 08:30	
Total Organic Carbon									
Date Analyzed			7/31/08 S7	1				07/31/08 15:00	
Total Organic Carbon	SM5310C	mg/L	18.5	1	0.271	1.084		07/31/08 15:00	

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.01	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70168**
Sample Designation **GW-5**

Matrix: Groundwater
Date Collected: 07/29/08 16:30
Date Received: 07/31/08 07:55

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 13:47	07/31/08 09:22
Chloride	300.0	mg/L	140	20	0.9	3.6		08/02/08 00:19	07/31/08 09:22
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/31/08 13:47	07/31/08 09:22
Sulfate	300.0	mg/L	11	5	0.18	0.72		08/02/08 07:25	07/31/08 09:22
Metals by EPA Method 6010									
Date Digested	3010		7/31/2008						07/31/08 08:00
Date Analyzed			8/7/2008	1				08/07/08 18:58	
Arsenic	6010	mg/L	0.021	1	0.0048	0.019	7440-38-2	08/03/08 17:06	07/31/08 08:00
Iron	6010	mg/L	48 V	20	0.046	0.18	7439-89-6	08/04/08 16:03	07/31/08 08:00
Manganese	6010	mg/L	0.11	1	0.0006	0.0024	7439-96-5	08/04/08 13:01	07/31/08 08:00
Sodium	6010	mg/L	79	1	0.011	0.044	7440-23-5	08/07/08 18:58	07/31/08 08:00
Total Alkalinity									
Date analyzed			8/5/2008	1				08/05/08 15:48	
Total Alkalinity as CaCO3	SM2320B	mg/L	430	1	1.2	5		08/05/08 15:48	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.115	1	0.005	0.020		08/05/08 11:15	
Total Dissolved Solids									
Date Analyzed			8/4/08 S7	1				08/04/08 08:30	
Total Dissolved Solids	SM2540C	mg/L	828	1	7.26	29		08/04/08 08:30	
Total Organic Carbon									
Date Analyzed			7/31/08 S7	1				07/31/08 15:00	
Total Organic Carbon	SM5310C	mg/L	41.9	1	0.271	1.084		07/31/08 15:00	

Laboratory ID Number - E84809

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.01	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70172**
Sample Designation **GW-9**

Matrix: Groundwater
Date Collected: 07/30/08 13:10
Date Received: 07/31/08 07:55

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 19:34	07/31/08 09:22
Chloride	300.0	mg/L	120	20	0.9	3.6		08/02/08 00:35	07/31/08 09:22
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/31/08 19:34	07/31/08 09:22
Sulfate	300.0	mg/L	0.036 U	1	0.036	0.14		07/31/08 19:34	07/31/08 09:22
Metals by EPA Method 6010									
Date Digested	3010		7/31/2008						07/31/08 08:00
Date Analyzed			8/7/2008	1				08/07/08 19:11	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	08/03/08 17:16	07/31/08 08:00
Iron	6010	mg/L	60 V	20	0.046	0.18	7439-89-6	08/04/08 16:17	07/31/08 08:00
Manganese	6010	mg/L	0.031	1	0.0006	0.0024	7439-96-5	08/04/08 13:12	07/31/08 08:00
Sodium	6010	mg/L	93	1	0.011	0.044	7440-23-5	08/07/08 19:11	07/31/08 08:00
Total Alkalinity									
Date analyzed			8/6/2008	1				08/06/08 11:01	
Total Alkalinity as CaCO3	SM2320B	mg/L	410	1	1.2	5		08/06/08 11:01	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.498	1	0.005	0.020		08/05/08 11:15	
Total Dissolved Solids									
Date Analyzed			8/5/08 S7	1				08/05/08 09:00	
Total Dissolved Solids	SM2540C	mg/L	848	1	7.26	29		08/05/08 09:00	
Total Organic Carbon									
Date Analyzed			7/31/08 S7	1				07/31/08 15:00	
Total Organic Carbon	SM5310C	mg/L	90	1	0.271	1.084		07/31/08 15:00	

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.13	Project Description: CEP Impl.

August 14, 2008

SunLabs Sample Number **70278**
Sample Designation **CW-9**

Matrix: Groundwater
Date Collected: 07/30/08 14:40
Date Received: 07/31/08 13:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 22:03	07/31/08 15:30
Chloride	300.0	mg/L	30	5	0.22	0.9		08/02/08 07:41	07/31/08 15:30
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/31/08 22:03	07/31/08 15:30
Sulfate	300.0	mg/L	110	50	1.8	7.2		08/01/08 21:25	07/31/08 15:30
Metals by EPA Method 6010									
Date Digested	3010		8/1/2008						08/01/08 08:30
Date Analyzed			8/7/2008	1				08/07/08 19:24	
Arsenic	6010	mg/L	0.053	1	0.0048	0.019	7440-38-2	08/05/08 17:07	08/01/08 08:30
Iron	6010	mg/L	16 V	5	0.012	0.046	7439-89-6	08/04/08 16:22	08/01/08 08:30
Manganese	6010	mg/L	0.043	1	0.0006	0.0024	7439-96-5	08/04/08 13:33	08/01/08 08:30
Sodium	6010	mg/L	48	1	0.011	0.044	7440-23-5	08/07/08 19:24	08/01/08 08:30
Total Alkalinity									
Date analyzed			8/6/2008	1				08/06/08 11:14	
Total Alkalinity as CaCO3	SM2320B	mg/L	550	1	1.2	5		08/06/08 11:14	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	3.10	1	0.005	0.020		08/07/08 11:10	
Total Dissolved Solids									
Date Analyzed			8/5/08 S7	1				08/05/08 09:00	
Total Dissolved Solids	SM2540C	mg/L	976	1	7.26	29.04		08/05/08 09:00	
Total Organic Carbon									
Date Analyzed			8/10/08 S7	1				08/10/08 12:50	
Total Organic Carbon	SM5310C	mg/L	38.3	1	0.271	1.084		08/10/08 12:50	

Laboratory ID Number - E84809

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.13	Project Description: CEP Impl.

August 14, 2008

SunLabs Sample Number **70279**
Sample Designation **MW-9**

Matrix: Groundwater
Date Collected: 07/30/08 16:25
Date Received: 07/31/08 13:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 22:18	07/31/08 15:30
Chloride	300.0	mg/L	43	10	0.45	1.8		08/02/08 04:00	07/31/08 15:30
Nitrate-N	300.0	mg/L	0.16	1	0.014	0.056		07/31/08 22:18	07/31/08 15:30
Sulfate	300.0	mg/L	0.036 U	1	0.036	0.14		07/31/08 22:18	07/31/08 15:30
Metals by EPA Method 6010									
Date Digested	3010		8/1/2008						08/01/08 08:30
Date Analyzed			8/7/2008	1				08/07/08 19:26	
Arsenic	6010	mg/L	0.052	1	0.0048	0.019	7440-38-2	08/05/08 17:09	08/01/08 08:30
Iron	6010	mg/L	44 V	20	0.046	0.18	7439-89-6	08/04/08 16:24	08/01/08 08:30
Manganese	6010	mg/L	0.032	1	0.0006	0.0024	7439-96-5	08/04/08 13:35	08/01/08 08:30
Sodium	6010	mg/L	45	1	0.011	0.044	7440-23-5	08/07/08 19:26	08/01/08 08:30
Total Alkalinity									
Date analyzed			8/6/2008	1				08/06/08 13:33	
Total Alkalinity as CaCO3	SM2320B	mg/L	850	1	1.2	5		08/06/08 13:33	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	13.8	1	0.005	0.020		08/07/08 11:10	
Total Dissolved Solids									
Date Analyzed			8/5/08 S7	1				08/05/08 09:00	
Total Dissolved Solids	SM2540C	mg/L	1024	1	7.26	29.04		08/05/08 09:00	
Total Organic Carbon									
Date Analyzed			8/10/08 S7	1				08/10/08 14:00	
Total Organic Carbon	SM5310C	mg/L	61.8	1	0.271	1.084		08/10/08 14:00	

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.13	Project Description: CEP Impl.

August 14, 2008

SunLabs Sample Number **70280**
Sample Designation **DUP**

Matrix: Groundwater
Date Collected: 07/30/08 14:40
Date Received: 07/31/08 13:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 22:34	07/31/08 15:30
Chloride	300.0	mg/L	30	5	0.22	0.9		08/02/08 07:57	07/31/08 15:30
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/31/08 22:34	07/31/08 15:30
Sulfate	300.0	mg/L	133	50	1.8	7.2		08/01/08 21:41	07/31/08 15:30
Metals by EPA Method 6010									
Date Digested	3010		8/1/2008						08/01/08 08:30
Date Analyzed			8/7/2008	1				08/07/08 19:29	
Arsenic	6010	mg/L	0.038	1	0.0048	0.019	7440-38-2	08/05/08 17:12	08/01/08 08:30
Iron	6010	mg/L	12 V	5	0.012	0.046	7439-89-6	08/04/08 16:27	08/01/08 08:30
Manganese	6010	mg/L	0.045	1	0.0006	0.0024	7439-96-5	08/04/08 13:38	08/01/08 08:30
Sodium	6010	mg/L	46	1	0.011	0.044	7440-23-5	08/07/08 19:29	08/01/08 08:30
Total Alkalinity									
Date analyzed			8/6/2008	1				08/06/08 13:54	
Total Alkalinity as CaCO3	SM2320B	mg/L	530	1	1.2	5		08/06/08 13:54	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	1.78	1	0.005	0.020		08/07/08 11:10	
Total Dissolved Solids									
Date Analyzed			8/5/08 S7	1				08/05/08 09:00	
Total Dissolved Solids	SM2540C	mg/L	924	1	7.26	29.04		08/05/08 09:00	
Total Organic Carbon									
Date Analyzed			8/10/08 S7	1				08/10/08 12:50	
Total Organic Carbon	SM5310C	mg/L	37.6	1	0.271	1.084		08/10/08 12:50	

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.13	Project Description: CEP Impl.

August 14, 2008

SunLabs Sample Number **70281**
Sample Designation **GW-12**

Matrix: Groundwater
Date Collected: 07/30/08 16:20
Date Received: 07/31/08 13:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 22:50	07/31/08 15:30
Chloride	300.0	mg/L	43	10	0.45	1.8		08/02/08 04:16	07/31/08 15:30
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/31/08 22:50	07/31/08 15:30
Sulfate	300.0	mg/L	350	50	1.8	7.2		08/01/08 21:57	07/31/08 15:30
Metals by EPA Method 6010									
Date Digested	3010		8/1/2008						08/01/08 08:30
Date Analyzed			8/7/2008	1				08/07/08 19:31	
Arsenic	6010	mg/L	0.008 I	1	0.0048	0.019	7440-38-2	08/05/08 17:14	08/01/08 08:30
Iron	6010	mg/L	12 V	5	0.012	0.046	7439-89-6	08/04/08 16:29	08/01/08 08:30
Manganese	6010	mg/L	0.065	1	0.0006	0.0024	7439-96-5	08/04/08 13:41	08/01/08 08:30
Sodium	6010	mg/L	84	1	0.011	0.044	7440-23-5	08/07/08 19:31	08/01/08 08:30
Total Alkalinity									
Date analyzed			8/6/2008	1				08/06/08 14:48	
Total Alkalinity as CaCO3	SM2320B	mg/L	380	1	1.2	5		08/06/08 14:48	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	6.66	1	0.005	0.020		08/07/08 11:10	
Total Dissolved Solids									
Date Analyzed			8/5/08 S7	1				08/05/08 09:00	
Total Dissolved Solids	SM2540C	mg/L	1196	1	7.26	29.04		08/05/08 09:00	
Total Organic Carbon									
Date Analyzed			8/10/08 S7	1				08/10/08 12:50	
Total Organic Carbon	SM5310C	mg/L	47.4	1	0.271	1.084		08/10/08 12:50	

Laboratory ID Number - E84809

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.13	Project Description: CEP Impl.

August 14, 2008

SunLabs Sample Number **70282**
Sample Designation **DGW-3**

Matrix: Groundwater
Date Collected: 07/30/08 15:08
Date Received: 07/31/08 13:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 23:06	07/31/08 15:30
Chloride	300.0	mg/L	45	10	0.45	1.8		08/02/08 04:32	07/31/08 15:30
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/31/08 23:06	07/31/08 15:30
Sulfate	300.0	mg/L	1.8	1	0.036	0.14		07/31/08 23:06	07/31/08 15:30
Metals by EPA Method 6010									
Date Digested	3010		8/1/2008						08/01/08 08:30
Date Analyzed			8/7/2008	1				08/07/08 19:37	
Arsenic	6010	mg/L	0.008 I	1	0.0048	0.019	7440-38-2	08/05/08 17:16	08/01/08 08:30
Iron	6010	mg/L	17 V	5	0.012	0.046	7439-89-6	08/04/08 16:31	08/01/08 08:30
Manganese	6010	mg/L	0.017	1	0.0006	0.0024	7439-96-5	08/04/08 13:43	08/01/08 08:30
Sodium	6010	mg/L	38	1	0.011	0.044	7440-23-5	08/07/08 19:37	08/01/08 08:30
Total Alkalinity									
Date analyzed			8/6/2008	1				08/06/08 14:58	
Total Alkalinity as CaCO3	SM2320B	mg/L	310	1	1.2	5		08/06/08 14:58	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.382	1	0.005	0.020		08/07/08 11:10	
Total Dissolved Solids									
Date Analyzed			8/5/08 S7	1				08/05/08 09:00	
Total Dissolved Solids	SM2540C	mg/L	532	1	7.26	29.04		08/05/08 09:00	
Total Organic Carbon									
Date Analyzed			8/10/08 S7	1				08/10/08 12:50	
Total Organic Carbon	SM5310C	mg/L	28.0	1	0.271	1.084		08/10/08 12:50	

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.13	Project Description
	CEP Impl.

August 14, 2008

SunLabs Sample Number **70283**
Sample Designation **DGW-3 Filtered**

Matrix: Groundwater
Date Collected: 07/30/08 15:08
Date Received: 07/31/08 13:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		8/1/2008						08/01/08 08:30
Date Analyzed			8/7/2008	1				08/07/08 19:39	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	08/05/08 17:28	08/01/08 08:30
Iron	6010	mg/L	17 V	5	0.012	0.046	7439-89-6	08/04/08 16:39	08/01/08 08:30
Manganese	6010	mg/L	0.016	1	0.0006	0.0024	7439-96-5	08/04/08 13:46	08/01/08 08:30
Sodium	6010	mg/L	42	1	0.011	0.044	7440-23-5	08/07/08 19:39	08/01/08 08:30

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.13	Project Description: CEP Impl.

August 14, 2008

SunLabs Sample Number **70284**
Sample Designation **GW-7**

Matrix: Groundwater
Date Collected: 07/30/08 11:48
Date Received: 07/31/08 13:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 23:21	07/31/08 15:30
Chloride	300.0	mg/L	15	2	0.09	0.36		08/02/08 09:47	07/31/08 15:30
Nitrate-N	300.0	mg/L	0.15	1	0.014	0.056		07/31/08 23:21	07/31/08 15:30
Sulfate	300.0	mg/L	3.3	1	0.036	0.14		07/31/08 23:21	07/31/08 15:30
Metals by EPA Method 6010									
Date Digested	3010		8/1/2008						08/01/08 08:30
Date Analyzed			8/7/2008	1				08/07/08 19:42	
Arsenic	6010	mg/L	0.019	1	0.0048	0.019	7440-38-2	08/05/08 17:31	08/01/08 08:30
Iron	6010	mg/L	50 V	20	0.046	0.18	7439-89-6	08/04/08 16:41	08/01/08 08:30
Manganese	6010	mg/L	0.018	1	0.0006	0.0024	7439-96-5	08/04/08 13:49	08/01/08 08:30
Sodium	6010	mg/L	14	1	0.011	0.044	7440-23-5	08/07/08 19:42	08/01/08 08:30
Total Alkalinity									
Date analyzed			8/6/2008	1				08/06/08 15:07	
Total Alkalinity as CaCO3	SM2320B	mg/L	320	1	1.2	5		08/06/08 15:07	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	11.7	1	0.005	0.020		08/07/08 11:10	
Total Dissolved Solids									
Date Analyzed			8/5/08 S7	1				08/05/08 09:00	
Total Dissolved Solids	SM2540C	mg/L	484	1	7.26	29.04		08/05/08 09:00	
Total Organic Carbon									
Date Analyzed			8/10/08 S7	1				08/10/08 12:50	
Total Organic Carbon	SM5310C	mg/L	52.3	1	0.271	1.084		08/10/08 12:50	

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.13	Project Description: CEP Impl.

August 14, 2008

SunLabs Sample Number **70285**
Sample Designation **GW-7 Filtered**

Matrix: Groundwater
Date Collected: 07/30/08 11:48
Date Received: 07/31/08 13:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		8/1/2008						08/01/08 08:30
Date Analyzed			8/7/2008	1				08/07/08 19:44	
Arsenic	6010	mg/L	0.017 I	1	0.0048	0.019	7440-38-2	08/05/08 17:33	08/01/08 08:30
Iron	6010	mg/L	46 V	20	0.046	0.18	7439-89-6	08/04/08 16:44	08/01/08 08:30
Manganese	6010	mg/L	0.011	1	0.0006	0.0024	7439-96-5	08/04/08 13:51	08/01/08 08:30
Sodium	6010	mg/L	15	1	0.011	0.044	7440-23-5	08/07/08 19:44	08/01/08 08:30

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.13	Project Description: CEP Impl.

