GULFPORT FERTILIZER
GULFPORT, MS
HARRISON COUNTY
Site Assessment Report
October 1999

SITE CHARACTERIZATION REPORT

FORMER GULFPORT FERTILIZER PLANT SITE
33RD STREET
GULFPORT, MISSISSIPPI

PREPARED
FOR
THE HANCOCK BANK
COMMERCIAL LOAN DEPARTMENT
2510 14TH STREET
GULFPORT, MS 39501

PREPARED BY
BUTLER SERVICES OF MISSISSIPPI, INC.
PO Box 1164
PASCAGOULA, MISSISSIPPI 39568-1164
(228) 769-6983

October 25, 1999

Butler Services of Mississippi, Inc.

- Environmental Consulting Services -

October 25, 1999

Mr. Tony Russell, Chief
Uncontrolled Sites Section
Mississippi Department of Environmental Quality
P.O. Box 10385
Jackson, Mississippi 39289-0385

ATTN: Ms. Penelope "Penny" A. Johnston, Project Officer

RE: Site Characterization Report – Gulfport Fertilizer Plant
33rd Street, Gulfport, Harrison County, Mississippi

Dear Tony:

We are transmitting herewith the Site Characterization Report prepared on behalf of the Hancock Bank for your review and comments. The work was conducted pursuant to the Revised Site Characterization Work Plan submitted and approved by your office on July 9, 1999.

If you should have any questions or require any additional information, please do not hesitate to contact me or in my absence Louis Fortenberry at (228) 769-6983.

Sincerely yours.

BUTLER SERVICES OF MISSISSIPPI, INC.

William D. Bates, P.E.
Project Manager

WDB:ib

Attachments: Site Characterization Report dated October 25, 1999

cc: Mr. Charles E, Webb, Executive Vice President, Hancock Bank w/ attachments

Post Office Box 1164 ● Pascagoula, MS 39568-1164 ● (228) 769-6983
800-264-6711 ● Fax (228) 769-1219 ● E-Mail ButlerMS@AOL.COM

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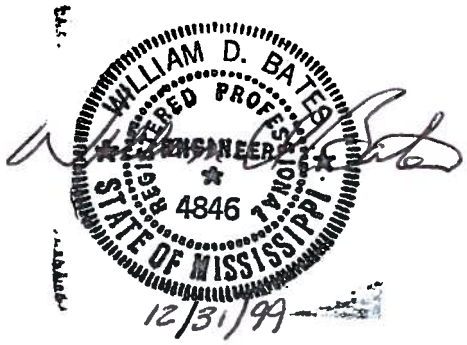

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FORMER GULFPORT FERTILIZER COMPANY
33RD STREET
GULFPORT, MISSISSIPPI

1.0 Executive Summary

The subject property is a 33.06-acre parcel of land located on 33rd Street approximately one block west of its intersection with State Highway 49 in Gulfport, Mississippi. The Gulfport Fertilizer Company, which closed for business in circa 1960, was formerly located on the subject property. The Fertilizer Company reportedly manufactured sulfuric acid and superphosphate fertilizer. Improvements to the land once consisted of concrete buildings, surfaced roads and railroad spurs, but the improvements have been largely destroyed.

Background information contained in the Phase I Environmental Assessment conducted by Covington & Associates, Inc. (Covington) and reviewed by Butler Services of Mississippi, Inc. (Butler Services) revealed that the subject site was used predominately for the production of phosphate fertilizer. There was no evidence of activities that would generate hazardous substances from the other operations that were briefly located at the site over the fifty or so years the site was utilized for industrial and manufacturing purposes other than the phosphate fertilizer operations.

A subsurface investigation was conducted by Covington for a potential purchaser in May and June of 1998. The investigation focused on an area approximately 720 feet (ft.) by 720 ft. in the northern half of the 33.06-acre parcel. Exploratory soil pits and two 4-inch diameter monitoring wells were installed during this investigation. The results of soil samples collected by Covington at the site indicated that elevated levels of lead (ranging up to 11,000 milligrams per kilogram (mg/kg)) and arsenic (ranging up to 1,310 mg/kg) contamination exists in the subsurface soils. Contamination at low levels was shown to exist in the groundwater, as well.

A portion (approximately 7.9 acres) along the eastern perimeter of the subject property was the subject of a previous Site Characterization Report prepared by Butler Services. It was the intent of the Hancock Bank at that time to partition or subdivide the subject property for the purpose of leasing a portion of the property to a potential purchaser. A Work Plan for characterizing the remaining portion of the 33.06 acres was submitted to and approved by the Mississippi Department of Environmental Quality (MDEQ) on July 9, 1999. This Site Characterization Report addresses work completed for both portions of the subject property and is intended to characterize the vertical and horizontal extent of contamination for the entire 33.06-acre site.

A total of 260 soil samples were analyzed to define the horizontal and vertical extent of arsenic and lead in the underlying soils on the 33.06-acre subject property. Of these 112 soil samples were collected during the first sampling event on September 30 and October 1, 1998 and 148 soil samples were collected during the second sampling event on July 19 and July 23, 1999. Iso-concentration maps prepared from both sampling events for the 33.06-acre subject property revealed four identifiable source areas and one isolated area with arsenic and lead contaminants on the northern portion of the property. Two of these source areas are located along the western property boundary. The one isolated area with elevated levels of arsenic and lead contaminants is located near the railroad tracks along the eastern property boundary. The maximum level of contaminants in the apparent source areas ranged from 348 mg/kg to 5982 mg/kg for lead and 113 mg/kg to 702 mg/kg for arsenic. *The source area with the highest contaminant level of 5982 mg/kg is located at N 30° 23' 66" and W 89° 05' 85".*

A total of twenty-four (24) soil samples identified in the Work Plan were evaluated to establish background concentrations of arsenic (As) in the native soils, resulting from naturally occurring or anthropogenic sources. The statistical analysis of this data was performed using the Shapiro-Wilk W Test for evaluating normality of data sets. The upper background limits for arsenic at the two foot and four foot depth interval from this

data set are 1.25 and 0.85 milligrams per kilogram (mg/kg), respectively. These background limits did not appear to be representative of the actual conditions in the native soils when compared to the potential hazardous waste source areas with elevated arsenic levels and areas delineated on the arsenic iso-concentration maps. Hence, the data set was expanded to include all perimeter sample locations considered to be on the northern half while eliminating sample locations considered being on the southern half of the property. The upper background limits for arsenic at the two foot and four foot depth intervals from the expanded data set are 3.82 and 3.36 mg/kg, respectively.

The leachability of arsenic and lead contaminates in the soil underlying the property was also evaluated during this second sampling event for site characterization. A total of five (5) soil samples with the highest concentrations of lead and/or arsenic were analyzed for hazardous waste toxicity characteristics as defined in the Resources Conservation and Recovery Act (RCRA) using the Toxicity Characteristics Leachate Procedure (TCLP). The leachate for lead from two of the samples exceeded the TCLP Regulatory Limits for toxicity characteristics of 5.0 milligrams per liter (mg/l). Leachates for arsenic from all five samples were well below the Regulatory Limit of 5.0 mg/l for this contaminant.

The two monitoring wells, MW-1 and MW-2, installed as a part of a limited Phase II Environmental Assessment were to be sampled as a part of this second sampling event on July 23, 1999. Monitoring well MW-1 was purged and sampled in accordance with the procedures outlined in the Work Plan. The groundwater from monitoring well MW-2 contained a blackish suspended and settleable matter that could not be purged from the groundwater for sampling after several hours of pumping. Of the three contaminants analyzed in the groundwater, Arsenic (As), Lead (Pb) and Chromium (Cr), only lead at a level of 37 micrograms per liter (µg/l) or 0.037 ppm exceeded the Maximum Contaminant Level (MCL) for drinking water of 0.015 ppm. The additional contaminant chromium (Cr) was tested since it was included in the initial round of samples collected and analyzed by Covington during the limited Phase II Site Investigation.

The following is a summary of the findings and conclusions of the data developed from the subsurface sampling and background information contained hereinafter:

- Arsenic and lead contaminants in the underlying soil in the identified source areas exceed MDEQ action levels for an unrestricted residential use site of 0.426 mg/kg and 400 mg/kg, respectively and for a deed restricted industrial use site of 3.20 mg/kg (up-gradient) and 1700 mg/kg, respectively.

- The upper background soil limits for arsenic in the native soils of 3.82 and 3.36 mg/kg at depth intervals 2 feet and 4 feet bgs, respectively. These limits are based on the expanded perimeter sampling data set and the USEPA guidance document for determination of inorganic background concentrations. These limits appear to be more representative of actual conditions of the underlying soils on the northern portion of the property.

- There are two apparent contaminant source areas located adjacent to the western property line that have elevated levels of arsenic in the underlying soils at 2 feet and 4 feet bgs where contaminants may have migrated off-site. To adequately address the potential migration of contaminants, additional borings should be advanced and samples collected on the adjoining vacant parcel with the consent and approval of the adjacent property.

- The isolated area adjacent to the railroad right-of-way along the eastern property boundary that has elevated levels of arsenic and lead contaminants is confined to property. Additional borings and samples were collected in February of 1999 to evaluate the off-site migration in this area.
- The constituents of concern, arsenic and lead, appear to be "bound-up" in the soil matrix as evidenced by the fact that only the lead leachate for two of the five soil

samples tested nominally exceed the TCLP regulatory limit. Further, these two soil samples are located in an area of suspect low soil pH.

- Of the three contaminants analyzed in the groundwater sample collected from monitoring well, MW-1, only lead at 0.37 ppm exceeded the Maximum Contaminant Level (MCL) for drinking water of 0.015 ppm. However, perimeter groundwater samples collected during the first sampling event, using Geoprobe were below laboratory detection limits of 0.005 milligrams per liter (mg/l) with the exception of samples in an area near the former railroad spur. The samples in this isolated area correlates with the elevated levels found in the soil in this same area.

- The groundwater from monitoring well MW-2 contained a blackish suspended and settleable matter that could not be purged from the groundwater after several hours of pumping. This well appears to be damaged or there is an intrusion into the well by a substance in the immediate area, and therefore, it should be abandoned and replaced.

- In order to adequately address existing and future groundwater underlying the site, MW-2 should be replaced at the proposed location shown on Figure 7 (MW-3). And a third monitoring well (MW-4) installed to access groundwater flow conditions (i.e. slope of gradient and direction of site groundwater) and contaminant migration, if any.

A work plan will be prepared to access the groundwater underlying the property. Further, once any additional site characterization work is completed to access migration of any contaminants off-site as a result of the two source areas along the western property boundary, a Corrective Action Plan (CAP) will be prepared and submitted to the MDEQ for review and approval.

2.0 Introduction

The subject property is a 33.06-acre parcel of land located on 33rd Street approximately one block west of its intersection with State Highway 49 in Gulfport, Mississippi. The Gulfport Fertilizer plant, which closed for business in circa 1960, was formerly located on the subject property. The plant reportedly manufactured sulfuric acid and superphosphate fertilizer. Improvements to the land once consisted of concrete buildings, surfaced roads and railroad spurs, but the improvements have been largely destroyed.

When the phosphate fertilizer plant was in operation the type of phosphate commonly manufactured at that time was normal superphosphate. Normal superphosphate is manufactured by introducing sulfuric acid to phosphate rock (tri-calcium-phosphate). According to a local fertilizer manufacturer located on the Gulf Coast, typically the phosphorous pentoxide, referred to as P205 and the calcium oxide content of the rock used in production at the time the plant was operating was about 33% and 48%, respectively. The remainder of the constituents in the phosphate rock consisted of lead and arsenic as well as a low percentage of other compounds such as aluminum, iron, carbon dioxide, fluorine and miscellaneous trace elements. Hence, based upon the foregoing and the results of the Phase I Environmental Assessment and limited Phase II subsurface investigation performed at the site by others, lead and arsenic were identified as the constituents of concern.

A portion (approximately 7.9 acres) along the eastern perimeter of the subject property was the subject of a previous Site Characterization Report. It was the intent of the Hancock Bank at that time to partition or subdivide the subject property for the purpose of leasing a portion of the property to a potential purchaser. A Work Plan for characterizing the remaining portion of the 33.06 acres was submitted to and approved by the Mississippi Department of Environmental Quality (MDEQ) on July 9, 1999. This Site Characterization Report addresses work completed for both portions of the subject

property and is intended to characterize the vertical and horizontal extent of contamination for the entire 33.06-acre site.

The objectives of the Work Plan for the remainder of the 33.06-acre site were to (1) delineate the extent of subsurface contamination in the soils of the remainder of the approximate 33 acre subject property; (2) develop background concentration levels for determining action levels, and (3) collect soil samples in the southern half of the subject property to mitigate any future questions as to the levels of constituents in this area. Discreet (depth specific sampling intervals) soil samples were collected at depths in the source areas to supplement the exploratory pit and composite surface samples collected by Covington. The purpose of the discreet samples was to better define the horizontal and vertical extent of contamination in the source areas.

2.1 Property Background

The immediate adjacent properties to the north and west include vacant land and a low to middle income residential subdivision. The Illinois Central Railroad borders the property on the east. Commercial facilities including a soft drink bottling facility, aluminum recycling plant and United States Department of Agriculture (USDA) Laboratory are located east of the railroad tracks. A moving and storage facility and 33rd Street are located south of the property.

A 1929 Harrison Country Tax Assessors Map, the "Gulfport, North" Topographic Quadrangle Map and the series of aerial photography examined by others, beginning in 1940 to 1990, was used to determine past use of the adjacent lands and the subject property to its present day status. According to a 1940 aerial photograph, the facility that bounds the subject site on the south side appears to have been the site of the hangers for the first Gulfport Airport. The immediate adjacent lands were vacant at that time. Subsequent photography examined, beginning in the year 1956, indicates light industrial

use of the properties east of the railroad. A plastic production facility on the south side of the subject property is also visible in the 1956 photography.

It appears that the subject property was an active commercial site from approximately 1904 to sometime between about 1972 and 1978 (+/-68 years). The first recorded indication of industrial use of the property found is a Warranty Deed dated July 6, 1903 from J.T. Jones to the Gulfport Cotton Oil, Fertilizer & Manufacturing Co., and which covered file subject (Deed Book 56@ Page 404). The instrument stated that "The grantee must complete the oil mill plant by January 1, 1904. On September 21, 1908 Gulfport Cotton Oil Fertilizer & Manufacturing Co., conveyed the same to the Exporters Cotton Oil Company (Deed Book 88 @ Page 248). A site sketch and survey was included with this recorded instrument. The site sketch shows six dummy rail lines from the Illinois Central Railroad, what appears to be a sulfuric acid manufacturing configuration and a phosphate fertilizer production facility, several oil tanks and other facilities used in connection with raw cotton bulk product handling.

The exact period that the cotton oil and product facility operated from 1904 to 1920 was not determined from the records. However, the existence of a "refinery shed" is noted in the conveyance records. The conveyance records show that for a period of about two years beginning in 1920, the cotton product facility was used as "The Continental Tire & Rubber Co.", manufacturers of automobile tires & tubes. A Sanborn Insurance Map dated 1921 further corroborates the land records with a sketch indicating the production configuration at that time. The land records, a 1929 Sanborn map and aerial photography dated after 1922 reviewed indicate the cessation of and the dismantling of the tire and rubber manufacturing facility. The site was not used for this purpose again.

Both a 1940 aerial photograph and a 1950 Sanborn Fire Insurance Map indicate the presence of a cotton ginning facility in the southeast corner of the property. There was no evidence of this facility in subsequent Sanborn and aerial photography examined.

As previously noted above, records indicate that at least the upper half of the subject tract was being used in connection with the production of sulfuric acid and superphosphate fertilizer. The land records also show that The Gulfport Cotton Oil, Fertilizer & Manufacturing Co. used this area from approximately 1904 until exporters Cotton Oil Company took over the operations in 1908. In 1914, the Exporters Cotton Oil. Lost the property through foreclosure. It is believed that from 1914 to approximately 1920, Gulfport Fertilizer Company operated the production facilities for Mell R. Wilkinson, The Lowery National Bank of Atlanta, or both. A 1921 Sanborn Fire Insurance Map also indicates that Gulfport Fertilizer Company was operating the facility at that time. By the year 1925, Gulfport Fertilizer Co. was the sole owner and operator of the facilities. Sanborn Fire Insurance maps from 1929 and 1950 indicate that the fertilizer manufacturing facilities were in full operation. In 1960 the Gulfport Fertilizer Co. relinquished ownership of the subject lands unto H & F Engineering Co., Inc., which lost the property through foreclosure to Deposit Guaranty National Bank, within two years. On June 10, 1995 Mr. R. W Hyde, III, son of R.W. Hyde, Jr., who was the owner of H&F Engineering Co., stated that his father was in the sewerage and drainage business and that he was never in the fertilizer business. No evidence that the site was used for any commercial purpose from approximately 1960 when H & F Engineering Co., owned the property for about two years, and during the period when Deposit Guaranty National Bank owned the property for about two years. In the year 1966, the Deposit Guaranty National Bank sold the subject lands to Ernest Yeager & Sons, Inc. Mr. Leroy Yeager, who was secretary treasurer of Ernest Yeager & Sons, Inc., in 1966, stated on June 9, 1995 that Ernest Yeager and Sons, Inc. acquired the property for investment purposes only and that they were never involved with any process activity at the site. A Sanborn Map from 1967 also indicates that the site was inactive at that time. In 1972 Ernest Yeager & Sons, Inc., granted a 15-year lease, which covered approximately 4.00 acres to Best Concrete Products, Inc., for the purpose of manufacturing concrete block and masonry. It appears from a 1975 aerial photograph that the site in fact was probably

being used for the manufacture of concrete block and masonry. However, several unrecognizable small objects were also noted in the 1975 photograph. In or about the year 1982 the Hancock Bank secured the property through foreclosure proceedings. Since the year 1982 the property has not been occupied or operated for industrial or commercial purposes. Both the 1982 and 1990 aerial photographs examined indicated that the site was vacant except for a few remaining abandoned structures.

It appears that the remainder of the property was used for residential and office purposes. The mapping and/or photograph references herein indicate the presence of four dwellings on the North end of the property, two garages, and an office. There are four additional dwellings on the South end of the subject property.

2.2 Previous Investigation

Covington and Associates Corporation (Covington) conducted a Preliminary Subsurface Investigation of the subject property in May and June 1998, on behalf of a potential purchaser. Exploratory soil pits and two 4-inch diameter monitoring wells were installed during this investigation. The results of soil samples collected by Covington at the site indicated that elevated levels of lead (ranging up to 11,000 mg/kg) and arsenic (ranging up to 1,310 mg/kg) contamination exists in the subsurface soils. Contamination at low levels was shown to exist in the groundwater, as well. The samples were collected from an area approximately 720 feet by 720 feet, in the northern half of the property.

3.0 Investigative Activities

On September 30 and October 1, 1998, Butler Services performed soil and groundwater sampling in connection with the 7.9 acre portion of the subject property that was to be subdivided and leased by the bank, referred to herein as the first sampling event. The project was overseen and performed by Butler's Senior Project Manager, William D. Bates, P.E. Singley Construction Company provided equipment to advance the borings and collect groundwater samples. Soil and groundwater samples were submitted to Micro-Methods Laboratory, Inc. of Ocean Springs, Mississippi for analysis.

Soil samples were collected on a 100-foot grid north and south of the proposed radial conveyor line to be installed on the 7.9-acre parcel. Additional soil sampling was conducted in an isolated area adjacent to the former railroad spur on October 21, 1998 and February 12, 1999. The soil sampling locations are identified in Figure No. 2 and the analytical results of this first sampling event in connection with the subject property are listed in Table 1. Groundwater samples were also collected in the borings along the eastern and western perimeter of the 7.9-acre parcel. The groundwater sampling analytical results is listed in Table 12.

Fifty-six (56) soil borings were advanced to depths of four (4) feet below ground surface (bgs) using a track mounted direct-push Geoprobe 5400 unit and a total of 112 soil samples collected at the site on September 30 and October 1, 1998. Four additional borings were advanced and six additional samples collected in the isolated hot spot area adjacent to the railroad track on October 21, 1998 and February 12, 1999. Soil samples were collected at depths of two and four feet in each boring and the analytical results listed in Table 1. Groundwater was encountered at approximately four feet bgs. There were no unusual conditions or complications encountered during the drilling operations.

During the period between from July 19 to July 23, 1999, Butler Services performed soil and groundwater sampling in connection with the remainder of the 33.06-acre subject

property, referred to herein as the second sampling event. The project was overseen and performed by Butler Services' Senior Project Manager, William D. Bates, P.E. Environmental Management Services, Inc. (EMS) of Hattiesburg, Mississippi provided labor and equipment to advance the borings and collect groundwater samples. Soil and groundwater samples were submitted to Micro-Methods Laboratory, Inc. in Ocean Springs, Mississippi, for analyses. Ms. Penelope A. Johnston, Project Officer, of the MDEQ Uncontrolled Sites Section was on site during the subsurface investigation.

Mississippi One Call System, Inc. was contacted to mark the location of gas, water and sewer and buried electrical lines at the site prior to initiating the subsurface investigation. Access to the work area was restricted to 40 hour Health and safety trained personnel during the investigation

The areas to be investigated were measured and staked in a grid pattern with flags placed at the specific grid points to mark where soil borings were to be advanced. A 100-foot horizontal grid, established during the first sampling event for the 7.9-acre portion of the subject property, was extended from the east to the west in the area of the former plant operations on the northern half of the property. In addition, a 200-foot grid pattern was extended east to the west to the southern property line on the southern half of the property. Although, there had been no evidence developed that any significant industrial/manufacturing activities had occurred in the southern portion of the subject property, Butler had been requested by the bank to collect soil samples in this area to mitigate any future questions as to the levels of constituents in this area. The soil sampling locations are identified in Figure No. 2.

Seventy-two (72) soil borings were advanced to depths of four (4) feet below ground surface (bgs) at the site on July 19 and July 23, 1999. A total of 148 soil samples were collected from the borings at sampling depths of two and four feet. Forty-eight (48) of the borings were located on the northern half and twenty-four (24) on the southern half of

the property and are listed in Tables 2 and 3. Groundwater was encountered at approximately four feet bgs. There were no unusual conditions or complications encountered during the drilling operations.

The soil borings from both sampling events were advanced using Geoprobe's Macro-core soil sampler, a 48-inch long by 2-inch diameter soil sampler capable of recovering a sample that measures up to 1300 ml in volume in the form of a 46-inch x 1.5-inch core. A releasable probe point was attached to the bottom of the sampling tube to prevent soil from entering the tube until the sampling depth was reached. The sampler was pushed into the soil with connected 4-foot long hollow probe rods. Once the sample depth was reached the point was released and the sampling tube was driven into undisturbed soil. Soil samples were collected using new clear PVC sample collection liners that are approximately 46-inch long by 1.75-inches in diameter. Soil samples collected were logged at two-foot intervals to a maximum depth of four feet below ground surface (bgs) or until groundwater was encountered, whichever occurred first. After the samples had been collected from the soil cores, the remaining soil was drummed for disposal off-site in a permitted facility. The boring were then sealed to the ground surface with Bentonite.

The sampler and sample tubes were cleaned using tap water and Liquinox. A brush was used, as necessary, to remove particulate matter and surface films during cleaning. The equipment was then triple rinsed thoroughly with tap water, analyte free water and pesticide-grade isopropanol followed by a final rinse of analyte free water. Once the equipment had been cleaned it was removed from the decontamination area and covered with aluminum foil when not in use. Equipment stored overnight was wrapped in aluminum foil and covered with clean, unused plastic. The rinsate was containerized and transferred to drums for disposal off-site in a permitted facility.

A total of 148 soil samples were collected during the second sampling event for independent laboratory analysis. As a part of the field Quality Assurance and Quality

Control (QA/QC) program, replicate samples and daily equipment field blank samples were prepared similarly for delivery to the laboratory. The samples were transferred to new laboratory furnished glass sample jars, sealed with a teflon-lined cap and then labeled. The samples were placed in an ice chest and delivered to Micro-Methods Laboratory, Inc. in Ocean Springs, Mississippi in a chilled condition for analyses. A chain-of-custody was maintained to trace sample custody.

3.1 Property Soil and Vadose Zone Characteristic

A total of twenty-four (24) soil samples at depths of two and four feet from twelve (12) borings were evaluated to establish background concentrations of arsenic (As) in the native soils, resulting from naturally occurring or anthropogenic sources. The samples were analyzed using United States Environmental Protection Agency (USEPA) Method SW 846, 6010A-ICP. Of the twenty-four (24) samples, sixteen were from eight borings randomly selected prior to the current investigative activities and eight of the samples were selected from four borings advanced during the first sampling event. All of the background samples analyzed and evaluated are located along the perimeter of the subject property and are listed in Tables 5 and 8. This soil data was evaluated to develop background limits based on guidance from USEPA Engineering Forum Issue: "*Determination of Background Concentrations of Inorganics in Soils and Sediments at Hazardous Waste Sites*", December 1995 and statistical tables from *Statistical Methods for Environmental Pollution Monitoring by Richard O. Gilbert*. The statistical analysis of this data was performed using the Shapiro-Wilk W Test for evaluating normality of data sets and are presented in Table 5 through Table 11.

The upper background limit for arsenic at the two foot and four foot depth interval from the twelve perimeter boring data set is 1.25 and 0.85 milligrams per kilogram (mg/kg), respectively. Background sample RC10 was eliminated from the analysis due to the elevated level of arsenic found at both depth intervals. The moisture content of the soil in borings S71 and S128 prevented the collection of samples for analysis at the four foot

depth interval. It was also necessary to eliminate sample 31N38 with an arsenic concentration of 1.6 mg/kg from the four foot depth interval data set to achieve normality. The analysis of the data sets using the Shapiro-Wilk W Test for normality are presented in Table 5 for the two foot depth interval and Table 8 and Table 9 for the four foot depth interval.

The upper arsenic background limits determined from the twelve perimeter boring data set does not appear to be representative of the actual conditions in the native soils when compared to the potential hazardous waste source areas with elevated arsenic levels and areas delineated on the arsenic iso-concentration maps, herein. Further, the type(s) of soil underlying the 33-acre property on the northern and southern portion and their characteristics appeared to vary as noted on the boring logs (Appendix D). Hence, the data set was expanded to include all perimeter sample locations considered to be on the northern half while eliminating sample locations considered being on the southern half of the property. The area of former fertilizer plant operations identified in previous site assessments and investigations is located within the northern half. This data set includes thirty-eight perimeter sample locations and extends from perimeter borings 31S61 and S60 on the south to perimeter borings 33N31 and N40 on the north.

The upper background limit for arsenic at the two foot and four foot depth interval from the thirty-eight perimeter boring data set is 3.82 and 3.36 mg/kg, respectively. Background samples N20, RC10, S20, S50, 31S61 and 31S51 were eliminated from the data set analysis due to either the elevated level of arsenic found at the depth intervals or due to their geographic proximity to areas with elevated levels of arsenic. Other background samples, identified in the Tables, were statistically eliminated from the data set to achieve normality. The analysis of the data sets using the Shapiro-Wilk W Test for normality are presented in Table 6 and Table 7 for the two foot depth interval and Table 10 and Table 11 for the four foot depth interval.

The upper background soil limits of 3.82 and 3.36 mg/kg for arsenic in the native soils appears to be more representative of actual conditions on the northern portion of the property.

The leachability of arsenic and lead contaminates in the soil underlying the property was also evaluated during this second sampling event for site characterization. A total of five (5) soil samples were selected from the grid delineation samples and the additional samples collected in the previous test pit sampling areas at the locations and depths with the highest concentrations of total lead and total arsenic for leachate analyses. The samples with the highest concentrations of lead and/or arsenic were analyzed for hazardous waste toxicity characteristics as defined in the Resources Conservation and Recovery Act (RCRA) using the Toxicity Characteristics Leachate Procedure (TCLP), EPA Method SW 846, Section 1311

The additional sample locations selected for leachability analysis was based he analytical results of the previous sampling conducted by Covington during the limited Phase II Site Assessment. The subsurface soils at the identified locations were re-sampled as a part of this second sampling event at the same sampling intervals bgs as the grid delineation soil samples and analyzed for total lead (Pb) and total arsenic (As). The additional samples, identified with a "T' preceding the sample number, are shown on the Figure No. 2 and the sample results are listed in Table 2.

The leachate for lead from samples S18 at the four foot depth interval and S19 at the two foot depth interval exceeded the TCLP Regulatory Limits for toxicity characteristics of 5.0 milligrams per liter (mg/l). However, it should also be noted that the leachate from two of the samples analyzed, RC6 and RC7 at the two foot depth interval, with the highest concentration of total lead were less than 1.0 mg/l. Leachates for arsenic from four of the samples were less than the laboratory detection limits of 0.1 mg/l and 0.29

mg/l for the remaining sample well below the Regulatory Limit of 5.0 mg/l for this contaminant.

3.2 Property Groundwater/Acquifer Characteristics

During the first sampling event from September 30 and October 1, 1998, twenty-five (25) groundwater samples were collected in connection with the 7.9 acre portion of the subject property that was to be subdivided and leased by the bank. The samples were collected using a Screen Point 15 Groundwater sampler as manufactured by Geoprobe. Of the twenty-five groundwater samples collected, eighteen were from borings located along the eastern property boundary and western perimeter of the 7.9-acre portion. The remaining samples were collected from borings along the western and southern property boundary of the remaining 33.06-acre site. Groundwater was encountered approximately four feet bgs. The groundwater samples were delivered in a chilled preserved condition, under chain-of-custody documentation to Micro-Methods laboratory, Inc. in Ocean Springs, Mississippi for analysis.

The groundwater samples collected during the first sampling event on September 30 and October 1, 1998 were submitted for analysis of lead (Pb) and arsenic (As) concentrations by EPA Method 200.7-ICP. However, due to the amount of sediment in the groundwater samples collected on September 30, 1998 (sample identifications beginning with the number "30") originally submitted to the laboratory for analysis it was necessary to re-establish these sampling locations and collect additional groundwater samples for analysis. The groundwater was re-sampled on October 21, 1998 using a Geoprobe groundwater sampler. The groundwater analytical results of the October 1 and re-sampling on October 21, 1998 are included in Appendix A and listed in Table 12.

The Geoprobe's Screen Point 15 Groundwater sampler, consisting of a 1.5-inch OD x 52-inch sheath with expendable point, was driven to the required depth and then pulled back approximately 44 inches to expose a stainless steel 1–inch x 41-inch.004 slot size screen

to collect groundwater samples. The groundwater was pumped using a peristaltic pump through new 3/8-inch x ¼-inch ID polyethylene tubing directed to the bottom of the screen. Prior to collecting the samples, the groundwater was pumped until a clear flow of water was achieved, approximately1 to 2 quarts.

The two monitoring wells installed by Covington as a part of a limited Phase II Environmental Assessment of a portion of the site, identified on Figure 7 as MW-1 and MW-2, were to be sampled as a part of this second sampling event on July 23, 1999. Monitoring well MW-1 was purged and sampled in accordance with the procedures outlined in USEPA, Region IV's *"Environmental Investigations Standard Operating Procedures and Quality Assurance Manual"* (EISOPQAM). The groundwater from monitoring well MW-2 contained a blackish suspended and settleable matter that could not be purged from the groundwater after several hours of pumping.

A licensed land surveyor surveyed the wells in to a benchmark of known elevation above mean sea level. The depth to groundwater was measured in each well using a Solinst water level meter, originating at a specific point on the well casing prior to collecting groundwater samples.

Monitoring well MW-1 was purged using a slow purge method. Sampling was performed after the well had achieved at least 80 percent (%) recharge and the temperature, pH and conductivity of the groundwater had stabilized as indicated by three consecutive instrument readings within 10 % and the water was free of suspended and settleable matter. An unfiltered and filtered groundwater sample were collected from the well, using a new 1 liter, laboratory furnished and nitric acid preserved, plastic sample containers. The groundwater samples were delivered under chain-of-custody in a chilled condition to Micro-Methods Laboratory, Inc. in Ocean Springs, Mississippi for analyses. The samples were analyzed for lead (Pb), arsenic (As), and chromium (Cr) using USEPA

Methods 239.2, 206.2 and 218.2 - Furnace, respectively. The groundwater sampling analytical results is listed in Table 13.

Of the three contaminants analyzed, only lead exceeded the Maximum Contaminant Level (MCL) for drinking water of 0.015 ppm. Lead in the unfiltered and filtered sample contained 35 micrograms per liter (µg/l) and 37 µg/l or 0.035 ppm and 0.037 ppm, respectively. The additional contaminant chromium (Cr) was tested since it was included in the initial round of samples collected and analyzed by Covington during the limited Phase II Site Investigation.

4.0 Property Physical Characteristics

Topographically, the site is astride one of the many coastal, east/west parallel trending buried beach ridges. Elevations at the site vary from slightly above 25 feet mean sea level near the center of the site to at or just below 25 feet mean sea level near the northern limit of the property.

4.1 Surface Water

The nearest major body of water is the Mississippi Sound located about 1.75 miles to the south. Surface drainage off-site appears to be sufficient and is generally to the north into a low wetlands area. There is some drainage to the southwest where additional wetlands are suspected. Drainage from the northern wetlands is northwest via several drainage ditches into Turkey Creek. The drainage Southward is via a collection ditch that eventually discharges into the western extremities of Brickyard Bayou.

4.2 Regional and Property Geology

The general geology of the site is similar to that of the region, all part of the northern Gulf Coast margin. The stratigraphic column consists primarily of a wedge of Mesozoic and Cenozoic sediments derived from continental interior drainage. Sediment supply in most of the area exceeded the subsidence rate, resulting in the seaward progradation of the Gulf continental margin (Knox, 1994).

Geologically, the side is located within a series of east/west, coastal trending beach ridges. Specifically, the site is astride a buried beach ridge, which comprise a part of the Gulfport ridge complex. As a result, there is variation of soil types due to drainage and modified hydrologic patterns.

The three distinctive soil types within the boundaries of the subject property are the Harleston, Atmore, and Plummer series according to soil survey information available from the Natural Resources Conservation Service, Soil Series Survey. The predominate

soil type underlying 90 to 95 percent (%) of the subject property is the Harleston series. The Atmore and the Plummer soil types are located along the eastern and northern property boundary, respectively.

The Harleston series, a non-hydric soil type, is a yellowish-brown to pale-brown loamy sand overlain by 0 to 8-inches of very dark grayish brown loamy sand. These soil characteristics were observed during the subsurface investigation of the 7.9-acre portion of the subject property conducted by Butler. These soil characteristics were noted down to the water-bearing zone, which was encountered approximately 4-feet below ground surface at the site.

5.0 Nature and Extent of Contamination

Action levels for the contaminants of concern, according to previous conversations with the Uncontrolled Sites Section and the Brownfield's Section of the MDEQ for an unrestricted residential use site are 0.426 mg/kg for arsenic and 400 mg/kg for lead in the underlying soil. Further, for a site with deed restrictions including but not limited to limiting the property to certain future uses such as Industrial, the action levels are 3.20 mg/kg (up-gradient) for arsenic and 1700 mg/kg for lead in the underlying soil. Site specific action levels may be higher in either case if the background concentrations in the native soils, resulting from naturally occurring or anthropogenic sources are shown to be higher than the established action levels.

Groundwater action levels for an unrestricted site are 50 ppb for arsenic and 15 ppb for lead. Action levels for groundwater on a deed restricted site for the contaminants of concern, arsenic and lead, is determined base upon site specific conditions and the limit is set at the property boundary.

5.1 Soils and Vadose Zone

The soil sampling analytical results of the 112 soil samples collected during the first sampling event on September 30 and October 1, 1998 are listed in Table 1. The six additional samples collected in the isolated hot spot area adjacent to the railroad track on October 21, 1998 and February 12, 1999 are also listed in Table 1. The soil samples were analyzed by the laboratory for lead (Pb) and arsenic (As) using USEPA Method SW 846, 6010A.