August 14, 2008

SunLabs Sample Number **70286**
Sample Designation **DUP/GW-7**

Matrix: Groundwater
Date Collected: 07/30/08 11:48
Date Received: 07/31/08 13:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 23:37	07/31/08 15:30
Chloride	300.0	mg/L	16	2	0.09	0.36		08/02/08 10:03	07/31/08 15:30
Nitrate-N	300.0	mg/L	0.14	1	0.014	0.056		07/31/08 23:37	07/31/08 15:30
Sulfate	300.0	mg/L	6.4	1	0.036	0.14		07/31/08 23:37	07/31/08 15:30
Metals by EPA Method 6010									
Date Digested	3010		8/1/2008						08/01/08 08:30
Date Analyzed			8/7/2008	1				08/07/08 19:46	
Arsenic	6010	mg/L	0.021	1	0.0048	0.019	7440-38-2	08/05/08 17:35	08/01/08 08:30
Iron	6010	mg/L	75 V	50	0.12	0.46	7439-89-6	08/04/08 16:46	08/01/08 08:30
Manganese	6010	mg/L	0.073	1	0.0006	0.0024	7439-96-5	08/04/08 13:54	08/01/08 08:30
Sodium	6010	mg/L	16	1	0.011	0.044	7440-23-5	08/07/08 19:46	08/01/08 08:30
Total Alkalinity									
Date analyzed			8/6/2008	1				08/06/08 15:20	
Total Alkalinity as CaCO3	SM2320B	mg/L	320	1	1.2	5		08/06/08 15:20	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	11.2	1	0.005	0.020		08/07/08 11:10	
Total Dissolved Solids									
Date Analyzed			8/5/08 S7	1				08/05/08 09:00	
Total Dissolved Solids	SM2540C	mg/L	460	1	7.26	29.04		08/05/08 09:00	
Total Organic Carbon									
Date Analyzed			8/10/08 S7	1				08/10/08 12:50	
Total Organic Carbon	SM5310C	mg/L	58.3	1	0.271	1.084		08/10/08 12:50	

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.13	Project Description: CEP Impl.

August 14, 2008

SunLabs Sample Number **70287**
Sample Designation **DUP/GW-7 Filtered**

Matrix: Groundwater
Date Collected: 07/30/08 11:48
Date Received: 07/31/08 13:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		8/1/2008						08/01/08 08:30
Date Analyzed			8/7/2008	1				08/07/08 19:48	
Arsenic	6010	mg/L	0.019	1	0.0048	0.019	7440-38-2	08/05/08 17:38	08/01/08 08:30
Iron	6010	mg/L	46 V	20	0.046	0.18	7439-89-6	08/04/08 16:51	08/01/08 08:30
Manganese	6010	mg/L	0.011	1	0.0006	0.0024	7439-96-5	08/04/08 14:02	08/01/08 08:30
Sodium	6010	mg/L	14	1	0.011	0.044	7440-23-5	08/07/08 19:48	08/01/08 08:30

Laboratory ID Number - E84809

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.13	Project Description: CEP Impl.

August 14, 2008

SunLabs Sample Number **70288**
Sample Designation **GW-8**

Matrix: Groundwater
Date Collected: 07/30/08 13:58
Date Received: 07/31/08 13:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			08/01/08	1				08/01/08 00:40	07/31/08 15:30
Chloride	300.0	mg/L	120	20	0.9	3.6		08/02/08 00:51	07/31/08 15:30
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		08/01/08 00:40	07/31/08 15:30
Sulfate	300.0	mg/L	470	50	1.8	7.2		08/01/08 22:13	07/31/08 15:30
Metals by EPA Method 6010									
Date Digested	3010		8/1/2008						08/01/08 08:30
Date Analyzed			8/8/2008	10				08/08/08 16:36	
Arsenic	6010	mg/L	0.007 I	1	0.0048	0.019	7440-38-2	08/05/08 17:40	08/01/08 08:30
Iron	6010	mg/L	14 V	5	0.012	0.046	7439-89-6	08/04/08 16:53	08/01/08 08:30
Manganese	6010	mg/L	0.036	1	0.0006	0.0024	7439-96-5	08/04/08 14:04	08/01/08 08:30
Sodium	6010	mg/L	460	10	0.11	0.44	7440-23-5	08/08/08 16:36	08/01/08 08:30
Total Alkalinity									
Date analyzed			8/6/2008	1				08/06/08 15:33	
Total Alkalinity as CaCO3	SM2320B	mg/L	1100	1	1.2	5		08/06/08 15:33	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	1.06	1	0.005	0.020		08/07/08 11:10	
Total Dissolved Solids									
Date Analyzed			8/5/08 S7	1				08/05/08 09:00	
Total Dissolved Solids	SM2540C	mg/L	2216	1	7.26	29.04		08/05/08 09:00	
Total Organic Carbon									
Date Analyzed			8/10/08 S7	1				08/10/08 12:50	
Total Organic Carbon	SM5310C	mg/L	43.8	1	0.271	1.084		08/10/08 12:50	

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.13	Project Description: CEP Impl.

August 14, 2008

SunLabs Sample Number **70289**
Sample Designation **DGW-4**

Matrix: Groundwater
Date Collected: 07/30/08 10:22
Date Received: 07/31/08 13:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			08/01/08	1				08/01/08 00:56	07/31/08 15:30
Chloride	300.0	mg/L	260	50	2.2	9		08/01/08 22:29	07/31/08 15:30
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		08/01/08 00:56	07/31/08 15:30
Sulfate	300.0	mg/L	0.036 U	1	0.036	0.14		08/01/08 00:56	07/31/08 15:30
Metals by EPA Method 6010									
Date Digested	3010		8/1/2008						08/01/08 08:30
Date Analyzed			8/8/2008	2				08/08/08 16:38	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	08/05/08 17:42	08/01/08 08:30
Iron	6010	mg/L	17 V	5	0.012	0.046	7439-89-6	08/04/08 16:55	08/01/08 08:30
Manganese	6010	mg/L	0.019	1	0.0006	0.0024	7439-96-5	08/04/08 14:07	08/01/08 08:30
Sodium	6010	mg/L	120	2	0.022	0.088	7440-23-5	08/08/08 16:38	08/01/08 08:30
Total Alkalinity									
Date analyzed			8/6/2008	1				08/06/08 16:06	
Total Alkalinity as CaCO3	SM2320B	mg/L	380	1	1.2	5		08/06/08 16:06	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.450	1	0.005	0.020		08/07/08 11:10	
Total Dissolved Solids									
Date Analyzed			8/5/08 S7	1				08/05/08 09:00	
Total Dissolved Solids	SM2540C	mg/L	1012	1	7.26	29.04		08/05/08 09:00	
Total Organic Carbon									
Date Analyzed			8/10/08 S7	1				08/10/08 12:50	
Total Organic Carbon	SM5310C	mg/L	29.1	1	0.271	1.084		08/10/08 12:50	

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.01	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70169**
Sample Designation **GW-14**

Matrix: Groundwater
Date Collected: 07/30/08 10:10
Date Received: 07/31/08 07:55

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 14:03	07/31/08 09:22
Chloride	300.0	mg/L	210	50	2.2	9		08/01/08 20:22	07/31/08 09:22
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/31/08 14:03	07/31/08 09:22
Sulfate	300.0	mg/L	47	10	0.36	1.4		08/02/08 03:28	07/31/08 09:22
Metals by EPA Method 6010									
Date Digested	3010		7/31/2008						07/31/08 08:00
Date Analyzed			8/8/2008	5				08/08/08 16:34	
Arsenic	6010	mg/L	0.015 I	1	0.0048	0.019	7440-38-2	08/03/08 17:09	07/31/08 08:00
Iron	6010	mg/L	14 V	5	0.012	0.046	7439-89-6	08/04/08 16:10	07/31/08 08:00
Manganese	6010	mg/L	0.041	1	0.0006	0.0024	7439-96-5	08/04/08 13:04	07/31/08 08:00
Sodium	6010	mg/L	170	5	0.055	0.22	7440-23-5	08/08/08 16:34	07/31/08 08:00
Total Alkalinity									
Date analyzed			8/5/2008	1				08/05/08 15:59	
Total Alkalinity as CaCO3	SM2320B	mg/L	590	1	1.2	5		08/05/08 15:59	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	1.87	1	0.005	0.020		08/05/08 11:15	
Total Dissolved Solids									
Date Analyzed			8/5/08 S7	1				08/05/08 09:00	
Total Dissolved Solids	SM2540C	mg/L	1180	1	7.26	29		08/05/08 09:00	
Total Organic Carbon									
Date Analyzed			7/31/08 S7	1				07/31/08 15:00	
Total Organic Carbon	SM5310C	mg/L	41.5	1	0.271	1.084		07/31/08 15:00	

Laboratory ID Number - E84809

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.13	Project Description: CEP Impl.

August 14, 2008

SunLabs Sample Number **70290**
Sample Designation **DGW-4 Filtered**

Matrix: Groundwater
Date Collected: 07/30/08 10:22
Date Received: 07/31/08 13:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		8/1/2008						08/01/08 08:30
Date Analyzed			8/8/2008	2				08/08/08 16:40	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	08/05/08 17:45	08/01/08 08:30
Iron	6010	mg/L	16 V	5	0.012	0.046	7439-89-6	08/04/08 16:58	08/01/08 08:30
Manganese	6010	mg/L	0.017	1	0.0006	0.0024	7439-96-5	08/04/08 14:10	08/01/08 08:30
Sodium	6010	mg/L	120	2	0.022	0.088	7440-23-5	08/08/08 16:40	08/01/08 08:30

Laboratory ID Number - E84809

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.01	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70170**
Sample Designation **GW-13**

Matrix: Groundwater
Date Collected: 07/30/08 11:30
Date Received: 07/31/08 07:55

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			07/31/08	1				07/31/08 14:19	07/31/08 09:22
Chloride	300.0	mg/L	70	10	0.45	1.8		08/02/08 03:44	07/31/08 09:22
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		07/31/08 14:19	07/31/08 09:22
Sulfate	300.0	mg/L	0.036 U	1	0.036	0.14		07/31/08 14:19	07/31/08 09:22
Metals by EPA Method 6010									
Date Digested	3010		7/31/2008						07/31/08 08:00
Date Analyzed			8/7/2008	1				08/07/08 19:03	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	08/03/08 17:11	07/31/08 08:00
Iron	6010	mg/L	48 V	20	0.046	0.18	7439-89-6	08/04/08 16:13	07/31/08 08:00
Manganese	6010	mg/L	0.019	1	0.0006	0.0024	7439-96-5	08/04/08 13:06	07/31/08 08:00
Sodium	6010	mg/L	76	1	0.011	0.044	7440-23-5	08/07/08 19:03	07/31/08 08:00
Total Alkalinity									
Date analyzed			8/5/2008	1				08/05/08 16:17	
Total Alkalinity as CaCO3	SM2320B	mg/L	570	1	1.2	5		08/05/08 16:17	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.438	1	0.005	0.020		08/05/08 11:15	
Total Dissolved Solids									
Date Analyzed			8/5/08 S7	1				08/05/08 09:00	
Total Dissolved Solids	SM2540C	mg/L	844	1	7.26	29		08/05/08 09:00	
Total Organic Carbon									
Date Analyzed			7/31/08 S7	1				07/31/08 15:00	
Total Organic Carbon	SM5310C	mg/L	40.4	1	0.271	1.084		07/31/08 15:00	

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.01	Project Description: CEP Impl.

August 12, 2008

SunLabs Sample Number **70171**
Sample Designation **GW-13 Filtered**

Matrix: Groundwater
Date Collected: 07/30/08 11:30
Date Received: 07/31/08 07:55

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		7/31/2008						07/31/08 08:00
Date Analyzed			8/7/2008	1				08/07/08 19:05	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	08/03/08 17:13	07/31/08 08:00
Iron	6010	mg/L	44 V	20	0.046	0.18	7439-89-6	08/04/08 16:15	07/31/08 08:00
Manganese	6010	mg/L	0.018	1	0.0006	0.0024	7439-96-5	08/04/08 13:09	07/31/08 08:00
Sodium	6010	mg/L	77	1	0.011	0.044	7440-23-5	08/07/08 19:05	07/31/08 08:00

Laboratory ID Number - E84809

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.13	Project Description: CEP Impl.

August 14, 2008

SunLabs Sample Number **70291**
Sample Designation **GW-6**

Matrix: Groundwater
Date Collected: 07/30/08 08:47
Date Received: 07/31/08 13:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			08/01/08	1				08/01/08 01:12	07/31/08 15:30
Chloride	300.0	mg/L	34	5	0.22	0.9		08/02/08 09:00	07/31/08 15:30
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		08/01/08 01:12	07/31/08 15:30
Sulfate	300.0	mg/L	16	2	0.072	0.29		08/02/08 10:19	07/31/08 15:30
Metals by EPA Method 6010									
Date Digested	3010		8/1/2008						08/01/08 08:30
Date Analyzed			8/7/2008	1				08/07/08 19:57	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	08/05/08 17:47	08/01/08 08:30
Iron	6010	mg/L	8.2 V	2	0.0046	0.018	7439-89-6	08/04/08 17:00	08/01/08 08:30
Manganese	6010	mg/L	0.033	1	0.0006	0.0024	7439-96-5	08/04/08 14:12	08/01/08 08:30
Sodium	6010	mg/L	25	1	0.011	0.044	7440-23-5	08/07/08 19:57	08/01/08 08:30
Total Alkalinity									
Date analyzed			8/6/2008	1				08/06/08 16:17	
Total Alkalinity as CaCO3	SM2320B	mg/L	400	1	1.2	5		08/06/08 16:17	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	2.24	1	0.005	0.020		08/07/08 11:10	
Total Dissolved Solids									
Date Analyzed			8/5/08 S7	1				08/05/08 09:00	
Total Dissolved Solids	SM2540C	mg/L	488	1	7.26	29.04		08/05/08 09:00	
Total Organic Carbon									
Date Analyzed			8/10/08 S7	1				08/10/08 12:50	
Total Organic Carbon	SM5310C	mg/L	26.3	1	0.271	1.084		08/10/08 12:50	

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.13	Project Description: CEP Impl.

August 14, 2008

SunLabs Sample Number **70292**
Sample Designation **GW-6 Filtered**

Matrix: Groundwater
Date Collected: 07/30/08 08:47
Date Received: 07/31/08 13:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		8/1/2008						08/01/08 08:30
Date Analyzed			8/7/2008	1				08/07/08 20:03	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	08/05/08 17:49	08/01/08 08:30
Iron	6010	mg/L	5.2 V	2	0.0046	0.018	7439-89-6	08/04/08 17:08	08/01/08 08:30
Manganese	6010	mg/L	0.028	1	0.0006	0.0024	7439-96-5	08/04/08 14:15	08/01/08 08:30
Sodium	6010	mg/L	27	1	0.011	0.044	7440-23-5	08/07/08 20:03	08/01/08 08:30

Laboratory ID Number - E84809

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.13	Project Description: CEP Impl.

August 14, 2008

SunLabs Sample Number **70293**
Sample Designation **MW-10R**

Matrix: Groundwater
Date Collected: 07/31/08 08:51
Date Received: 07/31/08 13:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			08/01/08	1				08/01/08 01:28	07/31/08 15:30
Chloride	300.0	mg/L	83	10	0.45	1.8		08/02/08 04:47	07/31/08 15:30
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		08/01/08 01:28	07/31/08 15:30
Sulfate	300.0	mg/L	0.036 U	1	0.036	0.14		08/01/08 01:28	07/31/08 15:30
Metals by EPA Method 6010									
Date Digested	3010		8/1/2008						08/01/08 08:30
Date Analyzed			8/7/2008	1				08/07/08 20:05	
Arsenic	6010	mg/L	0.007 I	1	0.0048	0.019	7440-38-2	08/05/08 18:01	08/01/08 08:30
Iron	6010	mg/L	66 V	20	0.046	0.18	7439-89-6	08/04/08 17:10	08/01/08 08:30
Manganese	6010	mg/L	0.016	1	0.0006	0.0024	7439-96-5	08/04/08 14:17	08/01/08 08:30
Sodium	6010	mg/L	83	1	0.011	0.044	7440-23-5	08/07/08 20:05	08/01/08 08:30
Total Alkalinity									
Date analyzed			8/6/2008	1				08/06/08 16:26	
Total Alkalinity as CaCO3	SM2320B	mg/L	480	1	1.2	5		08/06/08 16:26	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	11.4	1	0.005	0.020		08/07/08 11:10	
Total Dissolved Solids									
Date Analyzed			8/5/08 S7	1				08/05/08 09:00	
Total Dissolved Solids	SM2540C	mg/L	816	1	7.26	29.04		08/05/08 09:00	
Total Organic Carbon									
Date Analyzed			8/10/08 S7	1				08/10/08 12:50	
Total Organic Carbon	SM5310C	mg/L	70.7	1	0.271	1.084		08/10/08 12:50	

Laboratory ID Number - E84809

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520
Tampa, Florida 33634

Phone: 813-881-9401
Fax: 813-354-4661
Email: Info@SunLabsInc.com

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.13	Project Description: CEP Impl.

August 14, 2008

SunLabs Sample Number **70294**
Sample Designation **MW-1R**

Matrix: Groundwater
Date Collected: 07/31/08 10:00
Date Received: 07/31/08 13:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			08/01/08	1				08/01/08 01:43	07/31/08 15:30
Chloride	300.0	mg/L	29	5	0.22	0.9		08/02/08 09:16	07/31/08 15:30
Nitrate-N	300.0	mg/L	0.014 U	1	0.014	0.056		08/01/08 01:43	07/31/08 15:30
Sulfate	300.0	mg/L	12	5	0.18	0.72		08/02/08 09:16	07/31/08 15:30
Metals by EPA Method 6010									
Date Digested	3010		8/1/2008						08/01/08 08:30
Date Analyzed			8/7/2008	1				08/07/08 20:08	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	08/05/08 18:04	08/01/08 08:30
Iron	6010	mg/L	1.1 V	1	0.0023	0.0092	7439-89-6	08/04/08 14:20	08/01/08 08:30
Manganese	6010	mg/L	0.026	1	0.0006	0.0024	7439-96-5	08/04/08 14:20	08/01/08 08:30
Sodium	6010	mg/L	22	1	0.011	0.044	7440-23-5	08/07/08 20:08	08/01/08 08:30
Total Alkalinity									
Date analyzed			8/6/2008	1				08/06/08 16:40	
Total Alkalinity as CaCO3	SM2320B	mg/L	260	1	1.2	5		08/06/08 16:40	
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.148	1	0.005	0.020		08/07/08 11:10	
Total Dissolved Solids									
Date Analyzed			8/5/08 S7	1				08/05/08 09:00	
Total Dissolved Solids	SM2540C	mg/L	404	1	7.26	29.04		08/05/08 09:00	
Total Organic Carbon									
Date Analyzed			8/10/08 S7	1				08/10/08 12:50	
Total Organic Carbon	SM5310C	mg/L	16.2	1	0.271	1.084		08/10/08 12:50	

Laboratory ID Number - E84809

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.13	Project Description: CEP Impl.