Total lead in the soil samples ranged in concentrations from 0.2 milligrams per kilogram (mg/kg) to 306 mg/kg at the 2 foot depth interval below ground surface (bgs) and from <0.1 mg/kg to 22.8 mg/kg at the 4 foot depth interval with the exception of an isolated area adjacent to the former railroad spur (Sample No. 31S51). The lead concentrations in the subsurface soils in this isolated area located approximately 800 ft south of the

northeast corner of the subject property ranged from 539 mg/kg at 2 feet to 1241 mg/kg at 4 feet bgs.

Arsenic concentrations in the soils ranged from <0.1 mg/kg to 10.2 mg/kg at the 2 foot depth interval bgs and from <0.1 mg/kg to 6.7 mg/kg at the 4 foot depth interval with the exception of two distinct areas within the 7.9-acre parcel. One of the areas coincides with the isolated area adjacent to the former railroad spur (Sample No. 31S51) that contained elevated levels of lead concentrations. Arsenic concentrations in the subsurface soils in this area were 57.6 mg/kg at 2 feet and 74.5 at 4 feet bgs. The second area with elevated levels of arsenic, encompasses an area approximately 150 feet by 300 feet and is located approximately 400 feet south and 300 feet west of the northeast corner of the subject property. In this second area, arsenic concentrations range from 106 mg/kg at 2 feet to 23.4 mg/kg at 4 feet bgs.

The soil sampling analytical results of the 148 soil samples collected during the second sampling event on July 19 and July 23, 1999 are listed in Table 2 for the northern half and Table 3 for the southern half of the remaining 33.06-acre site. The soil samples were analyzed by the laboratory for lead (Pb) and arsenic (As) using USEPA Method SW 846, 6010A.

The lead contaminant in the soil samples on the northern half ranged in concentrations from less than the minimum quantifiable level (MQL) for the sample dilution factor of 0.20 mg/kg to 5982 mg/kg at the 2 foot depth interval bgs and from less than the minimum quantifiable level (MQL) for the sample dilution factor of 0.2 mg/kg and 0.6 mg/kg to 3657 mg/kg at the 4 foot depth interval. Elevated levels of lead were encountered in isolated areas along the western property boundary in the northern half of 348 mg/kg (Sample RC10) and 597 mg/kg (Sample S50) at 2 feet and 492 mg/kg (Sample S40) at 4 feet bgs. Total lead in the soil samples on the southern half ranged in concentrations from less than the minimum quantifiable level (MQL) for the sample

dilution factor of 0.2 milligrams per kilogram (mg/kg) to 63.4 mg/kg at a depth of two feet bgs and to 5.94 mg/kg at four feet bgs.

The arsenic contaminant in the soil samples on the northern half ranged in concentrations from less than the minimum quantifiable level (MQL) for the sample dilution factor of 0.07 mg/kg, 0.05 mg/kg and 0.1 to 691 mg/kg at the 2 foot depth interval bgs and from less than the minimum quantifiable level (MQL) for the sample dilution factor of 0.06 mg/kg and 0.05mg/kg to 242 mg/kg at the 4 foot depth interval. Elevated levels of arsenic were encountered in isolated areas along the western property boundary in the northern half of 127 mg/kg (Sample RC10) and 702 mg/kg (Sample S50) at 2 feet and 175 mg/kg (Sample RC10) and 113 mg/kg (Sample S50) at 4 feet bgs. Total arsenic in the soil samples on the southern half ranged in concentrations from less than the minimum quantifiable level (MQL) for the sample dilution factor of 0.05 milligrams per kilogram (mg/kg) to 0.62 mg/kg at the 2 foot depth interval bgs and to 1.02 mg/kg at the 4 foot depth interval.

Iso-concentration maps, Figures 3 through 6, prepared from both sampling events for the 33.06-acre subject property revealed four identifiable source areas and one isolated area with arsenic and lead contaminants on the northern portion of the property. Two of these source areas are located along the western property boundary. The one isolated area with elevated levels of arsenic and lead contaminants is located near the railroad tracks along the eastern property boundary at sampling locations 31S51 and 31S61.

5.2 Groundwater

Lead and Arsenic levels in the groundwater samples collected during the first sampling event on September 30, October 1, and October 21, 1998 are listed in Table 12. The groundwater samples collected along the eastern property boundary and western perimeter of the 7.9 acre portion of the property were all less than the laboratory detection limits of 0.005 milligrams per liter (mg/l) with the exception of samples in an

area near the former railroad spur. The samples in this isolated area correlates with the elevated levels found in the soil in this same area.

The groundwater analytical results form monitoring well MW-1 sampled during the second sampling event on July 23, 1999 are listed in Table 13. Of the three contaminants analyzed, only lead exceeded the Maximum Contaminant Level (MCL) for drinking water of 0.015 ppm. Lead in the unfiltered and filtered sample contained 35 micrograms per liter (µg/l) and 37 µg/l or 0.035 ppm and 0.037 ppm, respectively. The additional contaminant chromium (Cr) was tested since it was included in the initial round of samples collected and analyzed by Covington during the limited Phase II Site Investigation.

6.0 Summary and Conclusions

A total of 260 soil samples were analyzed to define the horizontal and vertical extent of arsenic and lead in the underlying soils on the 33.06-acre subject property. Of these 112 soil samples were collected during the first sampling event on September 30 and October 1, 1998 and 148 soil samples were collected during the second sampling event on July 19 and July 23, 1999. Iso-concentration maps prepared from both sampling events for the 33.06-acre subject property revealed four identifiable source areas and one isolated area with arsenic and lead contaminants on the northern portion of the property. Two of these source areas are located along the western property boundary. The one isolated area with elevated levels of arsenic and lead contaminants is located near the railroad tracks along the eastern property boundary. The maximum level of contaminants in the apparent source areas ranged from 348 mg/kg to 5982 mg/kg for lead and 113 mg/kg to 702 mg/kg for arsenic. *The source area with the highest contaminant level of 5982 mg/kg is located at N 30° 23' 66" and W 89° 05' 85".*

- Arsenic and lead contaminants in the underlying soil in the identified source areas exceed MDEQ action levels for an unrestricted residential use site of 0.426 mg/kg and 400 mg/kg, respectively and for a deed restricted industrial use site of 3.20 mg/kg (up-gradient) and 1700 mg/kg, respectively.

- The upper background soil limits for arsenic in the native soils of 3.82 and 3.36 mg/kg at depth intervals 2 feet and 4 feet bgs, respectively. These limits are based on the expanded perimeter sampling data set and the USEPA guidance document for determination of inorganic background concentrations. These limits appear to be more representative of actual conditions of the underlying soils on the northern portion of the property.

- There are two apparent contaminant source areas located adjacent to the western property line that have elevated levels of arsenic in the underlying soils at 2 feet and 4

feet bgs where contaminants may have migrated off-site. To adequately address the potential migration of contaminants, additional borings should be advanced and samples collected on the adjoining vacant parcel with the consent and approval of the adjacent property.

- The isolated area adjacent to the railroad right-of-way along the eastern property boundary that has elevated levels of arsenic and lead contaminants is confined to property. Additional borings and samples were collected in February of 1999 to evaluate the off-site migration in this area.

- The constituents of concern, arsenic and lead, appear to be "bound-up" in the soil matrix as evidenced by the fact that only the lead leachate for two of the five soil samples tested nominally exceed the TCLP regulatory limit. Further, these two soil samples are located in an area of suspect low soil pH.

- Of the three contaminants analyzed in the groundwater sample collected from monitoring well, MW-1, only lead at 0.37 ppm exceeded the Maximum Contaminant Level (MCL) for drinking water of 0.015 ppm. However, perimeter groundwater samples collected during the first sampling event, using Geoprobe were below laboratory detection limits of 0.005 milligrams per liter (mg/l) with the exception of samples in an area near the former railroad spur. The samples in this isolated area correlates with the elevated levels found in the soil in this same area.

- The groundwater from monitoring well MW-2 contained a blackish suspended and settleable matter that could not be purged from the groundwater after several hours of pumping. This well appears to be damaged or there is an intrusion into the well by a substance in the immediate area, and therefore, it should be abandoned and replaced.

- In order to adequately address existing and future groundwater underlying the site, MW-2 should be replaced at the proposed location shown on Figure 7 (MW-3). And a third monitoring well (MW-4) installed to access groundwater flow conditions (i.e. slope of gradient and direction of site groundwater) and contaminant migration, if any. The existing and proposed locations for the monitoring wells are shown on Figure 7, herein.

A work plan will be prepared to access the groundwater underlying the property. This work will also include proposed future monitoring requirements. The groundwater work plan will be submitted to the Mississippi Department of Environmental Quality (MDEQ) for review and approved prior to initiating any field activities. Upon completion of the work proposed in the approved work plan, a report of the findings will be prepared and will be submitted to the MDEQ for review. Further, once any additional site characterization work is completed to access migration of any contaminants off-site as a result of the two source areas along the western property boundary, a Corrective Action Plan (CAP) will be prepared and submitted to the MDEQ for review and approval.

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TABLES

TABLE 1
FIRST SAMPLING EVENT
SOIL SAMPLING ANALYTICAL RESULTS
Sept. 30, Oct .1 & Oct. 21, 1998
FORMER GULFPORT FERTILIZER PLANT
33RD STREET
GULFPORT, MISSISSIPPI

Sample Number	Sample Location	Sample Depth 2ft		Sample Depth 4ft		REMARKS
		Arsenic As (mg/kg)	Lead Pb (mg/kg)	Arsenic As (mg/kg)	Lead Pb (mg/kg)	
30N31	300 ft North of Radial Conveyor Line	2.0	11.8	0.1	0.2	Adjacent to rail spur
30N32	300 ft North of Radial Conveyor Line	6.6	170	0.3	5.2	
30N33	300 ft North of Radial Conveyor Line	0.6	2.7	0.5	5.1	
30N34	300 ft North of Radial Conveyor Line	0.9	28.3	<0.1	3.9	
30N35	300 ft North of Radial Conveyor Line	0.6	2.4	2.5	0.6	
31N36	300 ft North of Radial Conveyor Line	1.5	4.8	0.3	5.1	
31N37	300 ft North of Radial Conveyor Line	4.5	12.9	0.1	2.1	
31N38	300 ft North of Radial Conveyor Line	0.5	5.4	1.8	2.8	
31N39	300 ft North of Radial Conveyor Line	1.6	7.3	<0.1	2.3	
30N21	200 ft North of Radial Conveyor Line	0.6	3.2	1.3	4.8	Adjacent to rail spur
30N22	200 ft North of Radial Conveyor Line	0.6	15.0	3.6	6.0	
30N23	200 ft North of Radial Conveyor Line	0.7	3.2	0.4	0.2	
30N24	200 ft North of Radial Conveyor Line	0.8	0.8	2.5	22.8	
30N25	200 ft North of Radial Conveyor Line	1.2	2.2	1.4	1.1	
31N26	200 ft North of Radial Conveyor Line	0.7	1.5	<0.1	2.1	
31N27	200 ft North of Radial Conveyor Line	4.6	3.8	0.9	8.0	
31N28	200 ft North of Radial Conveyor Line	1.1	5.3	0.2	0.1	
31N29	200 ft North of Radial Conveyor Line	1.2	6.5	20.2	16.5	
30N11	100 ft North of Radial Conveyor Line	0.1	0.2	2.7	6.5	Adjacent to rail spur
30N12	100 ft North of Radial Conveyor Line	1.1	8.4	0.8	5.9	
30N13	100 ft North of Radial Conveyor Line	2.0	3.0	1.0	3.2	
30N14	100 ft North of Radial Conveyor Line	1.3	3.8	1.0	2.5	
30N15	100 ft North of Radial Conveyor Line	1.8	3.3	1.5	2.6	
30N19	100 ft North of Radial Conveyor Line	9.5	42.3	66.5	14.0	
30RC1	Radial Conveyor Line	0.8	6.1	0.6	2.8	Adjacent to rail spur
30RC2	Radial Conveyor Line	0.6	4.9	0.6	6.4	
30RC3	Radial Conveyor Line	3.4	30.7	0.9	5.6	
30RC4	Radial Conveyor Line	3.1	7.2	3.7	15.8	

TABLE 1
FIRST SAMPLING EVENT
SOIL SAMPLING ANALYTICAL RESULTS
Sept. 30, Oct.1 & Oct. 21, 1998
FORMER GULFPORT FERTILIZER PLANT
33RD STREET
GULFPORT, MISSISSIPPI

Sample Number	Sample Location	Sample Depth 2ft		Sample Depth 4ft		REMARKS
		Arsenic As (mg/kg)	Lead Pb (mg/kg)	Arsenic As (mg/kg)	Lead Pb (mg/kg)	
30RC5	Radial Conveyor Line	26.8	20.3	1.8	4.2	
31S11	100 ft South of Radial Conveyor Line	2.4	8.3	0.4	5.2	Adjacent to rail spur
31S12	100 ft South of Radial Conveyor Line	0.2	7.0	2.6	8.3	
31S13	100 ft South of Radial Conveyor Line	10.2	4.9	2.6	4.1	
31S14	100 ft South of Radial Conveyor Line	106	4.9	6.7	1.8	
31S15	100 ft South of Radial Conveyor Line	42.7	17.0	23.4	3.6	
31S21	200 ft South of Radial Conveyor Line	3.8	12.8	2.3	6.7	Adjacent to rail spur
31S22	200 ft South of Radial Conveyor Line	<0.1	6.2	0.1	4.8	
31S23	200 ft South of Radial Conveyor Line	2.2	3.6	0.8	2.9	
31S24	200 ft South of Radial Conveyor Line	35.7	306	4.8	0.8	
31S25	200 ft South of Radial Conveyor Line	21.2	21.3	1.3	2.9	
31S31	300 ft South of Radial Conveyor Line	1.9	3.0	0.2	3.0	Adjacent to rail spur
31S32	300 ft South of Radial Conveyor Line	0.5	3.4	0.8	4.8	
31S33	300 ft South of Radial Conveyor Line	8.6	55.1	1.4	1.8	
31S34	300 ft South of Radial Conveyor Line	0.6	1.6	0.5	3.5	
31S35	300 ft South of Radial Conveyor Line	19.0	5.3	1.7	1.2	
31S39	300 ft South of Radial Conveyor Line	7.1	6.2	1.4	1.7	
31S41	400 ft South of Radial Conveyor Line	1.9	3.5	0.4	0.6	Adjacent to rail spur
31S42	400 ft South of Radial Conveyor Line	2.4	5.8	0.9	1.9	
31S43	400 ft South of Radial Conveyor Line	<0.1	4.5	0.9	6.1	
31S51	500 ft South of Radial Conveyor Line	57.6	70.5	74.5	1241	Adjacent to rail spur
21S51	500 ft South of Radial Conveyor Line	-	-	1.2	27.5	5 ft West of 31S51
12S51	500 ft South of Radial Conveyor Line	1.5	10	0.9	1.9	25 ft East of 31S51
31S52	500 ft South of Radial Conveyor Line	0.7	3.2	0.2	2.4	
31S53	500 ft South of Radial Conveyor Line	1.4	0.5	0.4	0.4	
31S61	600 ft South of Radial Conveyor Line	10.4	539	0.4	4.0	Adjacent to rail spur
21S61	600 ft South of Radial Conveyor Line	-	-	1.5	2.6	5 ft West of 31S61
12S61	600 ft South of Radial Conveyor Line	2.2	5.9	0.76	<0.06	25 ft East of 31S61

TABLE 1
FIRST SAMPLING EVENT
SOIL SAMPLING ANALYTICAL RESULTS
Sept. 30, Oct.1 & Oct. 21, 1998
FORMER GULFPORT FERTILIZER PLANT
33RD STREET
GULFPORT, MISSISSIPPI

Sample Number	Sample Location	Sample Depth 2ft		Sample Depth 4ft		REMARKS
		Arsenic As (mg/kg)	Lead Pb (mg/kg)	Arsenic As (mg/kg)	Lead Pb (mg/kg)	
31S62	600 ft South of Radial Conveyor Line	0.5	6.5	0.9	2.5	
31S62		1.9	2.3	-	-	Field Duplicate
31S63	600 ft South of Radial Conveyor Line	1.5	3.2	0.8	0.4	
31S79	700 ft South of Radial Conveyor Line	1.8	43.9	1.1	1.6	Southern portion of property

See Appendix for actual laboratory analysis sheets.

Method References:
(1) Arsenic (As), SW 846, 6010A – ICP
(2) Lead (Pb), SW846, 6010A - ICP
NA : Not Analyzed.
ND : Not detected at a value greater than reporting limit.
< : less than
(mg/kg) : milligrams per kilogram (ppm)
ppm : parts per million

NOTES:
1. Sample 31S79 is located in the south half of the property.
2. Re-sampled west of the "hot spot" near the railroad track on October21, 1998, Sample No. 21S51 and 21S61.
3. Re-sampled east of the "hot spot" near railroad track on January 21, 1999, Sample No. 12S51 and 12S61.

TABLE 2
SECOND SAMPLING EVENT
NORTHERN HALF
SOIL SAMPLING ANALYTICAL RESULTS
July 19, July 23, 1999
FORMER GULFPORT FERTILIZER PLANT
33RD STREET
GULFPORT, MISSISSIPPI

Sample Number	Sample Location	Sample Depth 2ft		Sample Depth 4ft		REMARKS
		Arsenic As (mg/kg)	Lead Pb (mg/kg)	Arsenic As (mg/kg)	Lead Pb (mg/kg)	
N40	400 ft North of Radial Conveyor Line	0.11	0.79	0.05	1.50	
N20	100 ft North of Radial Conveyor Line	12.4	98.0	0.39	4.35	
N16	100 ft North of Radial Conveyor Line	0.65	672	0.24	44.6	
N17	100 ft North of Radial Conveyor Line	<0.07	3.45	<0.08	<0.6	
N18	100 ft North of Radial Conveyor Line	13.2	298	-	-	
RC6	Radial Conveyor Line	691	5982	0.29	9.50	
RC7	Radial Conveyor Line	78.1	5280	34.9	8.74	
RC8	Radial Conveyor Line	17.4	62.7	1.10	5.25	
RC9	Radial Conveyor Line	145	474	8.11	26.9	
RC10	Radial Conveyor Line	127	348	175	22.8	
S16	100 ft South of Radial Conveyor Line	90.4	291	18.4	9.69	
S17	100 ft South of Radial Conveyor Line	0.69	11.6	3.57	11.1	
S18	100 ft South of Radial Conveyor Line	6.06	640	29.0	3657	
S19	100 ft South of Radial Conveyor Line	45.0	1507	1.88	378	
S20	100 ft South of Radial Conveyor Line	12.6	5.24	<0.1	2.73	
S26	200 ft South of Radial Conveyor Line	0.28	<0.2	5.25	<0.2	
S27	200 ft South of Radial Conveyor Line	1.64	15.12	1.67	3.08	
S28	200 ft South of Radial Conveyor Line	1.23	5.76	1.08	<0.2	
S29	200 ft South of Radial Conveyor Line	3.93	2.59	2.49	4.00	
S30	200 ft South of Radial Conveyor Line	0.74	4.50	1.24	2.74	
S34	300 ft South of Radial Conveyor Line	0.39	0.91	0.18	0.67	
S36	300 ft South of Radial Conveyor Line	0.98	7.83	1.52	1.41	
S37	300 ft South of Radial Conveyor Line	5.34	6.74	1.35	4.59	
S38	300 ft South of Radial Conveyor Line	0.50	2.34	0.31	2.09	
S40	300 ft South of Radial Conveyor Line	1.27	2.38	3.50	492	
S40	300 ft South of Radial Conveyor Line	1.60	3.52	3.57	<0.2	Field Duplicate
S44	400 ft South of Radial Conveyor Line	8.08	73.2	0.68	<0.2	

TABLE 2
SECOND SAMPLING EVENT
NORTHERN HALF
SOIL SAMPLING ANALYTICAL RESULTS
July 19, July 23, 1999
FORMER GULFPORT FERTILIZER PLANT
33RD STREET
GULFPORT, MISSISSIPPI

Sample Number	Sample Location	Sample Depth 2ft		Sample Depth 4ft		REMARKS
		Arsenic As (mg/kg)	Lead Pb (mg/kg)	Arsenic As (mg/kg)	Lead Pb (mg/kg)	
S45	400 ft South of Radial Conveyor Line	4.24	303	23.6	72.2	
S46	400 ft South of Radial Conveyor Line	2.98	183	0.77	3.20	
S47	400 ft South of Radial Conveyor Line	0.69	43.0	0.23	2.55	
S48	400 ft South of Radial Conveyor Line	0.55	45.0	0.58	4.69	
S49	400 ft South of Radial Conveyor Line	1.19	4.47	0.32	4.51	
S50	400 ft South of Radial Conveyor Line	702	597	113	12.6	
S54	500 ft South of Radial Conveyor Line	<0.05	2.58	<0.05	3.70	
S55	500 ft South of Radial Conveyor Line	0.07	4.02	<0.05	2.25	
S55	500ft South of Radial Conveyor Line	0.05	4.58	<0.05	2.82	Field Duplicate
S56	500 ft South of Radial Conveyor Line	0.44	4.45	<0.05	0.80	
S57	500 ft South of Radial Conveyor Line	1.05	<0.2	<0.05	7.89	
S58	500 ft South of Radial Conveyor Line	3.09	32.1	0.65	2.79	
S59	500 ft South of Radial Conveyor Line	0.40	6.90	<0.05	1.72	
S60	500 ft South of Radial Conveyor Line	0.84	5.74	0.42	7.25	
T450N	50 ft North of Test Pit 4	21.3	147			Covington Test Pit
T450S	50 ft South of Test Pit 4	6.99	40.9	4.53	64.4	Covington Test Pit
T450E	50 ft East of Test Pit 4	11.7	1076	0.22	780	Covington Test Pit
T4100E	100 ft East of Test Pit 4	0.69	298	14.3	23.4	Covington Test Pit
T5	Test Pit 5	47.2	28.6	242	28.1	Covington Test Pit
T550N	50 ft North of Test Pit 5	359	226	146	703	Covington Test Pit
T5100E	100 ft East of Test Pit 5	<0.1	293	0.37	3.50	Covington Test Pit
T7100E	100 ft East of Test Pit 7	<0.1	2.86	0.20	11.6	Covington Test Pit
T9100W	100 ft West of Test Pit 9	0.52	32.7	1.74	3.56	Covington Test Pit

TABLE 2
SECOND SAMPLING EVENT
NORTHERN HALF
SOIL SAMPLING ANALYTICAL RESULTS
July 19, July 23, 1999
FORMER GULFPORT FERTILIZER PLANT
33RD STREET
GULFPORT, MISSISSIPPI

Sample Number	Sample Location	Sample Depth 2ft		Sample Depth 4ft		REMARKS
		Arsenic As (mg/kg)	Lead Pb (mg/kg)	Arsenic As (mg/kg)	Lead Pb (mg/kg)	

See Appendix for actual laboratory analysis sheets.

Method References:
(1) Arsenic (As), SW 846, 6010A – ICP
(2) Lead (Pb), SW846, 6010A - ICP
NA : Not Analyzed.
ND : Not detected at a value greater than reporting limit.
< : less than
(mg/kg) : milligrams per kilogram (ppm)
ppm : parts per million

NOTES:
1. Results of laboratory duplicate samples performed for quality control purposes are reported in Appendix "A", Laboratory Analytical Results, Report of Analyses.
2. Discrete (@2 ft and 4 ft) samples, identified with a "T" and noted under remarks as "Covington Test Pit", were collected during this sampling event in the approximate location of the previous limited Phase II Site Assessment exploratory test pits.

TABLE 3
SECOND SAMPLING EVENT
SOUTHERN HALF
SOIL SAMPLING ANALYTICAL RESULTS
July 23, 1999
FORMER GULFPORT FERTILIZER PLANT
33RD STREET
GULFPORT, MISSISSIPPI

Sample Number	Sample Location	Sample Depth 2ft		Sample Depth 4ft		REMARKS
		Arsenic As (mg/kg)	Lead Pb (mg/kg)	Arsenic As (mg/kg)	Lead Pb (mg/kg)	
S71	700 ft South of Radial Conveyor Line	<0.05	0.98	-	-	
S72	700 ft South of Radial Conveyor Line	<0.05	63.4	<0.05	8.34	
S73	700 ft South of Radial Conveyor Line	0.20	0.72	<0.05	0.25	
S74	700 ft South of Radial Conveyor Line	<0.05	0.78	<0.05	0.60	
S75	700 ft South of Radial Conveyor Line	<0.05	2.00	<0.05	2.92	
S75	" " " " "	<0.05	0.83	-	-	Field Duplicate
S76	700 ft South of Radial Conveyor Line	0.60	1.80	<0.05	0.95	
S77	700 ft South of Radial Conveyor Line	0.07	1.95	<0.05	1.11	
S78	700 ft South of Radial Conveyor Line	0.21	4.05	<0.05	2.94	
S80	700 ft South of Radial Conveyor Line	<0.05	2.82	1.02	3.92	
S92	900 ft South of Radial Conveyor Line	0.39	3.61	<0.05	1.28	
S94	900 ft South of Radial Conveyor Line	<0.05	1.99	<0.05	1.07	
S96	900 ft South of Radial Conveyor Line	0.19	0.58	<0.05	0.65	
S98	900 ft South of Radial Conveyor Line	0.11	<0.20	0.06	0.57	
S98	" " " " "	<0.05	4.29	-	-	Field Duplicate
S910	900 ft South of Radial Conveyor Line	0.28	2.95	<0.05	0.56	
S112	1100 ft South Radial Conveyor Line	0.10	2.01	<0.05	1.07	
S112	" " " " "	<0.05	2.35	-	-	Field Duplicate
S114	1100 ft South Radial Conveyor Line	<0.05	1.79	0.07	0.72	
S116		0.62	2.19	<0.05	1.04	
S118	1100 ft South Radial Conveyor Line	0.20	13.1	0.21	5.94	
S1110	1100 ft South Radial Conveyor Line	<0.05	1.76	<0.05	2.51	
S122	1200 ft South Radial Conveyor Line	<0.05	1.39	<0.05	<0.2	
S124	1200 ft South Radial Conveyor Line	<0.05	0.44	<0.05	1.13	
S126	1200 ft South Radial Conveyor Line	0.40	6.23	0.24	1.97	
S128	1200 ft South Radial Conveyor Line	<0.05	0.32	-	-	
S128	" " " " "	<0.05	2.07	-	-	Field Duplicate
S1210	1200 ft South Radial Conveyor Line	0.22	<0.2	0.24	3.87	

TABLE 3
SECOND SAMPLING EVENT
SOUTHERN HALF
SOIL SAMPLING ANALYTICAL RESULTS
July 23, 1999
FORMER GULFPORT FERTILIZER PLANT
33RD STREET
GULFPORT, MISSISSIPPI

Sample Number	Sample Location	Sample Depth 2ft		Sample Depth 4ft		REMARKS
		Arsenic As (mg/kg)	Lead Pb (mg/kg)	Arsenic As (mg/kg)	Lead Pb (mg/kg)	

See Appendix for actual laboratory analysis sheets.

Method References:
(1) Arsenic (As), SW 846, 6010A – ICP
(2) Lead (Pb), SW846, 6010A - ICP
NA : Not Analyzed.
ND : Not detected at a value greater than reporting limit.
< : less than
(mg/kg) : milligrams per kilogram (ppm)
ppm : parts per million

NOTES:
1. Results of laboratory duplicate samples performed for quality control purposes are reported in Appendix "A", Laboratory Analytical Results, Report of Analyses.

TABLE 4
SECOND SAMPLING EVENT
NORTHERN HALF
SOIL LEACHABILITY ANALYSIS
July 19, July 23, 1999
FORMER GULFPORT FERTILIZER PLANT
33RD STREET
GULFPORT, MISSISSIPPI

Sample Number	Sample Location	Total Metals		TCLP		REMARKS
		Arsenic As (mg/kg)	Lead Pb (mg/kg)	Arsenic As (mg/l)	Lead Pb (mg/l)	
Maximum Concentration of Contaminant for Toxicity Characteristic (mg/l)				5.0	5.0	
RC6 - 2'	Radial Conveyor Line	691	5982	<0.1	0.43	
RC7 – 2'	Radial Conveyor Line	78.1	5280	<0.1	0.46	
S18 – 4'	100 ft South of Radial Conveyor Line	29.0	3657	<0.1	27.7	Pb exceeds TCLP Regulatory Level
S19 – 2'	100 ft South of Radial Conveyor Line	45.0	1507	<0.1	7.8	Pb exceeds TCLP Regulatory Level
S50 – 2'	400 ft South of Radial Conveyor Line	**702**	**597**	0.29	5	

See Appendix for actual laboratory analysis sheets.

Method References:
(1) Arsenic (As), SW 846, 6010A – ICP
(2) Lead (Pb), SW846, 6010A – ICP
(3) TCLP, SW 846, Sec. 1311

TCLP : Toxicity Characteristics Leachate Precedure
NA : Not Analyzed.
ND : Not detected at a value greater than reporting limit.
< : less than
(mg/kg) : milligrams per kilogram (ppm)
(mg/l) : milligrams per liter (ppm)
ppm : parts per million

TABLE 5
ARSENIC (As) BACKGROUND CONCENTRATIONS
@ 2-FOOT DEPTH INTERVAL
Shapiro Wilk W Test
FORMER GULFPORT FERTILIZER PLANT SITE
33RD STREET, GULFPORT, MISSISSIPPI

BACKGROUND SAMPLES		
n	Number	Results (mg/kg)
1	30N33	0.6
2	30N34	0.9
3	30RC1	0.8
4	31N38	0.5
5	N40	0.11
6	S71	<0.05
7	S910	0.28
8	S122	<0.05
9	S124	<0.05
10	S128	<0.05
11	S1210	0.22
12	RC10	127

SHAPIRO-WILK TEST FOR NORMAL DISTRIBUTION				
X(i)	X(n-i=1)	X(n-i+1)-X(i)	a(n-i+1)	b(i)
0.025	0.9	0.875	0.5601	0.4901
0.025	0.8	0.775	0.3315	0.2569
0.025	0.6	0.575	0.2260	0.1300
0.025	0.5	0.475	0.1429	0.0679
0.11	0.28	0.170	0.0695	0.0118
0.22	0.22	0.000	0.0000	0.0000
0.28	0.11	-0.170		
0.5	0.025	-0.475		
0.6	0.025	-0.575		
0.8	0.025	-0.775		
0.9	0.025	-0.875		

W	=	The Shapiro-Wilk Test Statistic	Average	=	0.319
b(i)	=	(Xni+1-Xi) x a(ni=1)	SD	=	0.311
b	=	Eb(i)	n	=	11
SD	=	Standard Deviation	b	=	0.9566
n	=	Number of Samples	*W*	=	0.949
a(ni+1)	=	Coefficients for *W* normality test	*W(0.5)*	=	0.850
W(0.05)	=	Shapiro-Wilk critical value			
			Upper Background Limit	=	**1.25 mg/kg**

$$W = \left| \frac{b}{SD\sqrt{n-1}} \right|^2$$

Statistical References:

(1) Determination of Background Concentrations of Inorganics in Soils and Sediments at Hazardous Sites, USEPA Engineering Forum Issue, R.P. Breckenridge and A.B. Crockett, December 1995.
(2) Coefficients a(i) and *W* Test for Normality, Shapiro and Wilk, 1965.

Notes:

1 Samples were analized for total metals with results reported in milligrams per kilogram (mg/kg).
2 Samples 30N33, 30N34, 31N38 and 30RC1 were collected as part of previous investigation.
3 Samples N40, S71, S910, S122, S124, S128, S1210 and RC10 were collected as part of the most recent sampling activities.
4 Background sample RC10 was eliminated from analysis due to the elevated level of arsenic found.
5 Calculated *W* value of data set is greater than Shapiro-Wilk critical value, *W(0.05)*, therefore the data is considered normally distributed.
6 Upper background is based upon mean background concentration plus three standard deviations.

TABLE 6
ARSENIC (As) BACKGROUND CONCENTRATIONS
NORTHER HALF
@ 2-FOOT DEPTH INTERVAL
Shapiro Wilk W Test
FORMER GULFPORT FERTILIZER PLANT SITE
33RD STREET, GULFPORT, MISSISSIPPI

PERIMETER SAMPLES		
n	Number	Results (mg/kg)
1	30RC1	0.8
2	30N11	0.1
3	30N21	0.6
4	30N31	2.0
5	30N32	6.6
6	30N33	0.6
7	30N34	0.9
8	30N35	0.6
9	31N36	1.5
10	31N37	4.5
11	31N38	0.5
12	31N39	1.6
13	N40	0.11
14	N20	12.4
15	RC10	127
16	S20	12.6
17	S30	0.74
18	S40	1.60
19	S50	702
20	S60	0.84
33	31S61	10.4
34	31S51	57.6
35	31S41	1.9
36	31S31	1.9
37	31S21	3.8
38	31S11	2.4

SHAPIRO-WILK TEST FOR NORMAL DISTRIBUTION				
X(i)	X(n-i=1)	X(n-i+1)-X(i)	a(n-i+1)	b(i)
0.1	6.6	6.500	0.4734	3.0771
0.11	4.5	4.390	0.3211	1.4096
0.5	3.8	3.300	0.2565	0.8465
0.6	2.4	1.800	0.2085	0.3753
0.6	2.0	1.400	0.1686	0.2360
0.6	1.9	1.300	0.1334	0.1734
0.74	1.9	1.160	0.1013	0.1175
0.8	1.6	0.800	0.0711	0.0569
0.84	1.60	0.760	0.0422	0.0321
0.9	1.5	0.600	0.0140	0.0084
1.5	0.9	-0.600		
1.6	0.84	-0.760		
1.60	0.8	-0.800		
1.9	0.74	-1.160		
1.9	0.6	-1.300		
2.0	0.6	-1.400		
2.4	0.6	-1.800		
3.8	0.5	-3.300		
4.5	0.11	-4.390		
6.6	0.1	-6.500		

W	=	The Shapiro-Wilk Test Statistic	Average	=	1.680
b(I)	=	(Xni+1-Xi) x a(ni=1)	SD	=	1.838
b	=	Eb(I)	n	=	20
SD	=	Standard Deviation	b	=	6.3328
n	=	Number of Samples	*W*	=	0.625
a(ni+1)	=	Coefficients for *W* normality test	*W(0.5)*	=	0.905
W(0.05)	=	Shapiro-Wilk critical value			
			Upper Background Limit	=	**7.19 mg/kg**

$$W = \left| \frac{b}{SD\sqrt{n-1}} \right|^2$$

TABLE 6 (Continued)
ARSENIC (As) BACKGROUND CONCENTRATIONS
NORTHER HALF
@ 2-FOOT DEPTH INTERVAL
Shapiro Wilk W Test
FORMER GULFPORT FERTILIZER PLANT SITE
33RD STREET, GULFPORT, MISSISSIPPI

Statistical References:

(1) Determination of Background Concentrations of Inorganics in Soils and Sediments at Hazardous Sites, USEPA Engineering Forum Issue, R.P. Breckenridge and A.B. Crockett, December 1995.
(2) Coefficients a(I) and *W* Test for Normality, Shapiro and Wilk, 1965.

Notes:

1 Samples were analized for total metals with results reported in milligrams per kilogram (mg/kg).
2 Samples 30RC1, 30N11, 30N21, 30N31, 30N32, 30N33, 30N34, 30N35, 31N36, 31N37, 31N38, 31N39, 31S61, 31S51, 31S41, 31S31, 31S21 and 31S11 were collected as part of previous investigation.
3 Samples N40, N20, RC10, S20, S40, S50 and S60 were collected as part of the most recent sampling activities.
4 Perimeter samples **RC10**, **S50** and **31S51** were eliminated from analysis due to the elevated level of. arsenic found.
5 Perimeter samples **N20**, **S20** and **31S61** were eliminated from analysis due to their geographic proximity to areas with elevated levels of arsenic.
6 **Calculated *W* value of data set is less than Shapiro-Wilk critical value, *W(0.05)*, therefore the data is not considered normaliy distributed.**
7 Upper background is based upon mean background concentration plus three standard deviations.