August 14, 2008

SunLabs Sample Number **70295**
Sample Designation **MW-1R Filtered**

Matrix: Groundwater
Date Collected: 07/31/08 10:00
Date Received: 07/31/08 13:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		8/1/2008						08/01/08 08:30
Date Analyzed			8/7/2008	1				08/07/08 20:10	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	08/05/08 18:06	08/01/08 08:30
Iron	6010	mg/L	0.19 V	1	0.0023	0.0092	7439-89-6	08/04/08 14:23	08/01/08 08:30
Manganese	6010	mg/L	0.025	1	0.0006	0.0024	7439-96-5	08/04/08 14:23	08/01/08 08:30
Sodium	6010	mg/L	23	1	0.011	0.044	7440-23-5	08/07/08 20:10	08/01/08 08:30

Laboratory ID Number - E84809

SunLabs, Inc.
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Phone: 813-881-9401
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Email: Info@SunLabsInc.com

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.13	Project Description CEP Impl.

August 14, 2008

Footnotes	
*	SunLabs is not currently NELAC certified for this analyte.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MB	Method Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NA	Sample not analyzed at client's request.
RL	RL(reporting limit) = PQL(practical quantitation limit).
RPD	Relative Percent Difference
S7	This analysis performed by Benchmark EnviroAnalytical, Inc., Certification number E84167.
U	Compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.

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Quality Control Data

Project Number	PBS&J
080729.05	Project Description: CEP Impl.

August 12, 2008

Batch No: **C5842**
TestCode: **300.0**

Associated Samples
70017, 70019, 70020

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*69964*	*69964*					
Fluoride	0.016 U	5.00	115	119	3	6	19-171	5.00	131	107	20 *	13	24-163		
Chloride	0.045 U	5.00	111	113	2	8	19-162	5.00	213 *	148	36 *	15	0-207		
Nitrite-N	0.016 U	5.00	108	108	0	3	21-171	5.00	50	12 *	123 *	8	43-152		
Nitrate-N	0.014 U	5.00	104	107	3	5	19-168	5.00	140	125	11	11	42-152		
Sulfate	0.036 U	5.00	107	112	5	6	21-169	5.00	0	0	NA	21	0-236		

Batch No: **C5850**
TestCode: **6010-L**

Associated Samples
70017, 70018, 70019, 70020, 70021

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*70017*	*70017*					
Date Digested	/30/2008 U	1000	)0/08	)0/08	0			1000	)0/08	)0/08	0				
Date Analyzed	3/4/2008 U	1000	)4/08	)4/08	0			1000	)4/08	)4/08	0				
Aluminum	0.009 U	1000	99	101	2	9	87-115	1000	55	138	86 *	33	0-263		
Arsenic	0.0048 U	1000	107	110	3	8	88-112	1000	113	110	3	8	78-117		
Iron	0.0023 U	1000	100	102	2	20	80-126	1000	0	94	200 *	55	0-289		
Manganese	0.0006 U	1000	100	102	2	5	91-112	1000	100	99	1	9	76-113		
Sodium	0.011	10.0	96	97	1	6	89-114	10.0	72	54 *	29 *	14	72-125		Q1

* indicates value is outside control limits for %Recovery or greater than acceptance criteria for RPD

Footnotes

MSO	*The result for the spike(s) were not within acceptable control limits. However, the LCS data was within acceptable control limits. Therefore the poor spike results can be attributed to matrix.*
Q1	*The result for the spike(s) were not within acceptable control limits. However, the LCS data was within acceptable control limits. Therefore the poor spike results can be attributed to matrix.*
U	*Compound was analyzed for but not detected.*

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520
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Phone: 813-881-9401
Fax: 813-354-4661
Email: Info@SunLabsInc.com

August 12, 2008

Brad Bayne
PBS&J
5300 West Cypress St.
Suite #200
Tampa, FL 33607

Re: SunLabs Project Number: **080730.06**
Client Project Description: **CEP Impl.**

Dear Mr. Bayne:

Enclosed is the report of laboratory analysis for the following samples:

Sample Number	Sample Description	Date Collected
70130	GW-16	07/29/08
70131	GW-10	07/29/08
70132	GW-15	07/29/08
70133	Duplicate BB	07/29/08
70134	DGW-2	07/29/08

Ammonia was analyzed by Benchmark Enviroanalytical, Inc. NELAC# E86147.

Copies of the Chain(s)-of-Custody, if received, are attached to this report.

If you have any questions or comments concerning this report, please do not hesitate to contact us.

Sincerely,

Michael W. Palmer
Vice President, Laboratory Operations

Enclosures

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520
Tampa, Florida 33634

Phone: 813-881-9401
Fax: 813-354-4661
Email: Info@SunLabsInc.com

August 12, 2008

Brad Bayne
PBS&J
5300 West Cypress St.
Suite #200
Tampa, FL 33607

Re: SunLabs Project Number: **080729.05**
Client Project Description: **CEP Impl.**

Dear Mr. Bayne:

Enclosed is the report of laboratory analysis for the following samples:

Sample Number	Sample Description	Date Collected
70017	GW-2	07/28/08
70018	GW-2 Filtered	07/28/08
70019	DGW-1	07/28/08
70020	GW-11	07/28/08
70021	GW-11 Filtered	07/28/08

Ammonia was analyzed by Benchmark Enviroanalytical, Inc. NELAC# E86147.

Copies of the Chain(s)-of-Custody, if received, are attached to this report.

If you have any questions or comments concerning this report, please do not hesitate to contact us.

Sincerely,

Michael W. Palmer
Vice President, Laboratory Operations

Enclosures

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520
Tampa, Florida 33634

Phone: 813-881-9401
Fax: 813-354-4661
Email: Info@SunLabsInc.com

Quality Control Data

Project Number	PBS&J
080730.06	Project Description: CEP Impl.

August 12, 2008

Batch No: **C5859**
TestCode: **300.0**

Associated Samples
70130, 70131, 70132, 70133, 70134

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*70133*	*70133*					
Chloride	0.045 U	5.00	97	98	1	8	19-162	5.00	106	105	1	15	0-207		
Nitrate-N	0.014 U	5.00	92	94	2	5	19-168	5.00	95	95	0	11	42-152		
Sulfate	0.036 U	5.00	97	94	3	6	21-169	5.00	104	85	20	21	0-236		

Batch No: **C5866**
TestCode: **6010-L**

Associated Samples
70130, 70131, 70132, 70133, 70134

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*70130*	*70130*					
Date Digested	8/1/2008 U	10.0	31/08	31/08	0			10.0	31/08	31/08	0				
Date Analyzed	8/8/2008 U	10.0	07/08	07/08	NA			10.0	07/08	07/08	0				
Arsenic	0.0048 U	1000	104	106	2	8	88-112	1000	98	107	9 *	8	78-117		
Iron	0.005 I	1000	102	105	3	20	80-126	1000	37	0	200 *	55	0-289		
Lead	0.0044 U	1000	104	103	1	8	87-113	1000	95	97	2	10	64-118		
Manganese	0.0007 I	1000	106	103	3	5	91-112	1000	97	99	2	9	76-113		
Sodium	0.011 U	10.0	94	97	3	6	89-114	10.0	0 *	0 *	NA	14	72-125		

* indicates value is outside control limits for %Recovery or greater than acceptance criteria for RPD

Footnotes

I	*The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.*
MI	*Matrix Interference*
U	*Compound was analyzed for but not detected.*

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520
Tampa, Florida 33634

Phone: 813-881-9401
Fax: 813-354-4661
Email: Info@SunLabsInc.com

August 12, 2008

Brad Bayne
PBS&J
5300 West Cypress St.
Suite #200
Tampa, FL 33607

Re: SunLabs Project Number: **080731.01**
Client Project Description: **CEP Impl.**

Dear Mr. Bayne:

Enclosed is the report of laboratory analysis for the following samples:

Sample Number	Sample Description	Date Collected
70158	MW-8A	07/29/08
70159	CW-10R	07/29/08
70160	CW-8A	07/29/08
70161	MW-11R	07/29/08
70162	CW-11R	07/29/08
70163	MW-12R	07/29/08
70164	GW-4	07/29/08
70165	GW-4 Filtered	07/29/08
70166	GW-3	07/29/08
70167	GW-1	07/29/08
70168	GW-5	07/29/08
70169	GW-14	07/30/08
70170	GW-13	07/30/08
70171	GW-13 Filtered	07/30/08
70172	GW-9	07/30/08

Ammonia was analyzed by Benchmark Enviroanalytical, Inc. NELAC# E84167.

Copies of the Chain(s)-of-Custody, if received, are attached to this report.

If you have any questions or comments concerning this report, please do not hesitate to contact us.

Sincerely,

Michael W. Palmer
Vice President, Laboratory Operations

Enclosures

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520
Tampa, Florida 33634

Phone: 813-861-9401
Fax: 813-354-4661
Email: Info@SunLabsInc.com

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
080731.01	Project Description CEP Impl.

August 12, 2008

Footnotes	
*	*SunLabs is not currently NELAC certified for this analyte.*
I	*The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.*
LCS	*Laboratory Control Sample*
LCSD	*Laboratory Control Sample Duplicate*
MB	*Method Blank*
MS	*Matrix Spike*
MSD	*Matrix Spike Duplicate*
NA	*Sample not analyzed at client's request.*
RL	*RL(reporting limit) = PQL(practical quantitation limit).*
RPD	*Relative Percent Difference*
S7	*This analysis performed by Benchmark EnviroAnalytical, Inc., Certification number E84167.*
U	*Compound was analyzed for but not detected.*
V	*Indicates that the analyte was detected in both the sample and the associated method blank.*

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520
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Phone: 813-881-9401
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Email: Info@SunLabsInc.com

Quality Control Data

Project Number	PBS&J
080731.01	Project Description: CEP Impl.

August 12, 2008

Batch No: **C5863**
TestCode: **300.0**

Associated Samples
70158, 70159, 70160, 70161, 70162, 70163, 70164, 70166, 70167, 70168, 70169, 70170, 70172

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*70163*	*70163*					
Chloride	0.045 U	5.00	103	100	3	8	19-162	5.00	145	122	17 *	15	0-207		
Nitrate-N	0.014 U	5.00	101	96	5	5	19-168	5.00	111	102	8	11	42-152		
Sulfate	0.036 U	5.00	91	86	6	6	21-169	5.00	69	23	100 *	21	0-236		

Batch No: **C5867**
TestCode: **6010-L**

Associated Samples
70158, 70159, 70160, 70161, 70162, 70163, 70164, 70165, 70166, 70167, 70168, 70169, 70170, 70171, 70172

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*70158*	*70158*					
Date Digested	8/1/2008 U	10.0	31/08	31/08	0			10.0	31/08	31/08	0				
Date Analyzed	8/8/2008 U	10.0	07/08	07/08	0			10.0	07/08	07/08	0				
Arsenic	0.0048 U	1000	105	105	0	8	88-112	1000	112	107	5	8	78-117		
Iron	0.007 I	1000	100	101	1	20	80-126	1000	0	0	NA	55	0-289		
Manganese	0.0006	1000	101	98	3	5	91-112	1000	101	97	4	9	76-113		
Sodium	0.011 U	10.0	98	99	1	6	89-114	10.0	63 *	61 *	3	14	72-125		

* indicates value is outside control limits for %Recovery or greater than acceptance criteria for RPD

Footnotes

I	*The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.*
MI	*Matrix Interference*
MSO	*The result for the spike(s) were not within acceptable control limits. However, the LCS data was within acceptable control limits. Therefore the poor spike results can be attributed to matrix.*
U	*Compound was analyzed for but not detected.*

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August 14, 2008

Brad Bayne
PBS&J
5300 West Cypress St.
Suite #200
Tampa, FL 33607

Re: SunLabs Project Number: **080731.13**
Client Project Description: **CEP Impl.**

Dear Mr. Bayne:

Enclosed is the report of laboratory analysis for the following samples:

Sample Number	Sample Description	Date Collected
70278	CW-9	07/30/08
70279	MW-9	07/30/08
70280	DUP	07/30/08
70281	GW-12	07/30/08
70282	DGW-3	07/30/08
70283	DGW-3 Filtered	07/30/08
70284	GW-7	07/30/08
70285	GW-7 Filtered	07/30/08
70286	DUP/GW-7	07/30/08
70287	DUP/GW-7 Filtered	07/30/08
70288	GW-8	07/30/08
70289	DGW-4	07/30/08
70290	DGW-4 Filtered	07/30/08
70291	GW-6	07/30/08
70292	GW-6 Filtered	07/30/08
70293	MW-10R	07/30/08
70294	MW-1R	07/31/08
70295	MW-1R Filtered	07/31/08

Ammonia was analyzed by Benchmark Enviroanalytical, Imc. NELAC# E86147.

Copies of the Chain(s)-of-Custody, if received, are attached to this report.

If you have any questions or comments concerning this report, please do not hesitate to contact us.

Sincerely,

Michael W. Palmer
Vice President, Laboratory Operations

Enclosures

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Quality Control Data

Project Number	PBS&J
080731.13	Project Description: CEP Impl.

August 14, 2008

Batch No: C5873

Test: Anions by Ion Chromatography

TestCode: 300.0

Associated Samples
70278, 70279, 70280, 70281, 70282, 70284, 70286, 70288, 70289, 70291, 70293, 70294

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*70120*	*70120*					
Chloride	0.045 U	5.00	116	112	4	8	19-162	5.00	108	111	3	15	0-207		
Nitrite-N	0.016 U	5.00	112	109	3	3	21-171	5.00	109	109	0	8	43-152		
Nitrate-N	0.014 U	5.00	105	109	4	5	19-168	5.00	104	108	4	11	42-152		
Sulfate	0.036 U	5.00	104	96	8 *	6	21-169	5.00	101	101	0	21	0-236		

Batch No: C5880

Test: Metals by EPA Method 6010

TestCode: 6010-L

Associated Samples
70278, 70279, 70280, 70281, 70282, 70283, 70284, 70285, 70286, 70287, 70288, 70289, 70290, 70291, 70292, 70293, 70294, 70295

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*70278*	*70278*					
Date Digested	8/1/2008 U	10.0	01/08	01/08	0			10.0	01/08	01/08	0				
Date Analyzed	8/8/2008 U	10.0	07/08	07/08	0			10.0	07/08	07/08	0				
Arsenic	0.0048 U	1000	102	106	4	8	88-112	1000	107	104	3	8	78-117		
Iron	0.007 I	1000	101	104	3	20	80-126	1000	0	149	200 *	55	0-289		
Manganese	0.0006 U	1000	101	109	8 *	5	91-112	1000	102	96	6	9	76-113		
Sodium	0.011 U	10.0	98	97	1	6	89-114	10.0	56 *	73	26 *	14	72-125		

* indicates value is outside control limits for %Recovery or greater than acceptance criteria for RPD

Footnotes

I	*The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.*
MI	*Matrix Interference*
U	*Compound was analyzed for but not detected.*

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520
Tampa, Florida 33634

Phone: 813-881-9401
Fax: 813-354-4661
Email: Info@SunLabsInc.com

SunLabs, Inc. Chain of Custody

№ 16387

Client Name: PBS&J
Contact: B. Bayne
Address: 5300 W Cypress St. #200
Tampa, FL 33607
Phone / Fax: 813-282-7275
E-Mail: b.bayne@pbsj.com

SunLabs Project # * 080729.05

Project Name: CEP Impl.
Project #: 100003210
PO #: -02.01.5
Alt Bill To:

SunLabs Sample #	Sample Description	Sample Date	Sample Time	# of Bottles	TOC	Fe, As, Mn, Na	Fe, As, Mn, Na	Ammonia	Alk. 300	TDS	Nitrate N	Chloride	Sulfate
Bottle Type					GV	P	P	P	P	P			
Preservative					H	N	N	S	I	I			
Matrix					GW	GW	GW	GW	GW	GW			
70017/18	GW-2	7/28	1210	8	✓	✓	✓	✓	✓	✓	✓	✓	✓
70019	DGW-1	7/28	1420	7	✓	✓		✓	✓	✓	✓	✓	✓
70020/21	GW-11	7/28	1645	8	✓	✓	✓	✓	✓	✓	✓	✓	✓

Due Date Requested: Standard

☐ FDEP PreApproval site:
☒ Current rates ☐ Old rates
☐ Cash rates

Remarks / Comments:

* Filtered

No Separate Bottles Indicated for: Nitrate N, Chloride, Sulfate

Sampler Signature / Date: 7/28/08

Printed Name / Affiliation: Brad Bayne / PBSJ

Bottle Type Codes:
GV = Glass Vial
GA = Glass Amber
P = Plastic
S = Soil Jar
GVS = Low Level Volatile Kit
T = Tedlar Bag
O = Other

Preservative Codes:
H = Hydrochloric Acid + Ice
I = Ice only
N = Nitric Acid + Ice
S = Sulfuric Acid + Ice
VS = MeOH, OFW, + Ice
O = Other (Specify)

Matrix Codes:
A = Air
DW = Drinking Water
GW = Ground Water
SE = Sediment
SO = Soil
SOL = Solid
SW = Surface Water
W = Water (Blanks)
O = Other (Specify)

Temp: 2°C

Received on Ice? (Y) / N / NA

Internal Use Only

Sample Condition Upon Receipt:

Custody Seals present? Y / N / (NA)
Shipping Bills attached? Y / N / (NA)
Sample containers intact? (Y) / N / NA
Samples within holding times? (Y) / N / NA
Sufficient volume for all analyses? (Y) / N / NA
Are vials head-space free? (Y) / N / NA
Proper containers and preservatives? (Y) / N / NA

SUNLABS, INC. RESERVES THE RIGHT TO BILL FOR UNUSED/ UNRETURNED SAMPLES AND TO RETURN UNUSED SAMPLES.

Relinquished By:	Relinquished To:	Date:	Time:
[signature]	[signature]	7/24	2:00
[signature]	[signature]	7/29	12:01

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520, Tampa, Florida 33634
Phone: 813-881-9401 / Fax: 813-354-4661
e-mail: info@SunLabsInc.com www.SunLabsInc.com

SunLabs, Inc. Chain of Custody

№ 13942

Client Name: PBS&J
Contact: Brad Bayne
Address: 5300 West Cypress #200
Tampa FL 33607
Phone / Fax: 813-282-7275
E-Mail: b.bayne@pbsj.com

SunLabs Project # 080730.06

Project Name: CEP Implemen
Project #: 10000 3210
PO #: - 02.01.5
Alt Bill To:

SunLabs Sample #	Sample Description	Sample Date	Sample Time	# of Bottles	TOC	Fe, As, Mn, Na	Ammonia N	Alk., 300.0	TDS	Nitrate N	Chloride	Sulfate		
Bottle Type					GV	P	P	P	P					
Preservative					H	N	S	I	I					
Matrix					GW	GW	GW	GW	GW					
70130	GW-16	7/29	945	7	✓	✓	✓	✓	✓	✓	✓	✓		
70131	GW-10	7/29	1125	7	✓	✓	✓	✓	✓	✓	✓	✓		
70132	GW-15	7/29	1300	7	✓	✓	✓	✓	✓	✓	✓	✓		
70133	Duplicate BB	7/29	1300	7	✓	✓	✓	✓	✓	✓	✓	✓		
70134	DEW-2	7/29	1510	7	✓	✓	✓	✓	✓	✓	✓	✓		

Due Date Requested: Standard

☐ FDEP PreApproval site
☒ Current rates ☐ Old rates

Remarks / Comments:

Nitrate, Chloride, and Sulfate not indicated on bottles

Sampler Signature / Date: 7/29/08

Printed Name / Affiliation: Brad Bayne / PBS&J

Bottle Type Codes:

GV = Glass Vial
GA = Glass Amber
P = Plastic
S = Soil Jar
GVS = Low Level Volatile Kit
T = Tedlar Bag
O = Other

Preservative Codes:

H = Hydrochloric Acid + Ice
I = Ice only
N = Nitric Acid + Ice
S = Sulfuric Acid + Ice
VS = MeOH, OFW, + Ice
O = Other (Specify)

Matrix Codes:

A = Air
DW = Drinking Water
GW = Ground Water
SE = Sediment
SO = Soil
SOL = Solid
SW = Surface Water
W = Water (Blanks)
O = Other (Specify)

Temp: 2°C

Received on Ice? (Y) / N / NA

Internal Use Only

Sample Condition Upon Receipt:

Custody Seals present? Y / N / (NA)
Shipping Bills attached? Y / N / (NA)
Sample containers intact? (Y) / N / NA
Samples within holding times? (Y) / N / NA
Sufficient volume for all analyses? (Y) / N / NA
Are vials head-space free? (Y) / N / NA
Proper containers and preservatives? (Y) / N / NA

SUNLABS, INC. RESERVES THE RIGHT TO BILL FOR UNUSED/ UNRETURNED SAMPLES AND TO RETURN UNUSED SAMPLES.

Relinquished By:	Relinquished To:	Date:	Time:
[signature]	[signature]	7/29	14:00
[signature]	[signature]	7/30	1135

SunLabs, Inc.
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e-mail: info@SunLabsInc.com www.SunLabsInc.com

SunLabs, Inc. Chain of Custody

№ 17325

Client Name: PBS+J
Contact: Brad Bayne
Address: 5300 W. Cypress #200, Tampa, FL 33607
Phone / Fax: 813-282-7275
E-Mail: bjbayne@pbsj.com

SunLabs Project # * 080731.01

Project Name:
Project #: ~~080731.01~~ LAP
PO #:
Alt Bill To:

SunLabs Sample #	Sample Description	Sample Date	Sample Time	# of Bottles	Fe, As, Mn, Na	Fe, As, Mn, Na*	Ammonia N	TOC	Alk, 300.0	TDS	Nitrate N	Chloride	Sulfate
Bottle Type					P	P	P	GV	P	P			
Preservative					N	N	S	H	I	I			
Matrix					GW	GW	GW	GW	GW	GW			
70158	MW-8A	7/29	[redacted]	7	✓		✓	✓	✓	✓	✓	✓	✓
70159	CMW-10R	7/29	1335	7	✓		✓	✓	✓	✓	✓	✓	✓
70160	CW-8A	7/29	1230	7	✓		✓	✓	✓	✓	✓	✓	✓
70161	MW-11R	7/29	1440	7	✓		✓	✓	✓	✓	✓	✓	✓
70162	CW-11R	7/29	1525	7	✓		✓	✓	✓	✓	✓	✓	✓
70163	MW-12R	7/29	1630	7	✓		✓	✓	✓	✓	✓	✓	✓
70164/165	GW-4	7/29	1520	8	✓	✓	✓	✓	✓	✓	✓	✓	✓
70166	GW-3	7/29	1410	7	✓		✓	✓	✓	✓	✓	✓	✓
70167	GW-1	7/29	1155	7	✓		✓	✓	✓	✓	✓	✓	✓
70168	GW-5	7/29	1630	7	✓		✓	✓	✓	✓	✓	✓	✓
70169	GW-14	7/30	1010	7	✓		✓	✓	✓	✓	✓	✓	✓
70170/171	GW-13	7/30	1130	8	✓	✓	✓	✓	✓	✓	✓	✓	✓
70172	GW-9	7/30	1310	7	✓		✓	✓	✓	✓	✓	✓	✓

Due Date Requested: Standard

☐ FDEP PreApproval site
☒ Current rates ☐ Old rates
☐ Cash rates

Remarks / Comments:
3 Coolers
* = Filtered
No Containers Indicated for: Nitrate N, Chloride, Sulfate

Sampler Signature / Date: 7/30/08

Printed Name / Affiliation: Brad Bayne / PBS+J

Bottle Type Codes:
GV = Glass Vial; GVS = Low Level Volatile Kit; GA = Glass Amber; T = Tedlar Bag; P = Plastic; O = Other; S = Soil Jar

Preservative Codes:
H = Hydrochloric Acid + Ice; S = Sulfuric Acid + Ice; I = Ice only; VS = MeOH, OFW, + Ice; N = Nitric Acid + Ice; O = Other (Specify)

Matrix Codes:
SO = Soil; A = Air; SOL = Solid; DW = Drinking Water; SW = Surface Water; GW = Ground Water; W = Water (Blanks); SE = Sediment; O = Other (Specify)

Internal Use Only:
Sample Condition Upon Receipt:
Custody Seals present? Y / N / NA
Shipping bills attached? Y / N / NA
Sample containers intact? Y / N / NA
Samples within holding times? Y / N / NA
Sufficient volume for all analyses? Y / N / NA
Are Volatiles free of headspace? Y / N / NA
Proper containers and preservatives? Y / N / NA

Temp: 3°C
Received on Ice? Y / N / NA

SUNLABS, INC. RESERVES THE RIGHT TO BILL FOR UNUSED/UNRETURNED SAMPLES AND TO RETURN UNUSED SAMPLES.

Relinquished By:	Relinquished To:	Date:	Time:
LA Palmer	[signature]	7/29/08	8:00
[signature]	[signature]	7/31/08	0755

SunLabs, Inc.
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e-mail: info@SunLabsInc.com www.SunLabsInc.com

SunLabs, Inc. Chain of Custody

№ 13941

Client Name: PBS&J
Contact: Brad Bayne
Address: 5300 W. Cypress St. #200, Tampa, FL 33607
Phone / Fax: 813-282-7275
E-Mail: bbayne@pbsj.com

SunLabs Project #: 080731.13 *

Project Name: CEP Imp.
Project #: 100003210
PO #: -02.01.5
Alt Bill To:

Due Date Requested: Standard

☐ FDEP PreApproval site
☒ Current rates ☐ Old rates

Remarks / Comments: 3 coolers
* = filtered
No containers indicated for: Nitrate N, Chloride, Sulfate.

SunLabs Sample #	Sample Description	Sample Date	Sample Time	# of Bottles	TOC	Fe, As, Mn, Na	Fe, As, Mn, Na	Ammonia N	Alk, 300.0	TDS	Nitrate N	Chloride	Sulfate
	Bottle Type				GV	P	P	P	P	P			
	Preservative				H	N	N	S	I	I			
	Matrix				GW	GW	GW	GW	GW	GW			
70278	GW-9	7/30	1440	7	✓	✓		✓	✓	✓	✓	✓	✓
70279	MW-9	7/30	1625	7	✓	✓		✓	✓	✓	✓	✓	✓
70280	DUP	7/30	1440	7	✓	✓		✓	✓	✓	✓	✓	✓
70281	GW-12	7/30	1620	7	✓	✓		✓	✓	✓	✓	✓	✓
70282/83	DGW-3	7/30	1508	8	✓	✓	✓	✓	✓	✓	✓	✓	✓
70284/85	GW-7	7/30	1148	8	✓	✓	✓	✓	✓	✓	✓	✓	✓
70286/87	DUP/GW-7	7/30	1148	8	✓	✓	✓	✓	✓	✓	✓	✓	✓
70288	GW-8	7/30	1358	7	✓	✓		✓	✓	✓	✓	✓	✓
70289/90	DGW-4	7/30	1022	8	✓	✓	✓	✓	✓	✓	✓	✓	✓
70291/92	GW-6	7/30	847	8	✓	✓	✓	✓	✓	✓	✓	✓	✓
70293	MW-10R	7/31	851	7	✓	✓		✓	✓	✓	✓	✓	✓
70294/95	MW-1R	7/31	1000	8	✓	✓	✓	✓	✓	✓	✓	✓	✓

Sampler Signature / Date: 7/31/08

Printed Name / Affiliation: Brad Bayne / PBS&J

Bottle Type Codes:
GV = Glass Vial
GA = Glass Amber
P = Plastic
S = Soil Jar
GVS = Low Level Volatile Kit
T = Tedlar Bag
O = Other

Preservative Codes:
H = Hydrochloric Acid + Ice
I = Ice only
N = Nitric Acid + Ice
S = Sulfuric Acid + Ice
VS = MeOH, OFW, + Ice
O = Other (Specify)

Matrix Codes:
A = Air
DW = Drinking Water
GW = Ground Water
SE = Sediment
SO = Soil
SOL = Solid
SW = Surface Water
W = Water (Blanks)
O = Other (Specify)

Temp: 2°C

Received on Ice? (Y) / N / NA

Internal Use Only

Sample Condition Upon Receipt:

Custody Seals present? Y / N / (NA)
Shipping Bills attached? Y / N / (NA)
Sample containers intact? (Y) / N / NA
Samples within holding times? (Y) / N / NA
Sufficient volume for all analyses? (Y) / N / NA
Are vials head-space free? (Y) / N / NA
Proper containers and preservatives? (Y) / N / NA

SUNLABS, INC. RESERVES THE RIGHT TO BILL FOR UNUSED/ UNRETURNED SAMPLES AND TO RETURN UNUSED SAMPLES.

Relinquished By:	Relinquished To:	Date:	Time:
[illegible]	[illegible]	7/24	1400
[illegible]	[illegible]	7/31	1310

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520, Tampa, Florida 33634
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April 28, 2009

Brad Bayne
PBS&J
5300 West Cypress St.
Suite #200
Tampa, FL 33607

Re: SunLabs Project Number: **090416.15**
Client Project Description: **Sarasota Landfill**

Dear Mr. Bayne:

Enclosed is the report of laboratory analysis for the following samples:

Sample Number	Sample Description	Date Collected
83153	GW-13	4/15/2009
83154	GW-28	4/15/2009
83155	GW-27	4/15/2009
83156	GW-27 Filtered	4/15/2009
83157	GW-31	4/15/2009
83158	GW-30	4/15/2009
83159	GW-30 Filtered	4/16/2009
83160	GW-29	4/16/2009
83161	GW-12	4/16/2009
83162	Dup A	4/16/2009
83163	GW-9	4/16/2009
83164	GW-9 Filtered	4/16/2009

Ammonia was analyzed by Benchmark Enviroanalytical, Inc. NELAC# E84167.

Copies of the Chain(s)-of-Custody, if received, are attached to this report.

If you have any questions or comments concerning this report, please do not hesitate to contact us.

Sincerely,

Michael W. Palmer
Vice President, Laboratory Operations

Enclosures

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520
Tampa, Florida 33634

Phone: 813-881-9401
Fax: 813-354-4661
Email: Info@SunLabsInc.com

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090416.15	Project Description: Sarasota Landfill

April 28, 2009

SunLabs Sample Number **83153**
Sample Designation **GW-13**

Matrix: Groundwater
Date Collected: 4/15/2009 10:45
Date Received: 4/16/2009 14:21

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/17/2009						04/17/09 09:30
Date Analyzed			4/22/2009	1				04/22/09 14:02	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/20/09 11:34	04/17/09 09:30
Iron	6010	mg/L	36	10	0.023	0.092	7439-89-6	04/22/09 14:02	04/17/09 09:30
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	3.19	1	0.005	0.020		04/24/09 15:30	
Total Dissolved Solids									
Date Analyzed			4/20/09 S7	1				04/20/09 08:00	
Total Dissolved Solids	SM2540C	mg/L	888 –	1	7.26	29.04		04/20/09 08:00	

Laboratory ID Number - E84809

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520
Tampa, Florida 33634

Phone: 813-881-9401
Fax: 813-354-4661
Email: Info@SunLabsInc.com

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090416.15	Project Description: Sarasota Landfill

April 28, 2009

SunLabs Sample Number **83154**
Sample Designation **GW-28**

Matrix: Groundwater
Date Collected: 4/15/2009 12:05
Date Received: 4/16/2009 14:21

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/17/2009						04/17/09 09:30
Date Analyzed			4/22/2009	1				04/22/09 14:04	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/20/09 11:54	04/17/09 09:30
Iron	6010	mg/L	8.5	2	0.0046	0.018	7439-89-6	04/22/09 14:04	04/17/09 09:30
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	14.7	1	0.005	0.020		04/24/09 15:30	
Total Dissolved Solids									
Date Analyzed			4/20/09 S7	1				04/20/09 08:00	
Total Dissolved Solids	SM2540C	mg/L	1180 -	1	7.26	29.04		04/20/09 08:00	

Laboratory ID Number - E84809

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520
Tampa, Florida 33634

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Email: Info@SunLabsInc.com

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090416.15	Project Description: Sarasota Landfill

April 28, 2009

SunLabs Sample Number **83155**
Sample Designation **GW-27**

Matrix: Groundwater
Date Collected: 4/15/2009 12:25
Date Received: 4/16/2009 14:21

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/17/2009						04/17/09 09:30
Date Analyzed			4/22/2009	1				04/22/09 14:07	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/20/09 11:56	04/17/09 09:30
Iron	6010	mg/L	15	5	0.012	0.046	7439-89-6	04/22/09 14:07	04/17/09 09:30
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	2.63	1	0.005	0.020		04/24/09 15:30	
Total Dissolved Solids									
Date Analyzed			4/20/09 S7	1				04/20/09 08:00	
Total Dissolved Solids	SM2540C	mg/L	624 –	1	7.26	29.04		04/20/09 08:00	

Laboratory ID Number - E84809

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520
Tampa, Florida 33634

Phone: 813-881-9401
Fax: 813-354-4661
Email: Info@SunLabsInc.com

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090416.15	Project Description: Sarasota Landfill

April 28, 2009

SunLabs Sample Number **83156**
Sample Designation **GW-27 Filtered**

Matrix: Groundwater
Date Collected: 4/15/2009 12:25
Date Received: 4/16/2009 14:21

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/17/2009						04/17/09 09:30
Date Analyzed			4/22/2009	1				04/22/09 14:09	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/20/09 11:59	04/17/09 09:30
Iron	6010	mg/L	11	5	0.012	0.046	7439-89-6	04/22/09 14:09	04/17/09 09:30

Laboratory ID Number - E84809

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Email: Info@SunLabsInc.com

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090416.15	Project Description: Sarasota Landfill

April 28, 2009

SunLabs Sample Number **83157**
Sample Designation **GW-31**

Matrix: Groundwater
Date Collected: 4/15/2009 13:10
Date Received: 4/16/2009 14:21

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/17/2009						04/17/09 09:30
Date Analyzed			4/22/2009	1				04/22/09 14:11	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/20/09 12:01	04/17/09 09:30
Iron	6010	mg/L	14	5	0.012	0.046	7439-89-6	04/22/09 14:11	04/17/09 09:30
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.376	1	0.005	0.020		04/24/09 15:30	
Total Dissolved Solids									
Date Analyzed			4/20/09 S7	1				04/20/09 08:00	
Total Dissolved Solids	SM2540C	mg/L	632 –	1	7.26	29.04		04/20/09 08:00	

Laboratory ID Number - E84809

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520
Tampa, Florida 33634

Phone: 813-881-9401
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Email: Info@SunLabsInc.com

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090416.15	Project Description: Sarasota Landfill

April 28, 2009

SunLabs Sample Number **83158**
Sample Designation **GW-30**

Matrix: Groundwater
Date Collected: 4/15/2009 14:10
Date Received: 4/16/2009 14:21