TABLE 7
ARSENIC (As) BACKGROUND CONCENTRATIONS
NORTHER HALF
@ 2-FOOT DEPTH INTERVAL
Shapiro Wilk W Test
FORMER GULFPORT FERTILIZER PLANT SITE
33RD STREET, GULFPORT, MISSISSIPPI

PERIMETER SAMPLES		
n	Number	Results (mg/kg)
1	30RC1	0.8
2	30N11	0.1
3	30N21	0.6
4	30N31	2.0
5	30N32	6.6
6	30N33	0.6
7	30N34	0.9
8	30N35	0.6
9	31N36	1.5
10	31N37	4.5
11	31N38	0.5
12	31N39	1.6
13	N40	0.11
14	N20	12.4
15	RC10	127
16	S20	12.6
17	S30	0.74
18	S40	1.60
19	S50	702
20	S60	0.84
33	31S61	10.4
34	31S51	57.6
35	31S41	1.9
36	31S31	1.9
37	31S21	3.8
38	31S11	2.4

SHAPIRO-WILK TEST FOR NORMAL DISTRIBUTION				
X(i)	X(n-i=1)	X(n-i+1)-X(i)	a(n-i+1)	b(i)
0.5	3.8	3.300	0.5056	1.6685
0.6	2.4	1.800	0.3290	0.5922
0.6	2.0	1.400	0.2521	0.3529
0.6	1.9	1.300	0.1939	0.2521
0.74	1.9	1.160	0.1447	0.1679
0.8	1.6	0.800	0.1005	0.0804
0.84	1.60	0.760	0.0593	0.0451
0.9	1.5	0.600	0.0196	0.0118
1.5	0.9	-0.600		
1.6	0.84	-0.760		
1.60	0.8	-0.800		
1.9	0.74	-1.160		
1.9	0.6	-1.300		
2.0	0.6	-1.400		
2.4	0.6	-1.800		
3.8	0.5	-3.300		

W	=	The Shapiro-Wilk Test Statistic	Average	=	1.393
b(i)	=	(Xni+1-Xi) x a(ni=1)	SD	=	0.810
b	=	Eb(i)	n	=	16
SD	=	Standard Deviation	b	=	3.1708
n	=	Number of Samples	*W*	=	1.022
a(ni+1)	=	Coefficients for *W* normality test	*W(0.5)*	=	0.887
W(0.05)	=	Shapiro-Wilk critical value			
			Upper Background Limit	=	**3.82 mg/kg**

$$W = \left| \frac{b}{SD\sqrt{n-1}} \right|^2$$

TABLE 7 (Continued)
ARSENIC (As) BACKGROUND CONCENTRATIONS
NORTHER HALF
@ 2-FOOT DEPTH INTERVAL
Shapiro Wilk W Test
FORMER GULFPORT FERTILIZER PLANT SITE
33RD STREET, GULFPORT, MISSISSIPPI

Statistical References:

(1) Determination of Background Concentrations of Inorganics in Soils and Sediments at Hazardous Sites, USEPA Engineering Forum Issue, R.P. Breckenridge and A.B. Crockett, December 1995.
(2) Coefficients a(I) and *W* Test for Normality, Shapiro and Wilk, 1965.

Notes:

1 Samples were analized for total metals with results reported in milligrams per kilogram (mg/kg).
2 Samples 30RC1, 30N11, 30N21, 30N31, 30N32, 30N33, 30N34, 30N35, 31N36, 31N37, 31N38, 31N39, 31S61, 31S51, 31S41, 31S31, 31S21 and 31S11 were collected as part of previous investigation.
3 Samples N40, N20, RC10, S20, S40, S50 and S60 were collected as part of the most recent sampling activities.
4 Perimeter samples **RC10**, **S50** and **31S51** were eliminated from analysis due to the elevated level of. arsenic found.
5 Perimeter samples **N20**, **S20** and **31S61** were eliminated from analysis due to their geographic proximity to areas with elevated levels of arsenic.
6 Perimeter samples **30N11**, **30N32**, **31N37** and **N40** were eliminated from the data set in Table 6, since they exceed the average plus standard deviation of the data set.
7 Calculated *W* value of data set is greater than Shapiro-Wilk critical value, *W(0.05)*, therefore the data is considered normally distributed.
8 Upper background is based upon mean background concentration plus three standard deviations.

TABLE 8

ARSENIC (As) BACKGROUND CONCENTRATIONS

@ 4-FOOT DEPTH INTERVAL

Shapiro Wilk W Test

FORMER GULFPORT FERTILIZER PLANT SITE

33RD STREET, GULFPORT, MISSISSIPPI

BACKGROUND SAMPLES		
n	Number	Results (mg/kg)
1	30N33	0.5
2	30N34	<0.1
3	30RC1	0.6
4	31N38	1.8
5	N40	0.05
6	S71	-
7	S910	<0.05
8	S122	<0.05
9	S124	<0.05
10	S128	-
11	S1210	0.22
12	RC10	175

SHAPIRO-WILK TEST FOR NORMAL DISTRIBUTION				
X(i)	X(n-i=1)	X(n-i+1)-X(i)	a(n-i+1)	b(i)
0.0125	1.8	1.7875	0.5888	1.0525
0.0125	0.6	0.5875	0.3244	0.1906
0.0125	0.5	0.4875	0.1976	0.0963
0.025	0.22	0.195	0.0947	0.0185
0.05	0.05	0.000	0.0000	0.0000
0.22	0.025	-0.195		
0.5	0.0125	-0.488		
0.6	0.0125	-0.5875		
1.8	0.0125	-1.7875		

W	=	The Shapiro-Wilk Test Statistic	Average	=	0.359
b(I)	=	(Xni+1-Xi) x a(ni=1)	SD	=	0.624
b	=	Eb(I)	n	=	9
SD	=	Standard Deviation	b	=	1.3579
n	=	Number of Samples	*W*	=	0.592
a(ni+1)	=	Coefficients for *W* normality test	*W(0.5)*	=	0.829
W(0.05)	=	Shapiro-Wilk critical value			
			Upper Background Limit	=	**2.23 mg/kg**

$$W = \left| \frac{b}{SD\sqrt{n-1}} \right|^2$$

Statistical References:

(1) Determination of Background Concentrations of Inorganics in Soils and Sediments at Hazardous Sites, USEPA Engineering Forum Issue, R.P. Breckenridge and A.B. Crockett, December 1995.

(2) Coefficients a(I) and *W* Test for Normality, Shapiro and Wilk, 1965.

Notes:

1 Samples were analized for total metals with results reported in milligrams per kilogram (mg/kg).

2 Samples 30N33, 30N34, 31N38 and 30RC1 were collected as part of previous investigation.

3 Samples N40, S910, S122, S124, S1210 and RC10 were collected as part of the most recent sampling activities.

4 The moisture content of the soil in sample locations S71 and S128 prevented the collection of samples for analysis at 4-foot depth.

5 Background sample RC10 was eliminated from analysis due to the elevated level of arsenic found.

6 More than 50 percent of the background analytical values are below the detection limit (DL), therefore the Continuity Correction procedure *(0.25 x DL)* with the t-test (EPA 1983) was used for DL values.

7 **Calculated *W* value of data set is less than Shapiro-Wilk critical value, *W(0.05)*, therefore the data is not considered normally distributed.**

8 Upper background is based upon mean background concentration plus three standard deviations.

TABLE 9
ARSENIC (As) BACKGROUND CONCENTRATIONS
@ 4-FOOT DEPTH INTERVAL
Shapiro Wilk W Test
FORMER GULFPORT FERTILIZER PLANT SITE
33RD STREET, GULFPORT, MISSISSIPPI

BACKGROUND SAMPLES		
n	Number	Results (mg/kg)
1	30N33	0.5
2	30N34	<0.1
3	30RC1	0.6
4	31N38	1.8
5	N40	0.05
6	S71	-
7	S910	<0.05
8	S122	<0.05
9	S124	<0.05
10	S128	-
11	S1210	0.22
12	RC10	175

SHAPIRO-WILK TEST FOR NORMAL DISTRIBUTION				
X(i)	X(n-i=1)	X(n-i+1)-X(i)	a(n-i+1)	b(i)
0.0125	0.6	0.5875	0.6052	0.3556
0.0125	0.5	0.4875	0.3164	0.1542
0.0125	0.22	0.2075	0.1743	0.0362
0.025	0.05	0.025	0.0561	0.0014
0.05	0.025	-0.025		
0.22	0.0125	-0.2075		
0.5	0.0125	-0.488		
0.6	0.0125	-0.5875		

W	=	The Shapiro-Wilk Test Statistic	Average	=	0.179
b(i)	=	(Xni+1-Xi) x a(ni=1)	SD	=	0.223
b	=	Eb(i)	n	=	8
SD	=	Standard Deviation	b	=	0.5474
n	=	Number of Samples	*W*	=	0.860
a(ni+1)	=	Coefficients for *W* normality test	*W(0.5)*	=	0.818
W(0.05)	=	Shapiro-Wilk critical value			
			Upper Background Limit	=	**0.85 mg/kg**

$$W = \left| \frac{b}{SD\sqrt{n-1}} \right|^2$$

Statistical References:

(1) Determination of Background Concentrations of Inorganics in Soils and Sediments at Hazardous Sites, USEPA Engineering Forum Issue, R.P. Breckenridge and A.B. Crockett, December 1995.
(2) Coefficients a(i) and *W* Test for Normality, Shapiro and Wilk, 1965.

Notes:

1 Samples were analized for total metals with results reported in milligrams per kilogram (mg/kg).
2 Samples 30N33, 30N34, 31N38 and 30RC1 were collected as part of previous investigation.
3 Samples N40, S910, S122, S124, S1210 and RC10 were collected as part of the most recent sampling activities.
4 The moisture content of the soil in sample locations S71 and S128 prevented the collection of samples for analysis at 4-foot depth.
5 Background sample RC10 was eliminated from analysis due to the elevated level of arsenic found.
6 More than 50 percent of the background analytical values are below the detection limit (DL), therefore the Continuity Correction procedure *(0.25 x DL)* with the t-test (EPA 1983) was used for DL values.
7 Background sample, 31N38, was eliminated from data set in Table 8 to test for normality, since it exceeds the average plus the Standard deviation of the data set.
8 Calculated *W* value of data set is greater than Shapiro-Wilk critical value, *W(0.05)*, therefore the data is considered normally distributed.
9 Upper background is based upon mean background concentration plus three standard deviations.

TABLE 10
ARSENIC (As) BACKGROUND CONCENTRATIONS
NORTHER HALF
@ 4-FOOT DEPTH INTERVAL
Shapiro Wilk W Test
FORMER GULFPORT FERTILIZER PLANT SITE
33RD STREET, GULFPORT, MISSISSIPPI

PERIMETER SAMPLES			SHAPIRO-WILK TEST FOR NORMAL DISTRIBUTION				
n	Number	Results (mg/kg)	X(i)	X(n-i=1)	X(n-i+1)-X(i)	a(n-i+1)	b(i)
1	30RC1	0.6	0.05	3.57	3.520	0.4542	1.5988
2	30N11	2.7	0.05	2.7	2.650	0.3126	0.8284
3	30N21	1.3	0.05	2.5	2.450	0.2563	0.6279
4	30N31	0.1	0.05	2.3	2.250	0.2139	0.4813
5	30N32	0.3	0.1	1.8	1.700	0.1787	0.3038
6	30N33	0.5	0.1	1.3	1.200	0.1480	0.1776
7	30N34	<0.1	0.2	1.24	1.040	0.1201	0.1249
8	30N35	2.5	0.3	0.6	0.300	0.0941	0.0282
9	31N36	0.3	0.3	0.5	0.200	0.0696	0.0139
10	31N37	0.1	0.39	0.42	0.030	0.0459	0.0014
11	31N38	1.8	0.4	0.4	0.000	0.0228	0.0000
12	31N39	<0.1	0.4	0.4	0.000	0.0000	0.0000
13	N40	0.05	0.4	0.4	0.000		
14	N20	0.39	0.42	0.39	-0.030		
15	RC10	175	0.5	0.3	-0.200		
16	S20	<0.1	0.6	0.3	-0.300		
17	S30	1.24	1.24	0.2	-1.040		
18	S40	3.57	1.3	0.1	-1.200		
19	S50	113	1.8	0.1	-1.700		
20	S60	0.42	2.3	0.05	-2.250		
33	31S61	0.4	2.5	0.05	-2.450		
34	31S51	74.5	2.7	0.05	-2.650		
35	31S41	0.4	3.57	0.05	-3.520		
36	31S31	0.2					
37	31S21	2.3					
38	31S11	0.4					

W	= The Shapiro-Wilk Test Statistic	Average	=	0.857	
b(I)	= (Xni+1-Xi) x a(ni=1)	SD	=	1.169	
b	= Eb(I)	n	=	23	
SD	= Standard Deviation	b	=	4.1862	
n	= Number of Samples	*W*	=	0.582	
a(ni+1)	= Coefficients for *W* normality test	*W(0.5)*	=	0.914	
W(0.05)	= Shapiro-Wilk critical value				
		Upper Background Limit	=	**4.37 mg/kg**	

$$W = \left| \frac{b}{SD\sqrt{n-1}} \right|^2$$

TABLE 10 (Continued)
ARSENIC (As) BACKGROUND CONCENTRATIONS
NORTHER HALF
@ 4-FOOT DEPTH INTERVAL
Shapiro Wilk W Test
FORMER GULFPORT FERTILIZER PLANT SITE
33RD STREET, GULFPORT, MISSISSIPPI

Statistical References:

(1) Determination of Background Concentrations of Inorganics in Soils and Sediments at Hazardous Sites, USEPA Engineering Forum Issue, R.P. Breckenridge and A.B. Crockett, December 1995.
(2) Coefficients a(I) and *W* Test for Normality, Shapiro and Wilk, 1965.

Notes:

1 Samples were analized for total metals with results reported in milligrams per kilogram (mg/kg).
2 Samples 30RC1, 30N11, 30N21, 30N31, 30N32, 30N33, 30N34, 30N35, 31N36, 31N37, 31N38, 31N39, 31S61, 31S51, 31S41, 31S31, 31S21 and 31S11 were collected as part of previous investigation.
3 Samples N40, N20, RC10, S20, S40, S50 and S60 were collected as part of the most recent sampling activities.
4 Perimeter samples **RC10**, **S50** and **31S51** were eliminated from analysis due to the elevated level of. arsenic found.
5 **Calculated *W* value of data set is less than Shapiro-Wilk critical value, *W(0.05)*, therefore the data is not considered normally distributed.**
6 Upper background is based upon mean background concentration plus three standard deviations.

TABLE 11
ARSENIC (As) BACKGROUND CONCENTRATIONS
NORTHER HALF
@ 4-FOOT DEPTH INTERVAL
Shapiro Wilk W Test
FORMER GULFPORT FERTILIZER PLANT SITE
33RD STREET, GULFPORT, MISSISSIPPI

PERIMETER SAMPLES			SHAPIRO-WILK TEST FOR NORMAL DISTRIBUTION				
n	Number	Results (mg/kg)	X(i)	X(n-i=1)	X(n-i+1)-X(i)	a(n-i+1)	b(i)
1	30RC1	0.6	0.3	2.7	2.400	0.5251	1.2602
2	30N11	2.7	0.39	2.5	2.110	0.3318	0.7001
3	30N21	1.3	0.4	2.3	1.900	0.2460	0.4674
4	30N31	0.1	0.4	1.8	1.400	0.1802	0.2523
5	30N32	0.3	0.4	1.3	0.900	0.1240	0.1116
6	30N33	0.5	0.42	1.24	0.820	0.0727	0.0596
7	30N34	<0.1	0.5	0.6	0.100	0.0240	0.0024
8	30N35	2.5	0.6	0.5	-0.100		
9	31N36	0.3	1.24	0.42	-0.820		
10	31N37	0.1	1.3	0.4	-0.900		
11	31N38	1.8	1.8	0.4	-1.400		
12	31N39	<0.1	2.3	0.4	-1.900		
13	N40	0.05	2.5	0.39	-2.110		
14	N20	0.39	2.7	0.3	-2.400		
15	RC10	175					
16	S20	<0.1					
17	S30	1.24					
18	S40	3.57					
19	S50	113					
20	S60	0.42					
33	31S61	0.4					
34	31S51	74.5					
35	31S41	0.4					
36	31S31	0.2					
37	31S21	2.3					
38	31S11	0.4					

W	=	The Shapiro-Wilk Test Statistic	Average	=	1.089	
b(i)	=	(Xni+1-Xi) x a(ni=1)	SD	=	0.758	
b	=	Eb(i)	n	=	14	
SD	=	Standard Deviation	b	=	2.8536	
n	=	Number of Samples	*W*	=	1.089	
a(ni+1)	=	Coefficients for *W* normality test	*W(0.5)*	=	0.874	
W(0.05)	=	Shapiro-Wilk critical value				
			Upper Background Limit	=	**3.36**	**mg/kg**

$$W = \left| \frac{b}{SD\sqrt{n-1}} \right|^2$$

TABLE 11 (Continued)
ARSENIC (As) BACKGROUND CONCENTRATIONS
NORTHER HALF
@ 4-FOOT DEPTH INTERVAL
Shapiro Wilk W Test
FORMER GULFPORT FERTILIZER PLANT SITE
33RD STREET, GULFPORT, MISSISSIPPI

Statistical References:

(1) Determination of Background Concentrations of Inorganics in Soils and Sediments at Hazardous Sites, USEPA Engineering Forum Issue, R.P. Breckenridge and A.B. Crockett, December 1995.
(2) Coefficients a(I) and *W* Test for Normality, Shapiro and Wilk, 1965.

Notes:

1 Samples were analized for total metals with results reported in milligrams per kilogram (mg/kg).
2 Samples 30RC1, 30N11, 30N21, 30N31, 30N32, 30N33, 30N34, 30N35, 31N36, 31N37, 31N38, 31N39, 31S61, 31S51, 31S41, 31S31, 31S21 and 31S11 were collected as part of previous investigation.
3 Samples N40, N20, RC10, S20, S40, S50 and S60 were collected as part of the most recent sampling activities.
4 Perimeter samples **RC10**, **S50** and **31S51** were eliminated from analysis due to the elevated level of. arsenic found.
5 Perimeter samples **30N31**, **30N34**, **31N36**, **31N37**, **31N39**, **N40**, **S20**, **S40**, and **31S31** were eliminated from the data set in Table 10, since they exceed the average plus standard deviation of the data set.
6 Calculated *W* value of data set is greater than Shapiro-Wilk critical value, *W(0.05)*, therefore the data is considered normally distributed.
7 Upper background is based upon mean background concentration plus three standard deviations.