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/17/2009						04/17/09 09:30
Date Analyzed			4/22/2009	1				04/22/09 12:39	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/20/09 12:03	04/17/09 09:30
Iron	6010	mg/L	3.3	1	0.0023	0.0092	7439-89-6	04/22/09 12:39	04/17/09 09:30
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.328	1	0.005	0.020		04/24/09 15:30	
Total Dissolved Solids									
Date Analyzed			4/20/09 S7	1				04/20/09 08:00	
Total Dissolved Solids	SM2540C	mg/L	672 –	1	7.26	29.04		04/20/09 08:00	

Laboratory ID Number - E84809

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520
Tampa, Florida 33634

Phone: 813-881-9401
Fax: 813-354-4661
Email: Info@SunLabsInc.com

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090416.15	Project Description: Sarasota Landfill

April 28, 2009

SunLabs Sample Number **83159**
Sample Designation **GW-30 Filtered**

Matrix: Groundwater
Date Collected: 4/16/2009 14:10
Date Received: 4/16/2009 14:21

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/17/2009						04/17/09 09:30
Date Analyzed			4/22/2009	1				04/22/09 12:41	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/20/09 12:06	04/17/09 09:30
Iron	6010	mg/L	0.003 I	1	0.0023	0.0092	7439-89-6	04/22/09 12:41	04/17/09 09:30

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520
Tampa, Florida 33634

Phone: 813-881-9401
Fax: 813-354-4661
Email: Info@SunLabsInc.com

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090416.15	Project Description: Sarasota Landfill

April 28, 2009

SunLabs Sample Number **83160**
Sample Designation **GW-29**

Matrix: Groundwater
Date Collected: 4/16/2009 15:50
Date Received: 4/16/2009 14:21

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/17/2009						04/17/09 09:30
Date Analyzed			4/22/2009	1				04/22/09 12:43	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/20/09 12:08	04/17/09 09:30
Iron	6010	mg/L	1.4	1	0.0023	0.0092	7439-89-6	04/22/09 12:43	04/17/09 09:30
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	3.41	1	0.005	0.020		04/24/09 15:30	
Total Dissolved Solids									
Date Analyzed			4/20/09 S7	1				04/20/09 08:00	
Total Dissolved Solids	SM2540C	mg/L	596 –	1	7.26	29.04		04/20/09 08:00	

Laboratory ID Number - E84809

SunLabs, Inc.
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Tampa, Florida 33634

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Fax: 813-354-4661
Email: Info@SunLabsInc.com

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090416.15	Project Description: Sarasota Landfill

April 28, 2009

SunLabs Sample Number **83161**
Sample Designation **GW-12**

Matrix: Groundwater
Date Collected: 4/16/2009 09:55
Date Received: 4/16/2009 14:21

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/17/2009						04/17/09 09:30
Date Analyzed			4/22/2009	1				04/22/09 12:46	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/20/09 12:10	04/17/09 09:30
Iron	6010	mg/L	1.9	1	0.0023	0.0092	7439-89-6	04/22/09 12:46	04/17/09 09:30
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	27.7	1	0.005	0.020		04/24/09 15:30	
Total Dissolved Solids									
Date Analyzed			4/20/09 S7	1				04/20/09 08:00	
Total Dissolved Solids	SM2540C	mg/L	700 ~	1	7.26	29.04		04/20/09 08:00	

Laboratory ID Number - E84809

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090416.15	Project Description: Sarasota Landfill

April 28, 2009

SunLabs Sample Number **83162**
Sample Designation **Dup A**

Matrix: Groundwater
Date Collected: 4/16/2009 09:55
Date Received: 4/16/2009 14:21

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/17/2009						04/17/09 09:30
Date Analyzed			4/22/2009	1				04/22/09 12:48	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/20/09 12:13	04/17/09 09:30
Iron	6010	mg/L	1.9	1	0.0023	0.0092	7439-89-6	04/22/09 12:48	04/17/09 09:30
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	27.4	1	0.005	0.020		04/24/09 15:30	
Total Dissolved Solids									
Date Analyzed			4/20/09 S7	1				04/20/09 08:00	
Total Dissolved Solids	SM2540C	mg/L	688 –	1	7.26	29.04		04/20/09 08:00	

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090416.15	Project Description: Sarasota Landfill

April 28, 2009

SunLabs Sample Number **83163**
Sample Designation **GW-9**

Matrix: Groundwater
Date Collected: 4/16/2009 11:05
Date Received: 4/16/2009 14:21

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/17/2009						04/17/09 09:30
Date Analyzed			4/22/2009	1				04/22/09 14:14	
Arsenic	6010	mg/L	0.024	1	0.0048	0.019	7440-38-2	04/20/09 12:20	04/17/09 09:30
Iron	6010	mg/L	46	20	0.046	0.18	7439-89-6	04/22/09 14:14	04/17/09 09:30
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	31.6	1	0.005	0.020		04/24/09 15:30	
Total Dissolved Solids									
Date Analyzed			4/20/09 S7	1				04/20/09 08:00	
Total Dissolved Solids	SM2540C	mg/L	1044 –	1	7.26	29.04		04/20/09 08:00	

Laboratory ID Number - E84809

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090416.15	Project Description: Sarasota Landfill

April 28, 2009

SunLabs Sample Number **83164**
Sample Designation **GW-9 Filtered**

Matrix: Groundwater
Date Collected: 4/16/2009 11:05
Date Received: 4/16/2009 14:21

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/17/2009						04/17/09 09:30
Date Analyzed			4/22/2009	1				04/22/09 14:16	
Arsenic	6010	mg/L	0.022	1	0.0048	0.019	7440-38-2	04/20/09 12:22	04/17/09 09:30
Iron	6010	mg/L	45	20	0.046	0.18	7439-89-6	04/22/09 14:16	04/17/09 09:30

Laboratory ID Number - E84809

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090416.15	Project Description: Sarasota Landfill

April 28, 2009

Footnotes

*	SunLabs is not currently NELAC certified for this analyte.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MB	Method Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NA	Sample not analyzed at client's request.
RL	RL(reporting limit) = PQL(practical quantitation limit).
RPD	Relative Percent Difference
S7	This analysis performed by Benchmark EnviroAnalytical, Inc., Certification number E84167.
U	Compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.

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Quality Control Data

Project Number	PBS&J
090416.15	Project Description: Sarasota Landfill

April 28, 2009

Batch No: **C8931**
TestCode: 6010-L

Associated Samples
83153, 83154, 83155, 83156, 83157, 83158, 83159, 83160, 83161, 83162, 83163, 83164

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*83153*	*83153*					
Arsenic	0.0048 U	1000	94	93	1	8	88-112	1000	97	97	0	8	78-117		
Cadmium	0.0006 U	1000	94	95	1	3	87-110	1000	96	97	1	10	73-116		
Chromium	0.0035 U	1000	94	95	1	10	91-112	1000	92	91	1	4	70-122		
Iron	0.0023 U	1000	92	90	2	20	80-126	1000	0	0	NA	55	0-289		
Lead	0.0044 U	1000	91	94	3	8	87-113	1000	90	86	5	10	64-118		

* indicates value is outside control limits for %Recovery or greater than acceptance criteria for RPD

Footnotes

MSA	*The results of the matrix spike are out of range due to a high amount of target analyte(s) in the original sample.*
U	*Compound was analyzed for but not detected.*

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20046

SunLabs, Inc. Chain of Custody

Client Name: PBS+J
Contact: Brad Bayne
Address: 5300 W. Cypress St., #200
Tampa, FL 33607
Phone / Fax: 813-282-7275
E-Mail: bjbayne@pbsj.com

SunLabs Project # 0904116.15

Project Name: Sarasota Landfil
Project #: 100007910
PO #: —
Alt Bill To: —

SunLabs Sample #	Sample Description	Sample Date	Sample Time	# of Bottles	As + Fe	Ammonia	TDS	As + Fe *
Bottle Type					P	P	P	P
Preservative					N	S	I	N
Matrix					GW	GW	GW	GW
83153	GW-13	4/15	1045	3	✓	✓	✓	
83154	GW-28	4/15	1205	3	✓	✓	✓	
83155/56	GW-27	4/15	1225	4	✓	✓	✓	✓
83157	GW-31	4/15	1310	3	✓	✓	✓	
83158/59	GW-30	4/15	1410	4	✓	✓	✓	✓
83160/61	GW-29	4/15	1550	3	✓	✓	✓	
83161	GW-12	4/16	955	3	✓	✓	✓	
83162	DUP A	4/16	955	3	✓	✓	✓	
83163/64	GW-9	4/16	1105	4	✓	✓	✓	✓

Due Date Requested: Standard

☐ FDEP PreApproval site
☑ Current rates ☐ Old rates
☐ Cash rates

Remarks / Comments:

* Filtered

Sampler Signature / Date: Brad Bayne 4/16/09

Printed Name / Affiliation: Brad Bayne / PBS+J

Bottle Type Codes:

GV = Glass Vial
GA = Glass Amber
P = Plastic
S = Soil Jar
GVS = Low Level Volatile Kit
T = Tedlar Bag
O = Other

Preservative Codes:

H = Hydrochloric Acid + Ice
I = Ice only
N = Nitric Acid + Ice
S = Sulfuric Acid + Ice
VS = MeOH, OFW, + Ice
O = Other (Specify)

Matrix Codes:

A = Air
DW = Drinking Water
GW = Ground Water
SE = Sediment
SO = Soil
SOL = Solid
SW = Surface Water
W = Water (Blanks)
O = Other (Specify)

Temp: 3.9

Received on Ice? Y / N / NA

Internal Use Only

Sample Condition Upon Receipt:

Custody Seals present? Y / N / NA
Shipping Bills attached? Y / N / NA
Sample containers intact? Y / N / NA
Samples within holding times? Y / N / NA
Sufficient volume for all analyses? Y / N / NA
Are vials head-space free? Y / N / NA
Proper containers and preservatives? Y / N / NA

SUNLABS, INC. RESERVES THE RIGHT TO BILL FOR UNUSED/ UNRETURNED SAMPLES AND TO RETURN UNUSED SAMPLES.

Relinquished By:	Relinquished To:	Date:	Time:
[illegible]	Brad Bayne	4/13	
Brad Bayne	[illegible]	4/16	2:01 p.

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520, Tampa, Florida 33634
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May 6, 2009

Brad Bayne
PBS&J
5300 West Cypress St.
Suite #200
Tampa, FL 33607

Re: SunLabs Project Number: **090423.13**
Client Project Description: **Sarasota Landfill**

Dear Mr. Bayne:

Enclosed is the report of laboratory analysis for the following samples:

Sample Number	Sample Description	Date Collected
83486	GW-18	4/22/2009
83487	GW-24	4/22/2009
83488	GW-17	4/22/2009
83489	GW-26	4/22/2009
83490	GW-11	4/22/2009
83491	GW-11 Filtered	4/22/2009
83492	GW-25	4/22/2009
83493	GW-25 Filtered	4/22/2009
83494	GW-19	4/22/2009
83495	GW-20	4/22/2009
83496	GW-20 Filtered	4/22/2009
83497	GW-10	4/22/2009
83498	GW-22	4/23/2009
83499	GW-22 Filtered	4/23/2009
83500	GW-15	4/23/2009
83501	Dup B	4/23/2009
83502	GW-23	4/23/2009
83503	GW-21	4/23/2009
83504	GW-16	4/22/2009
83505	Dup C	4/23/2009
83506	GW-14	4/23/2009

Ammonia was analyzed by Benchmark Enviroanalytical, Inc. NELAC# E84167. TOC was analyzed by Columbia Analytical Services, Inc. NELAC# E82502.

Copies of the Chain(s)-of-Custody, if received, are attached to this report.

If you have any questions or comments concerning this report, please do not hesitate to contact us.

Michael W. Palmer

Michael W. Palmer
Vice President, Laboratory Operations

Enclosures

Unless Otherwise Noted and Where Applicable:

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090423.13	Project Description: Sarasota Landfill

May 6, 2009

SunLabs Sample Number **83486**
Sample Designation **GW-18**

Matrix: Groundwater
Date Collected: 4/22/2009 09:45
Date Received: 4/23/2009 16:00

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/24/2009						04/24/09 10:00
Date Analyzed			4/28/2009	1				04/28/09 14:07	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/24/09 18:57	04/24/09 10:00
Iron	6010	mg/L	8.0	2	0.0046	0.018	7439-89-6	04/28/09 14:07	04/24/09 10:00
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	5.75	1	0.005	0.020		05/01/09 14:52	
Total Dissolved Solids									
Date Analyzed			4/28/09 S7	1				04/28/09 16:00	
Total Dissolved Solids	SM2540C	mg/L	708	1	7.26	29.04		04/28/09 16:00	

SunLabs, Inc.
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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090423.13	Project Description: Sarasota Landfill

May 6, 2009

SunLabs Sample Number **83487**
Sample Designation **GW-24**

Matrix: Groundwater
Date Collected: 4/22/2009 11:25
Date Received: 4/23/2009 16:00

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/24/2009						04/24/09 10:00
Date Analyzed			4/28/2009	1				04/28/09 14:14	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/24/09 18:59	04/24/09 10:00
Iron	6010	mg/L	7.6	2	0.0046	0.018	7439-89-6	04/28/09 14:14	04/24/09 10:00
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.208	1	0.005	0.020		05/01/09 14:52	
Total Dissolved Solids									
Date Analyzed			4/28/09 S7	1				04/28/09 16:00	
Total Dissolved Solids	SM2540C	mg/L	956	1	7.26	29.04		04/28/09 16:00	

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090423.13	Project Description: Sarasota Landfill

May 6, 2009

SunLabs Sample Number **83488**
Sample Designation **GW-17**

Matrix: Groundwater
Date Collected: 4/22/2009 12:10
Date Received: 4/23/2009 16:00

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/24/2009						04/24/09 10:00
Date Analyzed			4/28/2009	1				04/28/09 13:19	
Arsenic	6010	mg/L	0.018 I	1	0.0048	0.019	7440-38-2	04/24/09 19:06	04/24/09 10:00
Iron	6010	mg/L	3.3	1	0.0023	0.0092	7439-89-6	04/28/09 13:19	04/24/09 10:00
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.123	1	0.005	0.020		05/01/09 14:52	
Total Dissolved Solids									
Date Analyzed			4/28/09 S7	1				04/28/09 16:00	
Total Dissolved Solids	SM2540C	mg/L	956	1	7.26	29.04		04/28/09 16:00	

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090423.13	Project Description: Sarasota Landfill

May 6, 2009

SunLabs Sample Number **83489**
Sample Designation **GW-26**

Matrix: Groundwater
Date Collected: 4/22/2009 12:45
Date Received: 4/23/2009 16:00

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/24/2009						04/24/09 10:00
Date Analyzed			4/28/2009	1				04/28/09 14:17	
Arsenic	6010	mg/L	0.010 I	1	0.0048	0.019	7440-38-2	04/24/09 19:09	04/24/09 10:00
Iron	6010	mg/L	19	5	0.012	0.046	7439-89-6	04/28/09 14:17	04/24/09 10:00
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	4.58	1	0.005	0.020		05/01/09 14:52	
Total Dissolved Solids									
Date Analyzed			4/28/09 S7	1				04/28/09 16:00	
Total Dissolved Solids	SM2540C	mg/L	776	1	7.26	29.04		04/28/09 16:00	

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090423.13	Project Description: Sarasota Landfill

May 6, 2009

SunLabs Sample Number **83490**
Sample Designation **GW-11**

Matrix: Groundwater
Date Collected: 4/22/2009 13:45
Date Received: 4/23/2009 16:00

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/24/2009						04/24/09 10:00
Date Analyzed			4/28/2009	1				04/28/09 14:19	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/24/09 19:11	04/24/09 10:00
Iron	6010	mg/L	24	10	0.023	0.092	7439-89-6	04/28/09 14:19	04/24/09 10:00
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.414	1	0.005	0.020		05/01/09 14:52	
Total Dissolved Solids									
Date Analyzed			4/28/09 S7	1				04/28/09 16:00	
Total Dissolved Solids	SM2540C	mg/L	584	1	7.3	29		04/28/09 16:00	

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090423.13	Project Description: Sarasota Landfill

May 6, 2009

SunLabs Sample Number **83491**
Sample Designation **GW-11 Filtered**

Matrix: Groundwater
Date Collected: 4/22/2009 13:45
Date Received: 4/23/2009 16:00

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/24/2009						04/24/09 10:00
Date Analyzed			4/28/2009	1				04/28/09 14:22	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/24/09 19:14	04/24/09 10:00
Iron	6010	mg/L	26	10	0.023	0.092	7439-89-6	04/28/09 14:22	04/24/09 10:00

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090423.13	Project Description: Sarasota Landfill

May 6, 2009

SunLabs Sample Number **83492**
Sample Designation **GW-25**

Matrix: Groundwater
Date Collected: 4/22/2009 14:25
Date Received: 4/23/2009 16:00

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			04/23/2009	1				04/23/09 22:37	04/23/09 13:00
Chloride	300.0	mg/L	75	5	0.22	0.9	16887-00-6	04/28/09 16:40	04/27/09 13:45
Nitrate as N	300.0	mg/L	0.014 U	1	0.014	0.056	14797-55-8	04/23/09 22:37	04/23/09 13:00
Sulfate	300.0	mg/L	0.036 U	1	0.036	0.14	14808-79-8	04/27/09 18:52	04/27/09 13:45
Metals by EPA Method 6010									
Date Digested	3010		4/24/2009						04/24/09 10:00
Date Analyzed			4/28/2009	1				04/28/09 13:01	
Arsenic	6010	mg/L	0.009 I	1	0.0048	0.019	7440-38-2	04/24/09 19:16	04/24/09 10:00
Iron	6010	mg/L	4.9	1	0.0023	0.0092	7439-89-6	04/28/09 13:01	04/24/09 10:00
Manganese	6010	mg/L	0.007	1	0.0006	0.0024	7439-96-5	04/28/09 13:01	04/24/09 10:00
Sodium	6010	mg/L	130 V	2	0.022	0.088	7440-23-5	04/28/09 11:20	04/24/09 10:00
Total Alkalinity									
Date analyzed			4/30/2009	1				04/30/09 12:00	04/30/09 12:00
Total Alkalinity as CaCO3	SM2320B	mg/L	550	1	1.2	5		04/30/09 12:00	04/30/09 12:00
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.125	1	0.005	0.020		05/01/09 14:52	
Total Dissolved Solids									
Date Analyzed			4/28/09 S7	1				04/28/09 16:00	
Total Dissolved Solids	SM2540C	mg/L	836	1	7.26	29.04		04/28/09 16:00	
Total Organic Carbon									
Date Analyzed			5/1/09	1				05/01/09 12:09	
Total Organic Carbon	9060	mg/L	57	1	0.5	1		05/01/09 12:09	