TABLE 12
FIRST SAMPLING EVENT
GROUNDWATER SAMPLING ANALYTICAL RESULTS
Sept. 30, Oct. 1 & Oct. 21, 1998
FORMER GULFPORT FERTILIZER PLANT
33RD STREET
GULFPORT, MISSISSIPPI

Sample Number	Sample Location	Sample Parameters		REMARKS
		Arsenic As (µg/l)	Lead Pb (µg/l)	
30N31	300 ft North of Radial Conveyor Line	<5	<5	Geoprobe Groundwater sample, Adjacent to rail spur
31N34	300 ft North of Radial Conveyor Line	<5	<5	Geoprobe Groundwater sample
31N21	200 ft North of Radial Conveyor Line	<5	<5	Geoprobe Groundwater sample, Adjacent to rail spur
31N24	200 ft North of Radial Conveyor Line	<5	<5	Geoprobe Groundwater sample
31N12	100 ft North of Radial Conveyor Line	<5	<5	Geoprobe Groundwater sample
31N14	100 ft North of Radial Conveyor Line	<5	<5	Geoprobe Groundwater sample
31RC1	Radial Conveyor Line	<5	<5	Geoprobe Groundwater sample, Adjacent to rail spur
31RC4	Radial Conveyor Line	<5	<5	Geoprobe Groundwater sample
31S11	100 ft North of Radial Conveyor Line	<5	<5	Geoprobe Groundwater sample, Adjacent to rail spur
31S14	100 ft North of Radial Conveyor Line	<5	<5	Geoprobe Groundwater sample
31S21	200 ft North of Radial Conveyor Line	<5	<5	Geoprobe Groundwater sample, Adjacent to rail spur
31S24	200 ft North of Radial Conveyor Line	<5	<5	Geoprobe Groundwater sample
31S31	300 ft North of Radial Conveyor Line	<5	<5	Geoprobe Groundwater sample, Adjacent to rail spur
31S34	300 ft North of Radial Conveyor Line	<5	<5	Geoprobe Groundwater sample
31S41	400 ft North of Radial Conveyor Line	<5	<5	Geoprobe Groundwater sample, Adjacent to rail spur
31S51	500 ft North of Radial Conveyor Line	78.9	7.31	Geoprobe Groundwater sample, Adjacent to rail spur
21S51	500 ft North of Radial Conveyor Line	13	<5	Geoprobe Groundwater sample, 20 ft west of 31S51
31561	600 ft North of Radial Conveyor Line	<5	<5	Geoprobe Groundwater sample, Adjacent to rail spur

See Appendix for actual laboratory analysis sheets.

Method References:
(1) Arsenic (As), EPA 200.7-ICP
(2) Lead (Pb), EPA 200.7-ICP
NA : Not Analyzed.
ND : Not detected at a value greater than reporting limit.
< : Less than
(µg/l) : micrograms per liter (ppb).
ppb : Parts per billion

TABLE 13
SECOND SAMPLING EVENT
GROUNDWATER SAMPLING ANALYTICAL RESULTS
Sept. 30, Oct. 1 & Oct. 21, 1998
FORMER GULFPORT FERTILIZER PLANT
33RD STREET
GULFPORT, MISSISSIPPI

Sample Number	Sample Location	Sample Parameters			REMARKS
		Arsenic As (µg/l)	Lead Pb (µg/l)	Chromium Cr (µg/l)	
Drinking Water Maximum Contaminant Level (MCL)		0.05 ppm	0.015 ppm	0.1 ppm	
MW1-01U (Unfiltered)	Monitoring Well, MW-1	33	35		Pb exceeds MCL
MW1-01F (Filtered)	Monitoring Well, MW-1	28	37	15	Pb exceeds MCL

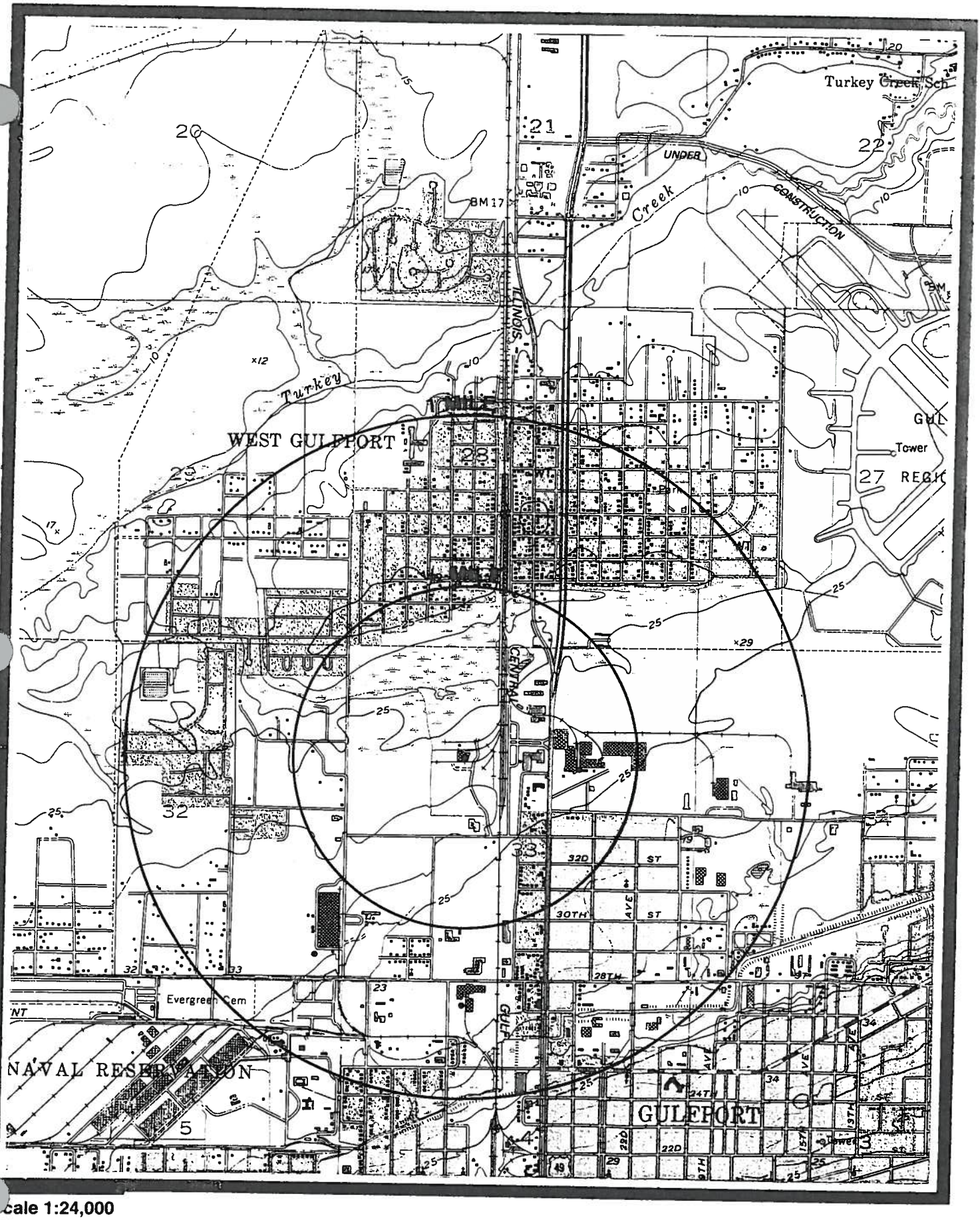
See Appendix for actual laboratory analysis sheets.

Method References:
(1) Arsenic (As), EPA 206.2-Furnance
(2) Lead (Pb), EPA 239.2-Furnace
(3) Chromium (Cr), EPA 218.2-Furnance

Minimum Detection Limits (MDLs) for Sampling parameters: <5 µg/l

NA : Not Analyzed.
ND : Not detected at a value greater than reporting limit.
< : Less than
(µg/l) : micrograms per liter (ppb).
ppb : Parts per billion
ppm : Parts per million

FIGURES



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APPENDICES

APPENDIX A

LABORATORY ANALYTICAL RESULTS

Micro-Methods Laboratory, Inc. Report of Analyses
Lab File # 176-BS-10-98
Lab File # 177-BS-10-98
Lab File #288-BS-10-98
Lab File #143-BS-02-99
Lab File #190-BS-07-99
Lab File #269-BS-07-99
Lab File #277-BS-07-99
Lab File #278-BS-08-99
Lab File #110-EM-08-99

MICRO-METHODS LABORATORY, INC.

ANALYTICAL SERVICE COMPANY

October 15, 1998

Butler Services
P. O. Box 1164
Pascagoula, MS 39567

ATTN: Louis Fortenberry

REPORT OF ANALYSES

The results of the analyses of the samples received date and description as shown, lab file #176-BS-10-98, are as attached.

If we can be of further assistance, please contact the office.

Sincerely,

Thomas J. Wilson, Sr.

TJW/dd

encl.

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #176-BS-10-98

GULFPORT FERTILIZER COMPANY
9/30/98
SOIL SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC mg/kg	LEAD mg/kg
30RC1-2	67327	0.8	6.1
30RC1-4	67328	0.6	2.8
30RC2-2	67329	0.6	4.9
30RC2-4	67330	0.6	6.4
30RC3-2	67331	3.4	30.7
30RC3-4	67332	0.9	5.6
30RC4-2	67333	3.1	7.2
30RC4-4	67334	3.7	15.8
30RC5-2	67335	26.8	20.3
30RC5-4	67336	1.8	4.2
30N11-2	67337	0.1	0.2
30N11-4	67338	2.7	6.5
30N12-2	67339	1.1	8.4
30N12-4	67340	0.8	5.9
30N13-2	67341	2.0	3.0
30N13-4	67342	1.0	3.2
30N14-2	67343	1.3	3.8
30N14-4	67344	1.0	2.5

METHODOLOGY
SW 846, 6010A - ICP

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #176-BS-10-98

GULFPORT FERTILIZER COMPANY
9/30/98
SOIL SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC mg/kg	LEAD mg/kg
30N15-2	67345	1.8	3.3
30N15-4	67346	1.5	2.6
30N21-2	67347	0.6	3.2
30N21-4	67348	1.3	4.8
30N22-2	67349	0.6	15.0
30N22-4	67350	3.6	6.0
30N23-2	67351	0.7	3.2
30N23-4	67352	0.4	0.2
30N24-2	67353	0.8	0.8
30N24-4	67354	2.5	22.8
30N25-2	67355	1.2	2.2
30N25-4	67356	1.4	1.1
30N31-2	67357	2.0	11.8
30N31-4	67358	0.1	0.2
30N32-2	67359	6.6	170
30N32-4	67360	0.3	5.2
30N33-2	67361	0.6	2.7
30N33-4	67362	0.5	5.1
30N34-2	67363	0.9	28.3

METHODOLOGY
SW 846, 6010A - ICP

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #176-BS-10-98

GULFPORT FERTILIZER COMPANY
9/30/98
SOIL SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC mg/kg	LEAD mg/kg
30N34-4	67364	<0.1	3.9
30N35-2	67365	0.6	2.4
30N35-4	67366	2.5	0.6

METHODOLOGY
SW 846, 6010A - ICP

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #176-BS-10-98

GULFPORT FERTILIZER COMPANY
9/30/98
WATER SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC µg/l	LEAD µg/l
30RC1	67367	<5	14.5
30RC4	67368	<5	9.3
30N11	67369	<5	22.5
30N14	67370	<5	63.3
30N21	67371	<5	41.4
30N24	67372	<5	21.5
30N31	67373	<5	6.1
30N34	67374	<5	36.6

METHODOLOGY
EPA 200.7-ICP

MICRO-METHODS, INC.
6500 SUNPLEX DRIVE
OCEAN SPRINGS, MS 39564

QA/QC METALS

TO: Butler Services

LAB FILE # 176-BS-10-98

	ARSENIC			LEAD		
MM#	Spiked with 50 µg conc. found	Calculated Conc. spl + 50	% REC.	Spiked with 50 µg conc. found	Calculated Conc. spl + 50	% REC.
67330	40.9	54.1	75.6	66	92	71.7
67337	30.9	51	60	70	77.6	90.2
67344	42.2	58.2	72.5	72	65.4	110
67351	42.1	53	79.4	52	66	78.8
67358	38.5	51	75.5	76	90.3	84.2
67365	44.3	52.8	83.9	48	63.6	75.5

MICRO-METHODS
LABORATORY, INC.

ANALYTICAL SERVICE COMPANY

October 15, 1998

Butler Services
P. O. Box 1164
Pascagoula, MS 39567

ATTN: Louis Fortenberry

REPORT OF ANALYSES

The results of the analyses of the samples received date and description as shown, lab file #177-BS-10-98, are as attached.

If we can be of further assistance, please contact the office.

Sincerely,

Thomas J. Wilson, Sr.

TJW/dd

encl.

MS 39564 (228) 875-6420 - FAX (228) 875-6423

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #177-BS-10-98

GULFPORT FERTILIZER COMPANY
10/1/98
SOIL SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC mg/kg	LEAD mg/kg
31S11-2	67532	2.4	8.3
31S11-4	67533	0.4	5.2
31S12-2	67534	0.2	7.0
31S12-4	67535	2.6	8.3
31S13-2	67536	10.2	4.9
31S13-4	67537	2.6	4.1
31S14-2	67538	106	4.9
31S14-4	67539	6.7	1.8
31S15-2	67540	42.7	17.0
31S15-4	67541	23.4	3.6
31S21-2	67542	3.8	12.8
31S21-4	67543	2.3	6.7
31S22-2	67544	<0.1	6.2
31S22-4	67545	0.1	4.8
31S23-2	67546	2.2	3.6
31S23-4	67547	0.8	2.9
31S24-2	67548	35.7	306
31S24-4	67549	4.8	0.8
31S25-2	67550	21.2	21.3

METHODOLOGY
SW 846, 6010A - ICP

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #177-BS-10-98

GULFPORT FERTILIZER COMPANY
10/1/98
SOIL SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC mg/kg	LEAD mg/kg
31S25-4	67551	1.3	2.9
31S31-2	67552	1.9	3.0
31S31-4	67553	0.2	3.0
31S32-2	67554	0.5	3.4
31S32-4	67555	0.8	4.8
31S33-2	67556	8.6	55.1
31S33-4	67558	1.4	1.8
31S34-2	67559	0.6	1.6
31S34-4	67560	0.5	3.5
31S35-2	67561	19.0	5.3
31S35-4	67562	1.7	1.2
31S41-2	67563	1.9	3.5
31S41-4	67564	0.4	0.6
31S42-2	67565	2.4	5.8
31S42-4	67566	0.9	1.9
31S43-2	67567	<0.1	4.5
31S43-4	67568	0.9	6.1

METHODOLOGY
SW 846, 6010A - ICP

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #177-BS-10-98

GULFPORT FERTILIZER COMPANY
10/1/98
SOIL SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC mg/kg	LEAD mg/kg
31S51-2	67569	57.6	70.5
31S51-4	67570	74.5	1241
31S52-2	67571	0.7	3.2
31S52-4	67572	0.2	2.4
31S53-2	67573	1.4	0.5
31S53-4	67574	0.4	0.4
31S61-2	67575	10.4	539
31S61-4	67576	0.4	4.0
31S62-2	67577	0.5	6.5
31S62-2 DUPLICATE	67578	1.9	2.3
31S62-4	67579	0.9	2.5
31S63-2	67580	1.5	3.2
31S63-4	67581	0.8	0.4
31N36-2	67591	1.5	4.8
31N36-4	67592	0.3	5.1
31N37-2	67593	4.5	12.9
31N38-4	67594	1.8	2.8

METHODOLOGY
SW 846, 6010A - ICP

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #177-BS-10-98

GULFPORT FERTILIZER COMPANY
10/1/98
SOIL SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC mg/kg	LEAD mg/kg
31N39-2	67595	1.6	7.3
31N26-2	67597	0.7	1.5
31N26-4	67598	<0.1	2.1
31N27-2	67599	4.6	3.8
31N27-4	67600	0.9	8.0
31N28-2	67601	1.1	5.3
31N28-4	67602	0.2	0.1
31N29-2	67603	1.2	6.5
31N29-4	67604	20.2	16.5
31N19-2	67605	9.5	42.3
31N19-4	67606	66.5	14.0
31S39-2	67607	7.1	6.2
31S39-4	67608	1.4	1.7
31S79-2	67609	1.8	43.9
31S79-4	67610	1.1	1.6
31N39	67611	<0.1	2.3
31N37-4	67649	0.1	2.1
31N38-2	67650	0.5	5.4

METHODOLOGY
SW 846, 6010A - ICP

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #177-BS-10-98

GULFPORT FERTILIZER COMPANY
10/1/98
WATER SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC µg/l	LEAD µg/l
31S11	67582	<5	<5
31S14	67583	<5	<5
31S21	67584	<5	<5
31S24	67585	<5	<5
31S31	67586	<5	<5
31S34	67587	<5	<5
31S41	67588	<5	<5
31S51	67589	78.9	7.31
31S61	67590	<5	<5
31N39-4	67596	<5	5.35
31S39	67612	18.8	<5
31S79	67613	<5	<5
31S149	67614	<5	<5
31S146	67615	<5	<5
31S143	67616	<5	<5

METHODOLOGY
EPA 200.7-ICP

MICRO-METHODS, INC.
6500 SUNPLEX DRIVE
OCEAN SPRINGS, MS 39564

QA/QC METALS

TO: Butler Services

LAB FILE # 177-BS-10-98

	ARSENIC			LEAD		
MM#	Spiked with 50 µg conc. found	Calculated Conc. spl + 50	% REC.	Spiked with 50 µg conc. found	Calculated Conc. spl + 50	% REC.
67538	572	590.5	96.9	85	90.6	93.8
67545	31.7	50.6	62.6	68	76.8	88.4
67552	46	63.4	72.5	68	70.6	96.3
67559	37.1	52.8	70.2	71	59.6	119
67566	35.1	55	63.8	56	62.2	90
67573	44.2	55.8	79.2	51	52.9	96.4
67580	25	54.8	45.6	44	65.2	67.5
67602	46.4	51	90.9	49	78.6	62.3
67609	39.7	60.4	65.7	451	339.7	132.7

MICRO-METHODS LABORATORY, INC.