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090423.13	Project Description: Sarasota Landfill

May 6, 2009

SunLabs Sample Number **83493**
Sample Designation **GW-25 Filtered**

Matrix: Groundwater
Date Collected: 4/22/2009 14:25
Date Received: 4/23/2009 16:00

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/24/2009						04/24/09 10:00
Date Analyzed			4/28/2009	1				04/28/09 13:28	
Arsenic	6010	mg/L	0.009 I	1	0.0048	0.019	7440-38-2	04/24/09 19:18	04/24/09 10:00
Iron	6010	mg/L	4.7	1	0.0023	0.0092	7439-89-6	04/28/09 13:28	04/24/09 10:00

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090423.13	Project Description: Sarasota Landfill

May 6, 2009

SunLabs Sample Number **83494**
Sample Designation **GW-19**

Matrix: Groundwater
Date Collected: 4/22/2009 15:10
Date Received: 4/23/2009 16:00

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/24/2009						04/24/09 10:00
Date Analyzed			4/28/2009	1				04/28/09 14:24	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/24/09 19:21	04/24/09 10:00
Iron	6010	mg/L	5.9	2	0.0046	0.018	7439-89-6	04/28/09 14:24	04/24/09 10:00
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.133	1	0.005	0.020		05/01/09 14:52	
Total Dissolved Solids									
Date Analyzed			4/28/09 S7	1				04/28/09 16:00	
Total Dissolved Solids	SM2540C	mg/L	768	1	7.26	29.04		04/28/09 16:00	

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090423.13	Project Description: Sarasota Landfill

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SunLabs Sample Number **83495**
Sample Designation **GW-20**

Matrix: Groundwater
Date Collected: 4/22/2009 16:21
Date Received: 4/23/2009 16:00

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			04/23/2009	1					
Chloride	300.0	mg/L	109	10	0.45	1.8	16887-00-6	04/23/09 22:53	04/23/09 13:00
Nitrate as N	300.0	mg/L	0.014 U	1	0.014	0.056	14797-55-8	04/29/09 15:40	04/27/09 13:45
Sulfate	300.0	mg/L	3.2	1	0.036	0.14	14808-79-8	04/23/09 22:53	04/23/09 13:00
Metals by EPA Method 6010								04/27/09 19:18	04/27/09 13:45
Date Digested	3010		4/24/2009						04/24/09 10:00
Date Analyzed			4/28/2009	1				04/28/09 13:03	
Arsenic	6010	mg/L	0.015 I	1	0.0048	0.019	7440-38-2	04/24/09 19:23	04/24/09 10:00
Iron	6010	mg/L	3.6	1	0.0023	0.0092	7439-89-6	04/28/09 13:03	04/24/09 10:00
Manganese	6010	mg/L	0.011	1	0.0006	0.0024	7439-96-5	04/28/09 13:03	04/24/09 10:00
Sodium	6010	mg/L	210 V	5	0.055	0.22	7440-23-5	04/28/09 11:24	04/24/09 10:00
Total Alkalinity									
Date analyzed			4/30/2009	1				04/30/09 12:00	04/30/09 12:00
Total Alkalinity as CaCO3	SM2320B	mg/L	570	1	1.2	5		04/30/09 12:00	04/30/09 12:00
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.716	1	0.005	0.020		05/01/09 14:52	
Total Dissolved Solids									
Date Analyzed			4/28/09 S7	1				04/28/09 16:00	
Total Dissolved Solids	SM2540C	mg/L	940	1	7.26	29.04		04/28/09 16:00	
Total Organic Carbon									
Date Analyzed			5/1/09	1				05/01/09 12:09	
Total Organic Carbon	9060	mg/L	57	1	0.5	1		05/01/09 12:09	

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
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SunLabs Sample Number **83496**
Sample Designation **GW-20 Filtered**

Matrix: Groundwater
Date Collected: 4/22/2009 16:21
Date Received: 4/23/2009 16:00

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/24/2009						04/24/09 10:00
Date Analyzed			4/28/2009	1				04/28/09 13:33	
Arsenic	6010	mg/L	0.009 I	1	0.0048	0.019	7440-38-2	04/24/09 19:25	04/24/09 10:00
Iron	6010	mg/L	3.4	1	0.0023	0.0092	7439-89-6	04/28/09 13:33	04/24/09 10:00

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090423.13	Project Description: Sarasota Landfill

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SunLabs Sample Number **83497**
Sample Designation **GW-10**

Matrix: Groundwater
Date Collected: 4/23/2009 11:45
Date Received: 4/23/2009 16:00

Parameters	Method	Units	Results		Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010										
Date Digested	3010		4/24/2009							04/24/09 10:00
Date Analyzed			4/28/2009		1				04/28/09 14:26	
Arsenic	6010	mg/L	0.0048	U	1	0.0048	0.019	7440-38-2	04/24/09 19:28	04/24/09 10:00
Iron	6010	mg/L	5.9		2	0.0046	0.018	7439-89-6	04/28/09 14:26	04/24/09 10:00
Ammonia										
Nitrogen Ammonia (as N)	350.2	mg/L	1.29	*	1	0.005	0.020		05/01/09 14:52	
Total Dissolved Solids										
Date Analyzed			4/28/09	S7	1				04/28/09 16:00	
Total Dissolved Solids	SM2540C	mg/L	832		1	7.26	29.04		04/28/09 16:00	

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090423.13	Project Description: Sarasota Landfill

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SunLabs Sample Number **83498**
Sample Designation **GW-22**

Matrix: Groundwater
Date Collected: 4/23/2009 09:00
Date Received: 4/23/2009 16:00

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/24/2009						04/24/09 10:00
Date Analyzed			4/28/2009	1				04/28/09 14:29	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/24/09 19:35	04/24/09 10:00
Iron	6010	mg/L	7.7	2	0.0046	0.018	7439-89-6	04/28/09 14:29	04/24/09 10:00
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.157	1	0.005	0.020		05/01/09 14:52	
Total Dissolved Solids									
Date Analyzed			4/28/09 S7	1				04/28/09 16:00	
Total Dissolved Solids	SM2540C	mg/L	2492	1	7.26	29.04		04/28/09 16:00	

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SunLabs Sample Number **83499**
Sample Designation **GW-22 Filtered**

Matrix: Groundwater
Date Collected: 4/23/2009 09:00
Date Received: 4/23/2009 16:00

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/24/2009						04/24/09 10:00
Date Analyzed			4/28/2009	1				04/28/09 14:36	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/24/09 19:37	04/24/09 10:00
Iron	6010	mg/L	7.1	2	0.0046	0.018	7439-89-6	04/28/09 14:36	04/24/09 10:00

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
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SunLabs Sample Number **83500**
Sample Designation **GW-15**

Matrix: Groundwater
Date Collected: 4/23/2009 10:15
Date Received: 4/23/2009 16:00

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			04/24/2009	1				04/24/09 18:49	04/24/09 14:00
Chloride	300.0	mg/L	370	50	2.2	9	16887-00-6	04/28/09 17:34	04/24/09 14:00
Nitrate as N	300.0	mg/L	0.014 U	1	0.014	0.056	14797-55-8	04/24/09 18:49	04/24/09 14:00
Sulfate	300.0	mg/L	37	1	0.036	0.14	14808-79-8	04/24/09 18:49	04/24/09 14:00
Metals by EPA Method 6010									
Date Digested	3010		4/24/2009						04/24/09 10:00
Date Analyzed			4/28/2009	1				04/28/09 14:10	
Arsenic	6010	mg/L	0.17	1	0.0048	0.019	7440-38-2	04/24/09 19:39	04/24/09 10:00
Iron	6010	mg/L	32	10	0.023	0.092	7439-89-6	04/28/09 14:10	04/24/09 10:00
Manganese	6010	mg/L	0.015	1	0.0006	0.0024	7439-96-5	04/28/09 13:06	04/24/09 10:00
Sodium	6010	mg/L	120 V	2	0.022	0.088	7440-23-5	04/28/09 11:27	04/24/09 10:00
Total Alkalinity									
Date analyzed			4/30/2009	1				04/30/09 12:00	04/30/09 12:00
Total Alkalinity as CaCO3	SM2320B	mg/L	770	1	1.2	5		04/30/09 12:00	04/30/09 12:00
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	10.1	1	0.005	0.020		05/01/09 14:52	
Total Dissolved Solids									
Date Analyzed			4/28/09 S7	1				04/28/09 16:00	
Total Dissolved Solids	SM2540C	mg/L	1728	1	7.26	29.04		04/28/09 16:00	
Total Organic Carbon									
Date Analyzed			5/1/09	1				05/01/09 12:09	
Total Organic Carbon	9060	mg/L	55	1	0.5	1		05/01/09 12:09	

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Report of Laboratory Analysis

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SunLabs Sample Number **83501**
Sample Designation **Dup B**

Matrix: Groundwater
Date Collected: 4/23/2009 10:15
Date Received: 4/23/2009 16:00

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/24/2009						04/24/09 10:00
Date Analyzed			4/28/2009	1				04/28/09 14:38	
Arsenic	6010	mg/L	0.14	1	0.0048	0.019	7440-38-2	04/24/09 19:42	04/24/09 10:00
Iron	6010	mg/L	31	10	0.023	0.092	7439-89-6	04/28/09 14:38	04/24/09 10:00
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	10.7	1	0.005	0.020		05/01/09 14:52	
Total Dissolved Solids									
Date Analyzed			4/28/09 S7	1				04/28/09 16:00	
Total Dissolved Solids	SM2540C	mg/L	1692	1	7.26	29.04		04/28/09 16:00	

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
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SunLabs Sample Number **83502**
Sample Designation **GW-23**

Matrix: Groundwater
Date Collected: 4/23/2009 10:20
Date Received: 4/23/2009 16:00

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/24/2009						04/24/09 10:00
Date Analyzed			4/28/2009	1				04/28/09 14:41	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/24/09 19:44	04/24/09 10:00
Iron	6010	mg/L	11	5	0.012	0.046	7439-89-6	04/28/09 14:41	04/24/09 10:00
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.223	1	0.005	0.020		05/01/09 14:52	
Total Dissolved Solids									
Date Analyzed			4/28/09 S7	1				04/28/09 16:00	
Total Dissolved Solids	SM2540C	mg/L	608	1	7.26	29.04		04/28/09 16:00	

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
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SunLabs Sample Number **83503**
Sample Designation **GW-21**

Matrix: Groundwater
Date Collected: 4/22/2009 16:25
Date Received: 4/23/2009 16:00

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			04/24/2009	1					
Chloride	300.0	mg/L	340	50	2.2	9	16887-00-6	04/24/09 19:42	04/24/09 14:00
Nitrate as N	300.0	mg/L	2.1	1	0.014	0.056	14797-55-8	04/28/09 18:00	04/24/09 14:00
Sulfate	300.0	mg/L	3.8	1	0.036	0.14	14808-79-8	04/24/09 19:42	04/24/09 14:00
Metals by EPA Method 6010									
Date Digested	3010		4/24/2009						04/24/09 10:00
Date Analyzed			4/28/2009	1				04/28/09 14:12	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/24/09 19:46	04/24/09 10:00
Iron	6010	mg/L	6.8	2	0.0046	0.018	7439-89-6	04/28/09 14:12	04/24/09 10:00
Manganese	6010	mg/L	0.018	1	0.0006	0.0024	7439-96-5	04/28/09 13:09	04/24/09 10:00
Sodium	6010	mg/L	180 V-	5	0.055	0.22	7440-23-5	04/28/09 11:29	04/24/09 10:00
Total Alkalinity									
Date analyzed			4/30/2009	1				04/30/09 12:00	04/30/09 12:00
Total Alkalinity as CaCO3	SM2320B	mg/L	330	1	1.2	5		04/30/09 12:00	04/30/09 12:00
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	0.143	1	0.005	0.020		05/01/09 14:52	
Total Dissolved Solids									
Date Analyzed			4/28/09 S7	1				04/28/09 16:00	
Total Dissolved Solids	SM2540C	mg/L	1020	1	7.26	29.04		04/28/09 16:00	
Total Organic Carbon									
Date Analyzed			5/1/09	1				05/01/09 12:09	
Total Organic Carbon	9060	mg/L	39	1	0.5	1		05/01/09 12:09	

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
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SunLabs Sample Number **83504**
Sample Designation **GW-16**

Matrix: Groundwater
Date Collected: 4/23/2009 12:30
Date Received: 4/23/2009 16:00

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			04/24/2009	1					
Chloride	300.0	mg/L	66	5	0.22	0.9	16887-00-6	04/24/09 21:03	04/24/09 14:00
Nitrate as N	300.0	mg/L	0.014 U	1	0.014	0.056	14797-55-8	04/28/09 18:27	04/24/09 14:00
Sulfate	300.0	mg/L	0.036 U	1	0.036	0.14	14808-79-8	04/24/09 21:03	04/24/09 14:00
Metals by EPA Method 6010								04/24/09 21:03	04/24/09 14:00
Date Digested	3010		4/28/2009						
Date Analyzed			4/30/2009	1					04/28/09 10:00
Arsenic	6010	mg/L	0.23	1	0.0048	0.019	7440-38-2	04/30/09 13:21	
Iron	6010	mg/L	30	10	0.023	0.092	7439-89-6	04/29/09 23:16	04/28/09 10:00
Manganese	6010	mg/L	0.010	1	0.0006	0.0024	7439-96-5	04/30/09 13:21	04/28/09 10:00
Sodium	6010	mg/L	87 V-	1	0.011	0.044	7440-23-5	04/30/09 12:55	04/28/09 10:00
Total Alkalinity								04/30/09 12:00	04/28/09 10:00
Date analyzed			4/30/2009	1					
Total Alkalinity as CaCO3	SM2320B	mg/L	710	1	1.2	5		04/30/09 12:00	04/30/09 12:00
Ammonia								04/30/09 12:00	04/30/09 12:00
Nitrogen Ammonia (as N)	350.2	mg/L	17.3	1	0.005	0.020		05/01/09 14:52	
Total Dissolved Solids									
Date Analyzed			4/28/09 S7	1					
Total Dissolved Solids	SM2540C	mg/L	900	1	7.26	29.04		04/28/09 16:00	
Total Organic Carbon								04/28/09 16:00	
Date Analyzed			5/1/09	1					
Total Organic Carbon	9060	mg/L	40	1	0.5	1		05/01/09 12:09	
								05/01/09 12:09	

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
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SunLabs Sample Number **83505**
Sample Designation **Dup C**

Matrix: Groundwater
Date Collected: 4/23/2009 12:30
Date Received: 4/23/2009 16:00

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			04/24/2009	1					
Chloride	300.0	mg/L	66	5	0.22	0.9	16887-00-6	04/24/09 21:30	04/24/09 14:00
Nitrate as N	300.0	mg/L	0.014 U	1	0.014	0.056	14797-55-8	04/28/09 18:54	04/24/09 14:00
Sulfate	300.0	mg/L	0.036 U	1	0.036	0.14	14808-79-8	04/24/09 21:30	04/24/09 14:00
Metals by EPA Method 6010									
Date Digested	3010		4/28/2009						04/28/09 10:00
Date Analyzed			4/30/2009	1				04/30/09 13:23	
Arsenic	6010	mg/L	0.22	1	0.0048	0.019	7440-38-2	04/29/09 23:18	04/28/09 10:00
Iron	6010	mg/L	29	10	0.023	0.092	7439-89-6	04/30/09 13:23	04/28/09 10:00
Manganese	6010	mg/L	0.010	1	0.0006	0.0024	7439-96-5	04/30/09 12:58	04/28/09 10:00
Sodium	6010	mg/L	86 V	1	0.011	0.044	7440-23-5	04/30/09 12:02	04/28/09 10:00
Total Alkalinity									
Date analyzed			4/30/2009	1				04/30/09 12:00	04/30/09 12:00
Total Alkalinity as CaCO3	SM2320B	mg/L	720	1	1.2	5		04/30/09 12:00	04/30/09 12:00
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	17.3	1	0.005	0.020		05/01/09 14:52	
Total Dissolved Solids									
Date Analyzed			4/28/09 S7	1				04/28/09 16:00	
Total Dissolved Solids	SM2540C	mg/L	904	1	7.26	29.04		04/28/09 16:00	
Total Organic Carbon									
Date Analyzed			5/1/09	1				05/01/09 12:09	
Total Organic Carbon	9060	mg/L	38	1	0.5	1		05/01/09 12:09	

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Report of Laboratory Analysis

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SunLabs Sample Number **83506**
Sample Designation **GW-14**

Matrix: Groundwater
Date Collected: 4/23/2009 13:15
Date Received: 4/23/2009 16:00

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Anions by Ion Chromatography									
Date Analyzed			04/25/2009	1				04/25/09 00:37	04/24/09 14:00
Chloride	300.0	mg/L	220	20	0.9	3.6	16887-00-6	04/29/09 16:07	04/24/09 14:00
Nitrate as N	300.0	mg/L	0.014 U	1	0.014	0.056	14797-55-8	04/25/09 00:37	04/24/09 14:00
Sulfate	300.0	mg/L	2.1	1	0.036	0.14	14808-79-8	04/25/09 00:37	04/24/09 14:00
Metals by EPA Method 6010									
Date Digested	3010		4/28/2009						04/28/09 10:00
Date Analyzed			4/30/2009	1				04/30/09 13:25	
Arsenic	6010	mg/L	0.041	1	0.0048	0.019	7440-38-2	04/29/09 23:31	04/28/09 10:00
Iron	6010	mg/L	38	10	0.023	0.092	7439-89-6	04/30/09 13:25	04/28/09 10:00
Manganese	6010	mg/L	0.008	1	0.0006	0.0024	7439-96-5	04/30/09 13:00	04/28/09 10:00
Sodium	6010	mg/L	180 V	2	0.022	0.088	7440-23-5	04/30/09 12:16	04/28/09 10:00
Total Alkalinity									
Date analyzed			4/30/2009	1				04/30/09 12:00	04/30/09 12:00
Total Alkalinity as CaCO3	SM2320B	mg/L	860	1	1.2	5		04/30/09 12:00	04/30/09 12:00
Ammonia									
Nitrogen Ammonia (as N)	350.2	mg/L	14.4	1	0.005	0.020		05/01/09 14:52	
Total Dissolved Solids									
Date Analyzed			4/28/09 S7	1				04/28/09 16:00	
Total Dissolved Solids	SM2540C	mg/L	1336	1	7.26	29.04		04/28/09 16:00	
Total Organic Carbon									
Date Analyzed			5/1/09	1				05/01/09 12:09	
Total Organic Carbon	9060	mg/L	44	1	0.5	1		05/01/09 12:09	

SunLabs, Inc.
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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090423.13	Project Description: Sarasota Landfill

May 6, 2009

Footnotes	
*	SunLabs is not currently NELAC certified for this analyte.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MB	Method Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NA	Sample not analyzed at client's request.
RL	RL(reporting limit) = PQL(practical quantitation limit).
RPD	Relative Percent Difference
S7	This analysis performed by Benchmark EnviroAnalytical, Inc., Certification number E84167.
U	Compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.