ANALYTICAL SERVICE COMPANY

October 23, 1998

Butler Services
P. O. Box 1164
Pascagoula, MS 39567

ATTN: Louis Fortenberry

REPORT OF ANALYSES

The results of the analyses of the samples received date and description as shown, lab file #288-BS-10-98, are as attached.

If we can be of further assistance, please contact the office.

Sincerely,

Thomas J. Wilson, Sr.

TJW/dd

encl.

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #288-BS-10-98

GULFPORT FERTILIZER COMPANY
10/21/98
WATER SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC µg/l	LEAD µg/l
RC1	68217	<5	<5
RC 4	68218	<5	<5
N 12	68219	<5	<5
N 14	68220	<5	<5
N 21	68221	<5	<5
N 24	68222	<5	<5
N 31	68223	<5	<5
N 34	68224	<5	<5
S 39	68225	16.7	8
S 51	68226	13	<5

METHODOLOGY
EPA 206.2-Furnace - Arsenic
EPA 239.2-Furnace - Lead

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #288-BS-10-98

GULFPORT FERTILIZER COMPANY
10/21/98
SOIL SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC mg/kg	LEAD mg/kg
S 51	68227	1.2	27.5
S 61	68228	1.5	2.6

METHODOLOGY
SW 846, 7060A-Furnace - Arsenic
SW 846, 7421-Furnace - Lead

MICRO-METHODS LABORATORY, INC.

ANALYTICAL SERVICE COMPANY

12-Feb-99

Butler Services
ATTN: Louis Fortenberry
P O Box 1164
Pascagoula, MS 39567

RE: LF #176-BS-10-98
LF #177-BS-10-98

Dear Mr. Fortenberry:

As per your request, the lower limits for reporting arsenic and lead in soil is <0.1 mg/kg and arsenic and lead in water is <5 µg/l for the above referenced project. If further information is needed, please contact the office.

Sincerely,

Harry P. Howell

HPH/tt

(228) 875-6420 FAX (228) 875-6422

MICRO-METHODS
LABORATORY, INC.
ANALYTICAL SERVICE COMPANY

February 17, 1999

Butler Services
P. O. Box 1164
Pascagoula, MS 39567

ATTN: Louis Fortenberry

REPORT OF ANALYSES

The results of the analyses of the samples received 2/12/99, description as shown, lab file #143-BS-02-99, are as attached.

If we can be of further assistance, please contact the office.

Sincerely,

Harry P. Howell

Harry P. Howell
President

6500 Supplex Drive • Ocean Springs, MS 39564 (228) 875-6420 • FAX (228) 875-6423

MICRO-METHODS, INC.
6500 Sunplex Drive
Ocean Springs, MS 39564
(601) 875-6420

Inorganics/Organics Analysis Data Sheet

Client: Butler Services (BUTL)

Sample ID: 0212 S-5-1 2' DEEP 25' EAST
GULFPORT FERTILIZER PLANT

GENERAL INFORMATION	COLLECTION DATA	REMARKS
Received: 2/12/99 **Container:** gls clr **Tef.Top :** Yes **Preserved:** No **Completed:** 2/17/99	**Date:** 2/12/99 **Time:** 09:00 **By:** Client	Results reported in Dry Weight.

Index	Parameter	Units	Value 1	Value 2
Total:Metals				
1-01-07-0002	Arsenic	mg/kg	1.5	
1-01-07-0081	Lead	mg/kg	10	

MICRO-METHODS, INC.
6500 Sunplex Drive
Ocean Springs, MS 39564
(601) 875-6420

Inorganics/Organics Analysis Data Sheet

Client: Butler Services (BUTL)

Sample ID: 0212 S-5-1 4' DEEP 25' EAST

GENERAL INFORMATION	COLLECTION DATA	REMARKS
Received: 2/12/99 **Container:** gls clr **Tef.Top :** Yes **Preserved:** No **Completed:** 2/17/99	**Date:** 2/12/99 **Time:** 09:15 **By:** Client	Results reported in Dry Weight.

Index	Parameter	Units	Value 1	Value 2
Total:Metals				
1-01-07-0002	Arsenic	mg/kg	.9	
1-01-07-0081	Lead	mg/kg	1.9	

MICRO-METHODS, INC.
6500 Sunplex Drive
Ocean Springs, MS 39564
(601) 875-6420

Inorganics/Organics Analysis Data Sheet

Client: Butler Services (BUTL)

Sample ID: 0212 S-6-1 2' DEEP 25' EAST

GENERAL INFORMATION	COLLECTION DATA	REMARKS
Received: 2/12/99 **Container:** gls clr **Tef.Top :** Yes **Preserved:** No **Completed:** 2/17/99	**Date:** 2/12/99 **Time:** 09:30 **By:** Client	

Index	Parameter	Units	Value 1	Value 2
Total:Metals				
1-01-07-0002	Arsenic	mg/kg	2.2	
1-01-07-0081	Lead	mg/kg	5.9	

MICRO-METHODS, INC.
6500 Sunplex Drive
Ocean Springs, MS 39564
(601) 875-6420

Inorganics/Organics Analysis Data Sheet

Client: Butler Services (BUTL)

Sample ID: 0212 S-6-1 4' DEEP 25' EAST

GENERAL INFORMATION	COLLECTION DATA	REMARKS
Received: 2/12/99 **Container:** gls clr **Tef.Top :** Yes **Preserved:** No **Completed:** 2/17/99	**Date:** 2/12/99 **Time:** 09:45 **By:** Client	

Index	Parameter	Units	Value 1	Value 2
Total:Metals				
1-01-07-0002	Arsenic	mg/kg	.76	
1-01-07-0081	Lead	mg/kg	< .06	

MICRO-METHODS, INC.
6500 SUNPLEX DRIVE
OCEAN SPRINGS, MS 39564

QA/QC METALS

TO: Butler Services

LAB FILE # 143-BS-02-99

	ARSENIC			LEAD		
MM#	Spiked with 10 µg conc. found	Calculated Conc. spl + 50	% REC.	Spiked with 10 µg conc. found	Calculated Conc. spl + 50	% REC.
71307	22.98	27.47	83.65	30	32.5	92.3

MICRO - METHODS
2/17/99 Sample Information Report Time: 1:29 pm

Micro-Methods Inc.
P.O. Box 849
6500 Sunplex Dr.
Ocean Springs, MS 39564

TEL: (601) 875-6420
FAX: (601) 875-6423
BBS: Call

****

M-M Lab#:
Client: Butler Services (BUTL)
Contact: Louis Fortenberry Tel.: (228)769-6983 Ext.:
Sample ID: Matrix: Soil
Sample Date: Time: Date Received: 2/12/99
Current Status: Comp Analysis Completion Date: 2/17/99 Time: 13:27

Sample Taken By: Client Preserved: No
Sample Iced: Yes Amb.Temp (C) :

Container Correctly Received: Yes Supplied By: Micro-Methods
Container Size-Type: gls clr Teflon Top: Yes

Extraction Procedure: Extraction Date: By:
Sample Volume Extracted: Units:
Conc./Dilution Factor:

****

Client Sample Description:

	Init	Date	Time	Method
Inorganics/Organics				
Total : Metals				
Arsenic				
1-01-07-0002	PD	2/15/99	14:33	SW 846, 7060A
Lead				
1-01-07-0081	PD	2/17/99	08:45	SW 846, 7420

Client Sample Description:

Completed By: Harry P. Howell
Harry P. Howell
President

Results reported in Dry Weight.

MICRO-METHODS
LABORATORY, INC.

ANALYTICAL SERVICE COMPANY

July 28, 1999

Butler Services
P. O. Box 1164
Pascagoula, MS 39567

ATTN: Louis Fortenberry

REPORT OF ANALYSES

The results of the analyses of the samples received date and description as shown, lab file #190-BS-07-99, are as attached.

If we can be of further assistance, please contact the office.

Sincerely,

Harry P. Howell

Harry P. Howell

HPH/dd

encl.

(228) 875-0420 FAX (228) 875-0423

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #190-BS-07-99

GULFPORT FERTILIZER COMPANY
7/19/99
SOIL SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC mg/kg	LEAD mg/kg
N16-2'	75754	0.65	672
N16-4'	75755	0.24	44.6
RC6-2'	75756	691	5982
RC6-4'	75757	0.29	9.50
N17-2'	75758	<0.07	3.45
Duplicate		0.27	3.91
N17-4'	75759	<0.08	<0.6
N18-2'	75760	13.2	298
N20-2'	75761	12.4	98.0
N20-4'	75762	0.39	4.35
RC10-2'	75763	127	348
Duplicate		108	
RC10-4'	75764	175	22.8
RC9-2'	75765	145	474
RC9-4'	75766	8.11	26.9
RC8-2'	75767	17.4	62.7
RC8-4'	75768	1.10	5.25
Duplicate		0.43	4.27
RC7-2'	75769	78.1	5280
RC7-4'	75770	34.9	8.74

METHODOLOGY
SW 846, 6010A - ICP

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #190-BS-07-99

GULFPORT FERTILIZER COMPANY
7/19/99
SOIL SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC mg/kg	LEAD mg/kg
S16-2'	75771	90.4	291
S16-4'	75772	18.4	9.69
S17-2'	75773	0.69	11.6
S17-4'	75774	3.57	11.1
Duplicate		1.38	10.1
S18-2'	75775	6.06	640
S18-4'	75776	29.0	3657
S19-2'	75777	45.0	1507
S19-4'	75778	1.88	378
S20-2'	75779	12.6	5.24
S20-4'	75780	<.1	2.73
Duplicate		<.1	2.30
T4100E-2'	75781	0.69	298
T4100E-4'	75782	14.3	23.4
T450N-2'	75783	21.3	147
T5-2'	75784	47.2	28.6
T5-4'	75785	242	28.1
T550N-2'	75786	359	226
T550N-4'	75787	146	703

METHODOLOGY
SW 846, 6010A - ICP

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #190-BS-07-99

GULFPORT FERTILIZER COMPANY
7/19/99
SOIL SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC mg/kg	LEAD mg/kg
T5100E-2'	75788	<.1	293
T5100E-4'	75789	0.37	3.50
T450S-2'	75790	6.99	40.9
T450S-4'	75791	4.53	64.4

METHODOLOGY
SW 846, 6010A - ICP

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #190-BS-07-99

GULFPORT FERTILIZER COMPANY
7/19/99
WATER SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC µg/l	LEAD µg/l
RS-7-19-99	75792	<5	<5
FB-7-19-99	75793	<5	<5
TB-7-19-99	75794	<5	<5

METHODOLOGY
EPA 200.7-ICP

MICRO-METHODS
LABORATORY, INC.

ANALYTICAL SERVICE COMPANY

August 3, 1999

Butler Services
P. O. Box 1164
Pascagoula, MS 39567

ATTN: Louis Fortenberry

REPORT OF ANALYSES

The results of the analyses of the samples received date and description as shown, lab file #269-BS-07-99, are as attached.

If we can be of further assistance, please contact the office.

Sincerely,

Harry P. Howell

Harry P. Howell

HPH/dd

encl.

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #269-BS-07-99

GULFPORT FERTILIZER COMPANY
7/19/99
SOIL SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC mg/kg	LEAD mg/kg
T45OE-2'	75823	11.7	1076
T45OE-4'	75824	0.22	780
S26-2'	75825	0.28	<0.2
Duplicate		7.68	<0.2
S26-4'	75826	5.25	<0.2
S28-2'	75827	1.23	5.76
S28-4'	75828	1.08	<0.2
Duplicate		1.62	4.19
S29-2'	75829	3.93	2.59
S29-4'	75830	2.49	4.00
S30-2'	75831	.74	4.50
Duplicate		1.04	4.08
S30-4'	75832	1.24	2.74
S27-2'	75833	1.64	15.12
S27-4'	75834	1.67	3.08
Duplicate		1.87	1.87
T7100E-2'	75835	<.1	2.86
T7100E-4'	75836	0.20	11.6

METHODOLOGY
SW 846, 7060A-Furnace - Arsenic
SW 846, 7420-Direct - Lead

MICRO-METHODS LABORATORY, INC.

ANALYTICAL SERVICE COMPANY

August 12, 1999

Butler Services
P. O. Box 1164
Pascagoula, MS 39567

ATTN: Louis Fortenberry

REPORT OF ANALYSES

The results of the analyses of the samples received date and description as shown, lab file #277-BS-07-99, are as attached.

If we can be of further assistance, please contact the office.

Sincerely,

Harry P. Howell

Harry P. Howell

HPH/dd

encl.

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #277-BS-07-99

GULFPORT FERTILIZER COMPANY
7/23/99
SOIL SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC mg/kg	LEAD mg/kg
S40-2' DUPLICATE	75923	1.60	3.52
S40-4' DUPLICATE	75924	3.57	<0.2
S57-2'	75925	1.05	<0.2
S57-4'	75926	<0.05	7.89
S58-2'	75927	3.09	32.1
Duplicate		3.41	29.2
S58-4'	75928	0.65	2.79
S59-2'	75929	0.40	6.90
S59-4'	75930	<0.05	1.72
S60-2'	75931	0.84	5.74
S60-4'	75932	0.42	7.25
Duplicate		0.26	1.97
S36-2'	75933	0.98	7.83
S36-4'	75934	1.52	1.41
S38-2'	75935	0.50	2.34
S38-4'	75936	0.31	2.09
T9100W-2'	75937	0.52	32.7
Duplicate		0.50	10.75
T9100W-4'	75938	1.74	3.56
S50-2'	75939	702	597
S50-4'	75940	113	12.6

METHODOLOGY
SW 846, 7060A-Furnace - Arsenic
SW 846, 7420-Direct - Lead

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #277-BS-07-99

GULFPORT FERTILIZER COMPANY
7/23/99
SOIL SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC mg/kg	LEAD mg/kg
S40-2'	75941	1.27	2.38
S-40-4'	75942	3.50	492
Duplicate		4.54	287
S126-2'	75943	0.40	6.23
S126-4'	75944	0.24	1.97
S98-2'	75945	0.11	<0.20
S98-4'	75946	0.06	0.57
S77-2'	75947	0.07	1.95
Duplicate		<0.05	1.79
S77-4'	75948	<0.05	1.11
S96-2'	75949	0.19	0.58
S96-4'	75950	<0.05	0.65
S94-2'	75951	<0.05	1.99
S94-4'	75952	<0.05	1.07
Duplicate		<0.05	0.05
N40-2'	75953	0.11	0.79
N40-4'	75954	0.05	1.50
S49-2'	75955	1.19	4.47
S49-4'	75956	0.32	4.51
S48-2'	75957	0.55	45.0
Duplicate		0.37	28.4

METHODOLOGY
SW 846, 7060A-Furnace - Arsenic
SW 846, 7420-Direct - Lead

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #277-BS-07-99

GULFPORT FERTILIZER COMPANY
7/23/99
SOIL SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC mg/kg	LEAD mg/kg
S48-4'	75958	0.58	4.69
S47-2'	75959	0.69	43.0
S47-4'	75960	0.23	2.55
S37-2'	75961	5.34	6.74
S37-4'	75962	1.35	4.59
Duplicate		2.87	1.98
S56-2'	75963	0.44	4.45
S56-4'	75964	<0.05	0.80
S55-2'	75965	0.07	4.02
S55-4'	75966	<0.05	2.25
S55-2' DUPLICATE	75967	0.05	4.58
Duplicate			4.13
S55-4' DUPLICATE	75968	<0.05	2.82
S54-2'	75969	<0.05	2.58
S54-4'	75970	<0.05	3.70
S45-2'	75971	4.24	303
S45-4'	75972	23.6	72.2
Duplicate		17.9	49.0
S1110-2'	75973	<0.05	1.76
S1110-4'	75974	<0.05	2.51

METHODOLOGY
SW 846, 7060A-Furnace - Arsenic
SW 846, 7420-Direct - Lead

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #277-BS-07-99

GULFPORT FERTILIZER COMPANY
7/23/99
SOIL SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC mg/kg	LEAD mg/kg
S80-2'	75975	<0.05	2.82
S80-4'	75976	1.02	3.92
S75-4'	75977	<0.05	2.92
Duplicate		<0.05	3.17
S124-2'	75978	<0.05	0.44
S124-4'	75979	<0.05	1.13
S112-2' DUPLICATE	75980	<0.05	2.35
S98-2' DUPLICATE	75981	<0.05	4.29
S71-2'	75982	<0.05	0.98
Duplicate		<0.05	3.30
S1210-2'	75983	0.22	<0.2
S1210-4'	75984	0.24	3.87
S128-2'	75985	<0.05	0.32
S122-2'	75986	<0.05	1.39
S122-4'	75987	<0.05	<0.2
Duplicate		<0.05	<0.2
S128-2' DUPLICATE	75988	<0.05	2.07
S44-2'	75989	8.08	73.2
S44-4'	75990	0.68	<0.2
S46-2'	75991	2.98	183

METHODOLOGY
SW 846, 7060A-Furnace - Arsenic
SW 846, 7420-Direct - Lead

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #277-BS-07-99

GULFPORT FERTILIZER COMPANY
7/23/99
SOIL SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC mg/kg	LEAD mg/kg
S46-4'	75992	0.77	3.20
Duplicate		0.05	2.26
S34-2'	75993	0.39	0.91
S34-4'	75994	0.18	0.67
S74-2'	75995	<0.05	0.78
S74-4'	75996	<0.05	0.60
S72-2'	75997	<0.05	63.4
Duplicate		0.14	69.4
S72-4'	75998	<0.05	8.34
S73-2'	75999	0.20	0.72
S73-4'	76000	<0.05	0.25
S76-2'	76001	0.60	1.80
S76-4'	76002	<0.05	0.95
Duplicate		<0.05	1.52
S75-2'	76003	<0.05	2.00
S75-2' DUPLICATE	76004	<0.05	0.83
S116-2'	76005	0.62	2.19
S116-4'	76006	<0.05	1.04
S178-2'	76007	0.21	4.05
Duplicate			2.28
S78-4'	76008	<0.05	2.94

METHODOLOGY
SW 846, 7060A-Furnace - Arsenic
SW 846, 7420-Direct - Lead

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #277-BS-07-99

GULFPORT FERTILIZER COMPANY
7/23/99
SOIL SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC mg/kg	LEAD mg/kg
S92-2'	76009	0.39	3.61
S92-4'	76010	<0.05	1.28
S114-2'	76011	<0.05	1.79
S114-4'	76012	0.07	0.72
Duplicate			0.70
S112-2'	76013	0.10	2.01
S112-4'	76014	<0.05	1.07
S118-2'	76015	0.20	13.1
S118-4'	76016	0.21	5.94
S910-2'	76017	0.28	2.95
Duplicate		0.31	4.66
S910-4'	76018	<0.05	0.56

METHODOLOGY
SW 846, 7060A-Furnace - Arsenic
SW 846, 7420-Direct - Lead

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #277-BS-07-99

GULFPORT FERTILIZER COMPANY
7/23/99
WATER SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC µg/l	LEAD µg/l	Chromium µg/l
MW1-01U	76019	33	35	
MW1-01F	76020	28	37	15
FIELD BLANK	76022	<5	<5	
Duplicate		<5	<5	
RINSATE	76023	<5	<5	
TRIP BLANK	76024	<5	<5	

METHODOLOGY
EPA 206.2-Furnace - Arsenic
EPA 239.2-Furnace - Lead

TO: Butler Services

FROM: Micro-Methods, Inc.
Lab File #277-BS-07-99

GULFPORT FERTILIZER COMPANY
7/23/99
FILTER SAMPLES

SAMPLE DESCRIPTION	MM#	ARSENIC Tµg	LEAD Tµg
MW1-01 FILTER	76021	800	250

METHODOLOGY
SW 846, 7060A-Furnace - Arsenic
SW 846, 7421-Furnace - Lead

MICRO-METHODS LABORATORY, INC.

ANALYTICAL SERVICE COMPANY

18-Aug-99

DETECTION LIMITS

Butler Services
ATTN: Louis Fortenberry
P O Box 1164
Pascagoula, MS 39567

RE: LF #269-BS-07-99
LF #190-BS-07-99
LF #277-BS-07-99

Dear Mr. Fortenberry:

As per your request concerning the lower limits for the above referenced reports, based on sample size, the lower limits achieved for arsenic in soil is <0.05 mg/kg and lead is <0.2 mg/kg. The lower limits for arsenic and lead in water is <5 µg/l. If further information is needed, please contact the office.

Sincerely,

Harry P. Howell

HPH/tt

MICRO-METHODS
LABORATORY, INC.

ANALYTICAL SERVICE COMPANY

September 2, 1999

TCLP

Butler Services
P. O. Box 1164
Pascagoula, MS 39567

ATTN: Louis Fortenberry
RE: Lab File #278-BS-08-99

REPORT OF ANALYSES

Please find enclosed the additional analyses requested on the above mentioned lab file

If we can be of further assistance, please contact the office.

Sincerely,

Harry P. Howell

Harry P. Howell

HPH/dd

6500 Supplex Drive • Ocean Springs, MS 39564 (228) 875-6420 • FAX (228) 875-6423

MICRO-METHODS, INC.
6500 Sunplex Drive
Ocean Springs, MS 39564
(601) 875-6420

Inorganics/Organics Analysis Data Sheet

Client: Butler Services (BUTL)

Sample ID: S50-2' GULFPORT FERTILIZER PLT

GENERAL INFORMATION	COLLECTION DATA	REMARKS
Received: 7/23/99 **Container:** gls cont **Tef.Top :** Yes **Preserved:** No **Completed:** 9/02/99	**Date:** 7/23/99 **Time:** 10:00 **By:** Client	TCLP Regulatory Limit Sheet Enclosed.

Index	Parameter	Units	Value 1	Value 2
Tclp:Metals				
1-02-07-0002	Arsenic	mg/l	.29	
1-02-07-0081	Lead	mg/l	5	

MICRO-METHODS, INC.
6500 Sunplex Drive
Ocean Springs, MS 39564
(601) 875-6420

Inorganics/Organics Analysis Data Sheet

Client: Butler Services (BUTL)

Sample ID: S19-2' GP FERTILIZER PLANT

GENERAL INFORMATION	COLLECTION DATA	REMARKS
Received: 7/19/99 **Container:** gls cont **Tef.Top :** Yes **Preserved:** No **Completed:** 7/28/99	**Date:** 7/19/99 **Time:** 11:55 **By:** Client	TCLP Regulatory Limit Sheet Enclosed. This sample exceeds TCLP Regulatory Limits for Lead.

Index	Parameter	Units	Value 1	Value 2
Tclp:Metals				
1-02-07-0002	Arsenic	mg/l	< .1	
1-02-07-0081	Lead	mg/l	7.8	

MICRO-METHODS, INC.
6500 Sunplex Drive
Ocean Springs, MS 39564
(601) 875-6420

Inorganics/Organics Analysis Data Sheet

Client: Butler Services (BUTL)

Sample ID: S18-4' GP FERTILIZER PLANT

GENERAL INFORMATION	COLLECTION DATA	REMARKS
Received: 7/19/99 **Container:** gls cont **Tef.Top :** Yes **Preserved:** No **Completed:** 7/28/99	**Date:** 7/19/99 **Time:** 11:45 **By:** Client	TCLP Regulatory Limit Sheet Enclosed. This sample exceeds TCLP Regulatory Limits for Lead.

Index	Parameter	Units	Value 1	Value 2
Tclp:Metals				
1-02-07-0002	Arsenic	mg/l	< .1	
1-02-07-0081	Lead	mg/l	27.7	

MICRO-METHODS, INC.
6500 Sunplex Drive
Ocean Springs, MS 39564
(601) 875-6420

Inorganics/Organics Analysis Data Sheet

Client: Butler Services (BUTL)

Sample ID: RC7-2' GP FERTILZER PLANT

GENERAL INFORMATION	COLLECTION DATA	REMARKS
Received: 7/19/99 **Container:** gls cont **Tef.Top :** Yes **Preserved:** No **Completed:** 7/28/99	**Date:** 7/19/99 **Time:** 11:10 **By:** Client	TCLP Regulatory Limit Sheet Enclosed.

Index	Parameter	Units	Value 1	Value 2
Tclp:Metals				
1-02-07-0002	Arsenic	mg/l	< .1	
1-02-07-0081	Lead	mg/l	.46	

MICRO-METHODS, INC.
6500 Sunplex Drive
Ocean Springs, MS 39564
(601) 875-6420

Inorganics/Organics Analysis Data Sheet

Client: Butler Services (BUTL)

Sample ID: RC6-2' GP FERTILIZER PLANT

GENERAL INFORMATION	COLLECTION DATA	REMARKS
Received: 7/19/99 **Container:** gls cont **Tef.Top :** Yes **Preserved:** No **Completed:** 7/28/99	**Date:** 7/19/99 **Time:** 08:55 **By:** Client	TCLP Regulatory Limit Sheet Enclosed.

Index	Parameter	Units	Value 1	Value 2
Tclp:Metals				
1-02-07-0002	Arsenic	mg/l	< .1	
1-02-07-0081	Lead	mg/l	.43	

MICRO-METHODS, INC.
6500 SUNPLEX DRIVE
OCEAN SPRINGS, MISSISSIPPI 39564

QA/QC METALS

CLIENT: Butler Services

SAMPLE ID: S-50-2' - Gulfport Fertilizer Plant

LAB FILE #: 278-BS-08-99

MM#: 75739

PARAMETERS	SPIKE ADDED mg/l	SAMPLE RESULT mg/l	SPIKE SAMPLE RESULT mg/l	SPIKE % RECOVERY
Arsenic	0.2	0.294	0.527	116

MICRO-METHODS, INC.
6500 SUNPLEX DRIVE
OCEAN SPRINGS, MISSISSIPPI 39564

QA/QC METALS

CLIENT: Butler Services

SAMPLE ID: S-19-2' - Gulfport Fertilizer Plant

LAB FILE #: 278-BS-08-99

MM#: 75777

PARAMETERS	SPIKE ADDED mg/l	SAMPLE RESULT mg/l	SPIKE SAMPLE RESULT mg/l	SPIKE % RECOVERY
Arsenic	0.2	0.028	0.245	108

MICRO-METHODS, INC.
6500 SUNPLEX DRIVE
OCEAN SPRINGS, MISSISSIPPI 39564

QA/QC METALS

CLIENT: Butler Services

SAMPLE ID: S-18-4' - Gulfport Fertilizer Plant

LAB FILE #: 278-BS-08-99

MM#: 75776

PARAMETERS	SPIKE ADDED mg/l	SAMPLE RESULT mg/l	SPIKE SAMPLE RESULT mg/l	SPIKE % RECOVERY
Arsenic	0.2	0.001	0.226	112

MICRO-METHODS, INC.
6500 SUNPLEX DRIVE
OCEAN SPRINGS, MISSISSIPPI 39564

QA/QC METALS

CLIENT: Butler Services

SAMPLE ID: RC6-2' - Gulfport Fertilizer Plant

LAB FILE #: 278-BS-08-99

MM#: 75756

PARAMETERS	SPIKE ADDED mg/l	SAMPLE RESULT mg/l	SPIKE SAMPLE RESULT mg/l	SPIKE % RECOVERY
Arsenic	0.2	0.004	0.224	112
Lead	0.2	0.4367	0.5932	78

MICRO-METHODS, INC.
6500 SUNPLEX DRIVE
OCEAN SPRINGS, MISSISSIPPI 39564

QA/QC METALS

CLIENT: Butler Services

SAMPLE ID: RC7-2' - Gulfport Fertilizer Plant

LAB FILE #: 278-BS-08-99

MM#: 75769

PARAMETERS	SPIKE ADDED mg/l	SAMPLE RESULT mg/l	SPIKE SAMPLE RESULT mg/l	SPIKE % RECOVERY
Arsenic	0.2	0.043	0.270	113
Lead	0.2	0.4619	0.5650	52

MICRO - METHODS

9/02/99 Sample Information Report Time: 2:02 pm

Micro-Methods Inc.
P.O. Box 849
6500 Sunplex Dr.
Ocean Springs, MS 39564

TEL: (601) 875-6420
FAX: (601) 875-6423
BBS: Call

****

M-M Lab#:
Client: Butler Services (BUTL)
Contact: Louis Fortenberry Tel.: (228)769-6983 Ext.:
Sample ID: Matrix: soil
Sample Date: Time: Date Received: 7/23/99
Current Status: Comp Analysis Completion Date: 9/02/99 Time: 14:01

Sample Taken By: Client Preserved: No
Sample Iced: Yes Amb.Temp (C) :

Container Correctly Received: Yes Supplied By: Micro-Methods
Container Size-Type: gls cont Teflon Top: Yes

Extraction Procedure: Extraction Date: By:
Sample Volume Extracted: Units:
Conc./Dilution Factor:

****

MICRO - METHODS

9/02/99 Wet Lab Sample Info. Report For M-M Lab #: Page 1

Client Sample Description:

	Init	Date	Time	Method
Inorganics/Organics				
Tclp : Metals				
Arsenic				
1-02-07-0002	CSS	9/02/99	13:00	SW 846, 7060A/1311
Lead				
1-02-07-0081	KL	9/02/99	13:30	SW 846, 6010A/1311

Client Sample Description:

Completed By: Harry P. Howell
Harry P. Howell
President

TCLP Regulatory Limit Sheet Enclosed.

TCLP REGULATORY LIMITS

TCLP METALS	mg/l
Arsenic	5.0
Barium	100.0
Cadmium	1.0
Chromium	5.0
Lead	5.0
Mercury	0.2
Selenium	1.0
Silver	5.0

VOLATILE TARGET COMPOUNDS	mg/l
Benzene	0.5
Carbon Tetrachloride	0.5
Chlorobenzene	100.0
Chloroform	6.0
1,2 Dichloroethane	0.5
1,1 Dichloroethene	0.7
Methyl Ethyl Ketone (2-Butanone)	200.0
Tetrachloroethene	0.7
Trichloroethene	0.5
Vinyl Chloride	0.2

SEMI-VOLATILE TARGET COMPOUNDS	mg/l
1,4 Dichlorobenzene	7.5
2,4 Dinitrotoluene	0.13
2,4,5 Trichlorophenol	400.0
2,4,6 Trichlorophenol	2.0
Hexachlorobenzene	0.13
Hexachlorobutadiene	0.5
Hexachloroethane	3.0
Nitrobenzene	2.0
Pentachlorophenol	100.0
Pyridine	5.0
m-Cresol	200.0
o-Cresol	200.0
p-Cresol	200.0

TCLP - Toxicity Characteristics Leachate Procedure, SW 846, Sec. 1311

MICRO-METHODS
LABORATORY, INC.
ANALYTICAL SERVICE COMPANY

DISPOSAL

September 9, 1999

Butler Services
P. O. Box 1164
Pascagoula, MS 39567

ATTN: Louis Fortenberry

REPORT OF ANALYSES

The results of the analyses of the samples received 8/05/99, description as shown, lab file #110-EM-08-99, are as attached.

If we can be of further assistance, please contact the office.

Sincerely,

Harry P. Howell

Harry P. Howell
President

6500 Supplex Drive • Ocean Springs, MS 39564 (228) 875-6420 • FAX (228) 875-6423

8/30/99
10:29 am

MICRO-METHODS, INC.
6500 Sunplex Drive
Ocean Springs, MS 39564
(601) 875-6420

Lab File#: 110-EM-08-9
MM#: 76356

Inorganics/Organics Analysis Data Sheet

Client: Environmental Mgmt. Services (EMS)

Sample ID: DECON/PURGE WATER-1 GULFPORT FERTILIZER PLANT

GENERAL INFORMATION	COLLECTION DATA	REMARKS
Received: 8/05/99 **Container:** pls cont **Tef.Top :** No **Preserved:** Yes **Completed:** 8/13/99	**Date:** 8/05/99 **Time:** 10:00 **By:** Client	Value 2 = Duplicate Analysis

Index	Parameter	Units	Value 1	Value 2
Total:Metals				
1-01-07-0002	Arsenic	mg/l	< .005	< .005
1-01-07-0080	Chromium	mg/l	.01	.01
1-01-07-0081	Lead	mg/l	.18	.17

8/30/99
1:09 pm

MICRO-METHODS, INC.
6500 Sunplex Drive
Ocean Springs, MS 39564
(601) 875-6420

Lab File#: 110-EM-08-9
MM#: 76357

Page:

Inorganics/Organics Analysis Data Sheet

Client: Environmental Mgmt. Services (EMS)

Sample ID: SOIL CUTTINGS-1 GULFPORT FERTILIZER PLANT

GENERAL INFORMATION	COLLECTION DATA	REMARKS
Received: 8/05/99 **Container:** gls clr **Tef.Top :** Yes **Preserved:** No **Completed:** 8/13/99	**Date:** 8/05/99 **Time:** 10:00 **By:** Client	Results reported in Dry Weight.

Index	Parameter	Units	Value 1	Value 2
Total:Metals				
1-01-07-0002	Arsenic	mg/kg	2.25	
1-01-07-0081	Lead	mg/kg	122	

8/30/99
1:10 pm

MICRO-METHODS, INC.
6500 Sunplex Drive
Ocean Springs, MS 39564
(601) 875-6420

Lab File#: 110-EM-08-99
MM#: 76358

Inorganics/Organics Analysis Data Sheet

Client: Environmental Mgmt. Services (EMS)

Sample ID: TRIP BLANK 8/2/99

GENERAL INFORMATION	COLLECTION DATA	REMARKS
Received: 8/05/99 **Container:** pls cont **Tef.Top :** No **Preserved:** Yes **Completed:** 8/13/99	**Date:** 8/02/99 **Time:** 08:00 **By:** Micro-Methods	

Index	Parameter	Units	Value 1	Value 2
Total:Metals				
1-01-07-0002	Arsenic	mg/l	< .005	
1-01-07-0081	Lead	mg/l	< .05	

8/30/99 MICRO - METHODS
Sample Information Report Time: 10:29 a

Micro-Methods Inc.
P.O. Box 849
6500 Sunplex Dr.
Ocean Springs, MS 39564

TEL: (601) 875-6420
FAX: (601) 875-6423
BBS: Call

****

M-M Lab#: 76356
Client: Environmental Mgmt. Services (EMS)
Contact: Winston Russell Tel.: (601)544-3674 Ext.:
Sample ID: DECON/PURGE WATER-1 GULFPORT Matrix: water
Sample Date: 8/05/99 Time: 10:00 Date Received: 8/05/99
Current Status: Comp Analysis Completion Date: 8/13/99 Time: 13:03

Sample Taken By: Client Preserved: Yes
Sample Iced: Yes Amb.Temp (C) :

Container Correctly Received: Yes Supplied By: Micro-Methods
Container Size-Type: pls cont Teflon Top: No

Extraction Procedure: Extraction Date: By:
Sample Volume Extracted: Units:
Conc./Dilution Factor:

****

MICRO - METHODS
8/30/99 Wet Lab Sample Info. Report For M-M Lab #: 76356 Page 1

Client Sample Description: DECON/PURGE WATER-1 GULFPORT

	Init	Date	Time	Method
Inorganics/Organics				
Total : Metals				
Arsenic				
1-01-07-0002	KL	8/13/99	11:50	EPA 206.2-Furnace
Chromium				
1-01-07-0080	KL	8/13/99	09:30	EPA 218.2-Furnace
Lead				
1-01-07-0081	KL	8/13/99	10:20	EPA 200.7-ICP

Client Sample Description: DECON/PURGE WATER-1 GULFPORT

Completed By: Harry P. Howell
Harry P. Howell
President

Value 2 = Duplicate Analysis

MICRO - METHODS
8/30/99 Sample Information Report Time: 1:05 pm

Micro-Methods Inc.
P.O. Box 849
6500 Sunplex Dr.
Ocean Springs, MS 39564

TEL: (601) 875-6420
FAX: (601) 875-6423
BBS: Call

****

M-M Lab#: 76357
Client: Environmental Mgmt. Services (EMS)
Contact: Winston Russell Tel.: (601)544-3674 Ext.:
Sample ID: SOIL CUTTINGS