Quality Control Data

Project Number	PBS&J
090423.13	Project Description: Sarasota Landfill

May 6, 2009

Batch No: C8995

Test: Anions by Ion Chromatography

TestCode: 300.0

Associated Samples: 83492, 83495

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*83359*	*83359*					
Chloride	0.045 U	5.00	95	97	2	3	85-116	5.00	104	107	3	15	0-207		
Nitrite as N	0.016 U	5.00	106	111	5	7	81-120	5.00	108	112	4	8	43-152		
Nitrate as N	0.014 U	5.00	94	102	8	10	80-122	5.00	90	96	6	11	42-152		

Batch No: C9009

Test: Metals by EPA Method 6010

TestCode: 6010-L

Associated Samples: 83486, 83487, 83488, 83489, 83490, 83491, 83492, 83493, 83494, 83495, 83496, 83497, 83498, 83499, 83500, 83501, 83502, 83503

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*83486*	*83486*					
Arsenic	0.0048 U	1000	102	101	1	8	88-112	1000	101	102	1	8	78-117		
Iron	0.0023 U	1000	101	98	3	20	80-126	1000	107	104	3	55	0-289		
Manganese	0.0006 U	1000	101	98	3	5	91-112	1000	94	91	3	9	76-113		
Sodium	0.26	10.0	101	104	3	6	89-114	10.0	0 *	0 *	NA	14	72-125		

Batch No: C9017

Test: Anions by Ion Chromatography

TestCode: 300.0

Associated Samples: 83500, 83503, 83504, 83505, 83506

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*83482*	*83482*					
Fluoride	0.016 U	5.00	87	95	9 *	3	84-117	5.00	94	93	1	13	24-163		
Chloride	0.045 U	10.00	91	98	7 *	3	85-116	10.00	72	71	1	15	0-207		
Nitrite as N	0.016 U	5.00	89	95	7	7	81-120	5.00	95	94	1	8	43-152		
Nitrate as N	0.014 U	5.00	91	100	9	10	80-122	5.00	98	98	0	11	42-152		
Ortho-phosphate as P	0.022 U	5.00	84	92	9 *	7	75-109	5.00	92	95	3	15	61-123		
Sulfate	0.036 U	25.00	91	98	7 *	5	91-114	25.00	98	98	0	21	0-236		

Batch No: C9039

Test: Anions by Ion Chromatography

TestCode: 300.0

Associated Samples: 83492, 83495

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*83492*	*83492*					
Chloride	0.045 U	10.00	99	99	0	3	85-116	10.00	28	28	0	15	0-207		
Sulfate	0.036 U	25.00	100	99	1	5	91-114	25.00	100	100	0	21	0-236		

Batch No: C9047

Test: Metals by EPA Method 6010

TestCode: 6010-L

Associated Samples: 83504, 83505, 83506

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*83504*	*83504*					
Arsenic	0.0048 U	1000	93	95	2	8	88-112	1000	97	95	2	8	78-117		
Barium	0.001 U	1000	93	91	2	10	87-116	1000	87	89	2	11	70-120		
Cadmium	0.0006 U	1000	98	96	2	3	87-110	1000	93	89	4	10	73-116		
Chromium	0.0035 U	1000	96	96	0	10	91-112	1000	89	85	5 *	4	70-122		
Iron	0.0023 U	1000	89	89	0	20	80-126	1000	142	108	27	55	0-289		

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Quality Control Data

Project Number	PBS&J
090423.13	Project Description: Sarasota Landfill

May 6, 2009

Batch No: C9047

Test: Metals by EPA Method 6010

TestCode: 6010-L

Associated Samples: 83504, 83505, 83506

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*83504*	*83504*					
Lead	0.0044 U	1000	95	95	0	8	87-113	1000	89	87	2	10	64-118		
Manganese	0.0006 U	1000	92	93	1	5	91-112	1000	87	89	2	9	76-113		
Selenium	0.0047 U	1000	95	94	1	4	88-110	1000	97	91	6	6	81-114		
Silver	0.0033 U	1000	95	96	1	10	85-111	1000	89	91	2	6	74-114		
Sodium	0.043 I	10.0	98	101	3	6	89-114	10.0	39 *	34 *	14	14	72-125		

Batch No: C9080

Test: Total Alkalinity

TestCode: Alkalinity

Associated Samples: 83492, 83495, 83500, 83503, 83504, 83505, 83506

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number															
Date analyzed		50	/2009	/2009	0										
Total Alkalinity as CaCO3		50	91	91	0										

* indicates value is outside control limits for %Recovery or greater than acceptance criteria for RP

Footnotes

U — *Compound was analyzed for but not detected.*

SunLabs, Inc. Chain of Custody

(1)

№ 20139

Client Name: PBS&J
Contact: Brad Bayne
Address: 5300 W. Cypress St., #200
Tampa, FL 33765
Phone / Fax: 813-282-7275
E-Mail: bjbayne@pbsj.com

SunLabs Project # 090423.13

Project Name: Sarasota Landfill
Project #: 100007910
PO #: —
Alt Bill To: —

SunLabs Sample #	Sample Description	Sample Date	Sample Time	# of Bottles	As, Fe	Ammonia	TDS	Mn, Na	TOC	T. Alkal.	Nitrate	Sulfate	Chloride	As, Fe *
Bottle Type					P	P	P	P	P	P	P	P	P	P
Preservative					N	S	I	N	I	I	I	I	I	N
Matrix					GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
83486	GW-18	4/22	945	3	✓	✓	✓							
83487	GW-24	4/22	1125	3	✓	✓	✓							
83488	GW-17	4/22	1210	3	✓	✓	✓							
83489	GW-26	4/22	1245	3	✓	✓	✓							
83490/91	GW-11	4/22	1345	4	✓	✓	✓							✓
83492/93	GW-25	4/22	1425	8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
83494	GW-19	4/22	1510	3	✓	✓	✓							
83495/96	OK ~~GW-20~~ ~~GW-10~~	4/22	1621	8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
83497	CH ~~GW-21~~ GW-10	4/22	1625	~~3~~ 3	✓	✓	✓							✓ BB
83498/99	GW-22	4/23	0900	4	✓	✓	✓							
83500	GW-15	4/23	1015	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
83501	DUP B	4/23	1015	3	✓	✓	✓							
83502	GW-23	4/23	1020	3	✓	✓	✓							
83503	CH ~~GW-10~~ GW-20	4/23	1145	~~3~~ 3	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Due Date Requested: Standard

☐ FDEP PreApproval site
☑ Current rates ☐ Old rates
☐ Cash rates

Remarks / Comments:
* = field Filtered
GW-11 Tot Metals
GW-10/GW-21 switched

Sampler Signature / Date: 4/23/09

Printed Name / Affiliation: Brad Bayne / PBS+J

Bottle Type Codes:
GV = Glass Vial
GVS = Low Level Volatile Kit
GA = Glass Amber
T = Tedlar Bag
P = Plastic
O = Other
S = Soil Jar

Preservative Codes:
H = Hydrochloric Acid + Ice
S = Sulfuric Acid + Ice
I = Ice only
VS = MeOH, OFW, + Ice
N = Nitric Acid + Ice
O = Other (Specify)

Matrix Codes:
A = Air
SO = Soil
DW = Drinking Water
SOL = Solid
GW = Ground Water
SW = Surface Water
SE = Sediment
W = Water (Blanks)
O = Other (Specify)

Temp: 4.1°C
Received on Ice? (Y) / N / NA

Internal Use Only
Sample Condition Upon Receipt
Custody Seals present? Y / N (NA)
Shipping Bills attached? Y / N (NA)
Sample containers intact? (Y) N / NA
Samples within holding times? (Y) N / NA
Sufficient volume for all analyses? (Y) N / NA
Are vials head-space free? Y / N (NA)
Proper containers and preservatives? (Y) N / NA

SUNLABS, INC. RESERVES THE RIGHT TO BILL FOR UNUSED/UNRETURNED SAMPLES AND TO RETURN UNUSED SAMPLES.

Relinquished By:	Relinquished To:	Date:	Time:
[signature]	LA Palmer	4/23	1600
Relinquished By:	Relinquished To:	Date:	Time:
Relinquished By:	Relinquished To:	Date:	Time:
Relinquished By:	Relinquished To:	Date:	Time:

SunLabs, Inc.
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(2)

SunLabs, Inc. Chain of Custody

№ 20140

Client Name: PBSTJ
Contact: Brad Bayne
Address: 5300 W. Cypress St, #200
Tampa, FL 33607
Phone / Fax: 813-282-7275
E-Mail: bjbayne@pbsj.com

SunLabs Project # 090423.13

Project Name: Sarasota Landfill
Project #: 100007910
PO #: —
Alt Bill To: —

SunLabs Sample #	Sample Description	Sample Date	Sample Time	# of Bottles	As, Fe	Ammonia	TDS	Mn, Na	TOC	T. Alkal.	Nitrate	Sulfate	Chloride	As, Fe*
Bottle Type					P	P	P	P	P	P	P	P	P	P
Preservative					N	S	I	N	I	I	I	I	I	N
Matrix					GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
83504	GW-16	4/23	1230	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	
83505	Dup C	4/23	1230	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	
83506	GW-14	4/23	1315	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Due Date Requested: Standard

☐ FDEP PreApproval site
☑ Current rates ☐ Old rates
☐ Cash rates

Remarks / Comments:

*= Field filtered

Sampler Signature / Date: 4/23/09

Printed Name / Affiliation: Brad Bayne / PBSTJ

SUNLABS, INC. RESERVES THE RIGHT TO BILL FOR UNUSED/UNRETURNED SAMPLES AND TO RETURN UNUSED SAMPLES.

Relinquished By:	Relinquished To:	Date:	Time:
	LA Palmer	4/23	1600
Relinquished By:	Relinquished To:	Date:	Time:
Relinquished By:	Relinquished To:	Date:	Time:
Relinquished By:	Relinquished To:	Date:	Time:

Bottle Type Codes:
GV = Glass Vial
GA = Glass Amber
P = Plastic
S = Soil Jar
GVS = Low Level Volatile Kit
T = Tedlar Bag
O = Other

Preservative Codes:
H = Hydrochloric Acid + Ice
I = Ice only
N = Nitric Acid + Ice
S = Sulfuric Acid + Ice
VS = MeOH, OFW, + Ice
O = Other (Specify)

Matrix Codes:
A = Air
DW = Drinking Water
GW = Ground Water
SE = Sediment
SO = Soil
SOL = Solid
SW = Surface Water
W = Water (Blanks)
O = Other (Specify)

Internal Use Only
Sample Condition Upon Receipt
Custody Seals present? Y / N (NA)
Shipping Bills attached? Y / N (NA)
Sample containers intact? (Y) N / NA
Samples within holding times? (Y) N / NA
Sufficient volume for all analyses? (Y) N / NA
Are vials head-space free? Y / N (NA)
Proper containers and preservatives? (Y) N / NA

Temp: 4.1°C
Received on Ice? (Y) N / NA

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APPENDIX K:

SURFACE WATER LABORATORY ANALYTICAL DATA

April 20, 2009

Brad Bayne
PBS&J
5300 West Cypress St.
Suite #200
Tampa, FL 33607

Re: SunLabs Project Number: **090410.09**
Client Project Description: **Sarasota Landfill Surface Water & Wetlands Assessm**

Dear Mr. Bayne:

Enclosed is the report of laboratory analysis for the following samples:

Sample Number	Sample Description	Date Collected
82942	Pond 7	4/8/2009
82943	Pond 6	4/8/2009
82944	Pond 5	4/8/2009
82945	Pond 4	4/9/2009
82946	Pond 3	4/9/2009
82947	Pond 2	4/9/2009
82948	Pond 1	4/9/2009
82949	Myakka-1	4/9/2009
82950	Myakka-2	4/9/2009
82951	Temp Well #1	4/9/2009
82952	Temp Well #1	4/9/2009
82953	Temp Well #2	4/9/2009
82954	Temp Well #2	4/9/2009

Copies of the Chain(s)-of-Custody, if received, are attached to this report.

If you have any questions or comments concerning this report, please do not hesitate to contact us.

Michael W. Palmer
Vice President, Laboratory Operations

Enclosures

Unless Otherwise Noted and Where Applicable:

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090410.09	Project Description: Sarasota Landfill Surface Water & Wetlands Assessm

April 20, 2009

SunLabs Sample Number **82942**
Sample Designation **Pond 7**

Matrix: Surface Water
Date Collected: 4/8/2009 15:00
Date Received: 4/10/2009 14:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/13/2009						04/13/09 09:00
Date Analyzed			4/14/2009	1				04/14/09 13:58	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/13/09 16:55	04/13/09 09:00
Iron	6010	mg/L	0.55 V	1	0.0023	0.0092	7439-89-6	04/14/09 13:58	04/13/09 09:00

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Tampa, FL 33634

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090410.09	Project Description: Sarasota Landfill Surface Water & Wetlands Assessm

April 20, 2009

SunLabs Sample Number **82943**
Sample Designation **Pond 6**

Matrix: Surface Water
Date Collected: 4/8/2009 17:00
Date Received: 4/10/2009 14:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/13/2009						04/13/09 09:00
Date Analyzed			4/14/2009	1				04/14/09 14:00	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/13/09 17:00	04/13/09 09:00
Iron	6010	mg/L	1.3 V	1	0.0023	0.0092	7439-89-6	04/14/09 14:00	04/13/09 09:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090410.09	Project Description: Sarasota Landfill Surface Water & Wetlands Assessm

April 20, 2009

SunLabs Sample Number **82944**
Sample Designation **Pond 5**

Matrix: Surface Water
Date Collected: 4/8/2009 16:00
Date Received: 4/10/2009 14:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/13/2009						04/13/09 09:00
Date Analyzed			4/14/2009	1				04/14/09 14:02	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/13/09 17:02	04/13/09 09:00
Iron	6010	mg/L	0.76 V	1	0.0023	0.0092	7439-89-6	04/14/09 14:02	04/13/09 09:00

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090410.09	Project Description: Sarasota Landfill Surface Water & Wetlands Assessm

April 20, 2009

SunLabs Sample Number **82945**
Sample Designation **Pond 4**

Matrix: Surface Water
Date Collected: 4/9/2009 08:00
Date Received: 4/10/2009 14:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/13/2009						04/13/09 09:00
Date Analyzed			4/14/2009	1				04/14/09 14:05	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/13/09 17:04	04/13/09 09:00
Iron	6010	mg/L	0.53 V	1	0.0023	0.0092	7439-89-6	04/14/09 14:05	04/13/09 09:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090410.09	Project Description: Sarasota Landfill Surface Water & Wetlands Assessm

April 20, 2009

SunLabs Sample Number **82946**
Sample Designation **Pond 3**

Matrix: Surface Water
Date Collected: 4/9/2009 09:00
Date Received: 4/10/2009 14:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/13/2009						04/13/09 09:00
Date Analyzed			4/14/2009					04/14/09 14:07	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/13/09 17:07	04/13/09 09:00
Iron	6010	mg/L	0.91 V	1	0.0023	0.0092	7439-89-6	04/14/09 14:07	04/13/09 09:00

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Website: www.SunLabsInc.com

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090410.09	Project Description: Sarasota Landfill Surface Water & Wetlands Assessm

April 20, 2009

SunLabs Sample Number **82947**
Sample Designation **Pond 2**

Matrix: Surface Water
Date Collected: 4/9/2009 11:45
Date Received: 4/10/2009 14:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/14/2009						04/14/09 09:00
Date Analyzed			4/15/2009					04/15/09 13:41	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/14/09 18:39	04/14/09 09:00
Iron	6010	mg/L	0.46	1	0.0023	0.0092	7439-89-6	04/15/09 13:41	04/14/09 09:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090410.09	Project Description: Sarasota Landfill Surface Water & Wetlands Assessm

April 20, 2009

SunLabs Sample Number **82948**
Sample Designation **Pond 1**

Matrix: Surface Water
Date Collected: 4/9/2009 12:30
Date Received: 4/10/2009 14:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/13/2009						04/13/09 09:00
Date Analyzed			4/14/2009	1				04/14/09 14:14	
Arsenic	6010	mg/L	0.012 I	1	0.0048	0.019	7440-38-2	04/13/09 17:09	04/13/09 09:00
Iron	6010	mg/L	0.65 V	1	0.0023	0.0092	7439-89-6	04/14/09 14:14	04/13/09 09:00

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090410.09	Project Description: Sarasota Landfill Surface Water & Wetlands Assessm

April 20, 2009

SunLabs Sample Number **82949**
Sample Designation **Myakka-1**

Matrix: Surface Water
Date Collected: 4/9/2009 09:45
Date Received: 4/10/2009 14:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/13/2009						04/13/09 09:00
Date Analyzed			4/14/2009	1				04/14/09 14:17	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/13/09 17:17	04/13/09 09:00
Iron	6010	mg/L	0.12 V	1	0.0023	0.0092	7439-89-6	04/14/09 14:17	04/13/09 09:00

SunLabs, Inc.
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Tampa, FL 33634

Laboratory ID Number - E84809

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Email: Info@SunLabsInc.com
Website: www.SunLabsInc.com

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090410.09	Project Description: Sarasota Landfill Surface Water & Wetlands Assessm

April 20, 2009

SunLabs Sample Number **82950**
Sample Designation **Myakka-2**

Matrix: Surface Water
Date Collected: 4/9/2009 10:45
Date Received: 4/10/2009 14:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/13/2009						04/13/09 09:00
Date Analyzed			4/14/2009	1				04/14/09 14:19	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/13/09 17:20	04/13/09 09:00
Iron	6010	mg/L	0.18 V	1	0.0023	0.0092	7439-89-6	04/14/09 14:19	04/13/09 09:00

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Quality Control Data

Project Number	PBS&J
090410.09	Project Description: Sarasota Landfill Surface

April 20, 2009

Batch No: C8846

Test: Metals by EPA Method 6010

TestCode: 6010-L

Associated Samples: 82942, 82943, 82944, 82945, 82946, 82948, 82949, 82950, 82952, 82954

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*82942*	*82942*					
Arsenic	0.0048 U	1000	98	96	2	8	88-112	1000	99	100	1	8	78-117		
Iron	0.0030 I	1000	92	93	1	20	80-126	1000	93	97	4	55	0-289		
Lead	0.0044 U	1000	97	97	0	8	87-113	1000	97	101	4	10	64-118		

Batch No: C8868

Test: Metals by EPA Method 6010

TestCode: 6010-L

Associated Samples: 82947

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*82958*	*82958*					
Arsenic	0.0048 U	1000	95	96	1	8	88-112	1000	97	101	4	8	78-117		
Barium	0.001 U	1000	99	100	1	10	87-116	1000	94	105	11	11	70-120		
Cadmium	0.0006 U	1000	92	98	6 *	3	87-110	1000	94	99	5	10	73-116		
Chromium	0.0035 U	1000	98	100	2	10	91-112	1000	98	102	4	4	70-122		
Iron	0.0023 U	1000	91	96	5	20	80-126	1000	92	94	2	55	0-289		
Lead	0.0044 U	1000	96	99	3	8	87-113	1000	97	99	2	10	64-118		
Magnesium	0.017	10.0	96	96	0	3	91-107	10.0	94	92	2	30	0-227		
Potassium	0.18 U	10.0	97	97	0	3	91-112	10.0	95	99	4	196	0-209		
Selenium	0.0047 U	1000	96	102	6 *	4	88-110	1000	99	101	2	6	81-114		
Silver	0.0033 U	1000	99	102	3	10	85-111	1000	99	103	4	6	74-114		
Sodium	0.22	10.0	97	98	1	6	89-114	10.0	99	97	2	14	72-125		
Zinc	0.0029 U	1000	98	99	1	4	86-114	1000	100	101	1	8	75-116		

Batch No: C8908

Test: RCRA Metals by EPA Method 6010

TestCode: 6010-S

Associated Samples: 82951, 82953

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*82951*	*82951*					
Aluminum	0.5 U	1000	103	99	4	6	83-110	1000	160	86	60 *	42	0-1539		
Arsenic	0.2 U	1000	91	90	1	7	71-105	1000	93	90	3	12	59-120		
Barium	0.05 U	1000	93	92	1	8	66-113	1000	95	89	7	104	33-148		
Iron	0.1 U	1000	99	95	4	6	80-112	1000	46	115	86 *	0	0-219		
Nickel	0.1 U	1000	89	89	0	5	75-111	1000	96	92	4	14	52-119		
Zinc	0.15 U	1000	94	89	5	8	72-109	1000	89	87	2	153	19-156		

* indicates value is outside control limits for %Recovery or greater than acceptance criteria for RP

Footnotes

U — *Compound was analyzed for but not detected.*

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Website: www.SunLabsInc.com

№ 19994

SunLabs, Inc. Chain of Custody

Client Name: PBS+J
Contact: Brad Bayne
Address: 5300 W. Cypress St #200, Tampa, FL 33607
Phone / Fax: 813-282-7275
E-Mail: bjbayne@pbsj.com

SunLabs Project #: 090410.09

Project Name: Sarasota Landfill Surface Water + Wetlands Assessment
Project #: 100007910
PO #: same
Alt Bill To:

SunLabs Sample #	Sample Description	Sample Date	Sample Time	# of Bottles	Bottle Type	Preservative	Matrix	Analysis / Method Requested
82942	POND 7	4/8/09	1500	1	P	N	SW	As + Fe by 6010
82943	POND 6		1700	1				
82944	POND 5		1600	1				
82945	POND 4	4/9/09	0800	1				
82946	POND 3		0900	1				
82947	POND 2		1135	1				
82948	POND 1		1230	1				
82949	MUAKKA-1		0945	1				
82950	MUAKKA-2		1015	1				
82951	TEMP WELL #1	4/9/09	1345	1	S	H	GW	As + Fe by 6010
82952	TEMP WELL #1		1515	1	P	N	GW	
82953	TEMP WELL #2		1430	1	S	H	GW	As + Fe by 6010
82954	TEMP WELL #2		1630	1	P	N	GW	

Due Date Requested: Standard

☐ FDEP PreApproval site
☑ Current rates ☐ Old rates
☐ Cash rates

Remarks / Comments:

Sampler Signature / Date: 4/10/09

Printed Name / Affiliation: Brad Bayne / PBS+J

Bottle Type Codes:
GV = Glass Vial; GVS = Low Level Volatile Kit; GA = Glass Amber; T = Tedlar Bag; P = Plastic; O = Other; S = Soil Jar

Preservative Codes:
H = Hydrochloric Acid + Ice; S = Sulfuric Acid + Ice; I = Ice only; VS = MeOH, OFW, + Ice; N = Nitric Acid + Ice; O = Other (Specify)

Matrix Codes:
A = Air; SO = Soil; DW = Drinking Water; SOL = Solid; GW = Ground Water; SW = Surface Water; SE = Sediment; W = Water (Blanks); O = Other (Specify)

Temp: 2.7

Received on Ice? Y / N / NA

Internal Use Only
Sample Condition Upon Receipt:
Custody Seals present? Y / N / NA
Shipping Bills attached? Y / N / NA
Sample containers intact? Y / N / NA
Samples within holding times? Y / N / NA
Sufficient volume for all analyses? Y / N / NA
Are vials head-space free? Y / N / NA
Proper containers and preservatives? Y / N / NA

SUNLABS, INC. RESERVES THE RIGHT TO BILL FOR UNUSED/UNRETURNED SAMPLES AND TO RETURN UNUSED SAMPLES.

Relinquished By:	Relinquished To:	Date:	Time:
[signature]	[signature]	4/6/09	
[signature]	[signature]	4/10/09	14:10

SunLabs, Inc.
5460 Beaumont Center Blvd., Suite 520, Tampa, Florida 33634
Phone: 813-881-9401 / Fax: 813-354-4661
e-mail: info@SunLabsInc.com www.SunLabsInc.com

April 15, 2009

Brad Bayne
PBS&J
5300 West Cypress St.
Suite #200
Tampa, FL 33607

Re: SunLabs Project Number: **090410.10**
Client Project Description: **Sarasota Landfill Surface Water & Wetlands Assessm**

Dear Mr. Bayne:

Enclosed is the report of laboratory analysis for the following samples:

Sample Number	Sample Description	Date Collected
82955	Grab Dup 1	4/10/2009
82956	Grab Dup 2	4/10/2009

Copies of the Chain(s)-of-Custody, if received, are attached to this report.

If you have any questions or comments concerning this report, please do not hesitate to contact us.

Sincerely,

Michael W. Palmer
Vice President, Laboratory Operations

Enclosures

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090410.10	Project Description: Sarasota Landfill Surface Water & Wetlands Assessm

April 15, 2009

SunLabs Sample Number **82955**
Sample Designation **Grab Dup 1**

Matrix: Surface Water
Date Collected: 4/10/2009 10:00
Date Received: 4/10/2009 14:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/13/2009						04/13/09 09:00
Date Analyzed			4/14/2009	1				04/14/09 14:26	
Arsenic	6010	mg/L	0.015 I	1	0.0048	0.019	7440-38-2	04/13/09 17:27	04/13/09 09:00
Iron	6010	mg/L	1.0 V	1	0.0023	0.0092	7439-89-6	04/14/09 14:26	04/13/09 09:00

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Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090410.10	Project Description: Sarasota Landfill Surface Water & Wetlands Assessm

April 15, 2009

SunLabs Sample Number **82956**
Sample Designation **Grab Dup 2**

Matrix: Surface Water
Date Collected: 4/10/2009 11:00
Date Received: 4/10/2009 14:10

Parameters	Method	Units	Results	Dil Factor	MDL	RL	CAS Number	Date/Time Analyzed	Date/Time Prep
Metals by EPA Method 6010									
Date Digested	3010		4/13/2009						04/13/09 09:00
Date Analyzed			4/14/2009	1				04/14/09 14:28	
Arsenic	6010	mg/L	0.0048 U	1	0.0048	0.019	7440-38-2	04/13/09 17:29	04/13/09 09:00
Iron	6010	mg/L	0.56 V	1	0.0023	0.0092	7439-89-6	04/14/09 14:28	04/13/09 09:00

SunLabs, Inc.
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Website: www.SunLabsInc.com

Report of Laboratory Analysis

SunLabs Project Number	PBS&J
090410.10	Project Description: Sarasota Landfill Surface Water & Wetlands Assessm

April 15, 2009

Footnotes	
*	SunLabs is not currently NELAC certified for this analyte.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MB	Method Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NA	Sample not analyzed at client's request.
RL	RL(reporting limit) = PQL(practical quantitation limit).
RPD	Relative Percent Difference
U	Compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.

Quality Control Data

Project Number	PBS&J
090410.10	Project Description: Sarasota Landfill Surface

April 15, 2009

Batch No: **C8846**

Test: Metals by EPA Method 6010

TestCode: 6010-L

Associated Samples: 82955, 82956

Compound	Blank	LCS Spike	LCS %Rec	LCSD %Rec	RPD %	---QC Limits--- RPD	LCS	MS Spike	MS %Rec	MSD %Rec	RPD %	---QC Limits--- RPD	MS	Dup RPD	Qualifiers
Parent Sample Number									*82942*	*82942*					
Arsenic	0.0048 U	1000	98	96	2	8	88-112	1000	99	100	1	8	78-117		
Iron	0.0030 I	1000	92	93	1	20	80-126	1000	93	97	4	55	0-289		
Lead	0.0044 U	1000	97	97	0	8	87-113	1000	97	101	4	10	64-118		

* indicates value is outside control limits for %Recovery or greater than acceptance criteria for RPD

Footnotes

U *Compound was analyzed for but not detected.*

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Website: www.SunLabsInc.com

№ 19994

SunLabs, Inc. Chain of Custody

Client Name: PBS+J
Contact: Brad Bayne
Address: 5300 W. Cypress St. # 200
Tampa, FL 33
Phone / Fax: 813-282-7275
E-Mail: bjbayne@pbsj.com

SunLabs Project # 090410.10

Project Name: Sarasota Landfill Surface Water + Wetlands Assessment
Project #: 100007910
PO #: —
Alt Bill To:

SunLabs Sample #	Sample Description	Sample Date	Sample Time	# of Bottles	As + Fe by 6010
82955	Grabdup 1	4/10	10:00	1	✓
82956	Grabdup 2	4/10	11:00	1	✓

Bottle Type	P
Preservative	N
Matrix	SW

Due Date Requested: Standard
☐ FDEP PreApproval site
☑ Current rates ☐ Old rates
☐ Cash rates

Remarks / Comments: Separate COC

Sampler Signature / Date: 4/10/09

Printed Name / Affiliation: Brad Bayne / PBS+J

Bottle Type Codes:
GV = Glass Vial; GVS = Low Level Volatile Kit
GA = Glass Amber; T = Tedlar Bag
P = Plastic; O = Other
S = Soil Jar

Preservative Codes:
H = Hydrochloric Acid + Ice; S = Sulfuric Acid + Ice
I = Ice only; VS = MeOH, OFW, + Ice
N = Nitric Acid + Ice; O = Other (Specify)

Matrix Codes:
A = Air; SO = Soil
DW = Drinking Water; SOL = Solid
GW = Ground Water; SW = Surface Water
SE = Sediment; W = Water (Blanks)
O = Other (Specify)

Temp: 5.3

Received on Ice? Y / N / NA

Internal Use Only

Sample Condition Upon Receipt:

Custody Seals present?	Y / N / NA
Shipping Bills attached?	Y / N / NA
Sample containers intact?	Y / N / NA
Samples within holding times?	Y / N / NA
Sufficient volume for all analyses?	Y / N / NA
Are vials head-space free?	Y / N / NA
Proper containers and preservatives?	Y / N / NA

SUNLABS, INC. RESERVES THE RIGHT TO BILL FOR UNUSED/ UNRETURNED SAMPLES AND TO RETURN UNUSED SAMPLES.

Relinquished By:	Relinquished To:	Date:	Time:
[illegible]	[illegible]	4/6/09	
[illegible]	[illegible]	4/10/09	14:10

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APPENDIX L

Sarasota County Public Health Unit
Office of Environmental Engineering
Permit Tracking System
06/16/09 09:05

Property 97-175-39799 ——— Property Appraiser Id: 0356-00-1010

Name :
Address : 4000 KNIGHTS TRAIL ROAD NOKOMIS FL 34275

Sc Tp Rg	Lot(s)	Blk	Subdivision	Unit	CTM	Map Q,Q
11 38 19			METES & BOUNDS		27C	356

Well Permit 98D-0002

Type:Work: N Well: W Use: O Method: O QQ: 4,3 Septic permit:
Owner : MEYER & GABBERT Phone: ( ) -
Driller : PARRISH,T. Licence: 9132
Total depth: 120' Diameter: 4" Cased depth: 60' Material: G Seal: D
Approved: 08/28/98 By: SF Cancelled: / /

Completion report

Total depth: 130' Diameter: 4" Cased depth: 60' Date: 09/30/98
S.W.L. : 0' Grout: 0
Pump : S HP: 1 GPM: 0

Chemical report

TDS: 590 Chlorides: 131 pH: 7.6 Color: 6 Date: 09/30/98
Iron: 0.01 Hardness: 342 Sulfate: 0 Lab: QUALITY WATER

Bacteriological report

Received: / / From:

Sarasota County Public Health Unit
Office of Environmental Engineering
Permit Tracking System
06/16/09 09:04

Property 97-175-39799 ——— Property Appraiser Id: 0356-00-1010

Name :
Address : 4000 KNIGHTS TRAIL ROAD NOKOMIS FL 34275

Sc Tp Rg	Lot(s)	Blk	Subdivision	Unit	CTM	Map Q,Q
11 38 19			METES & BOUNDS		27C	356

Well Permit 97D-0003

Type:Work: N Well: W Use: P Method: R QQ: , Septic permit:
Owner : CENTRAL LANDFILL Phone: ( ) -
Driller : DIVERSIFIED DRILLING CORP Licence: 2805
Total depth: 150' Diameter: 5" Cased depth: 60' Material: P Seal: G
Approved: 05/02/97 By: SF Cancelled: / /

Completion report

Total depth: 100' Diameter: 5" Cased depth: 66' Date: 05/07/98
S.W.L. : 10' Grout: 66
Pump : HP: 0 GPM: 0

Chemical report

TDS: 0 Chlorides: 0 pH: 0.0 Color: 0 Date: / /
Iron: 0.00 Hardness: 0 Sulfate: 0 Lab:

Bacteriological report

Received: / / From:

Sarasota County Public Health Unit
Office of Environmental Engineering
Permit Tracking System
06/16/09 09:11

Property 97-175-39799 ——— Property Appraiser Id: 0356-00-1010

Name :
Address : 4000 KNIGHTS TRAIL ROAD NOKOMIS FL 34275

Sc Tp Rg	Lot(s)	Blk	Subdivision	Unit	CTM	Map Q,Q
11 38 19			METES & BOUNDS		27C	356

Well Permit V97-0411

Type:Work: N Well: W Use: I Method: R QQ: 3,1 Septic permit:
Owner : SARASOTA COUNTY SOLID WASPhone: ( ) -
Driller : ZIEGLER, WILLIAM (5"-I) Licence: 9078
Total depth: 90' Diameter: 5" Cased depth: 65' Material: P Seal: G
Approved: 06/20/97 By: PM Cancelled: / /

Completion report

Total depth: 90' Diameter: 5" Cased depth: 70' Date: 07/28/97
S.W.L. : 0' Grout: 0
Pump : HP: 0 GPM: 0

Chemical report

TDS: 618 Chlorides: 117 pH: 7.4 Color: 0 Date: 08/10/97
Iron: 0.01 Hardness: 200 Sulfate: 89 Lab: THORNTON LABORTORY

Bacteriological report

Received: / / From: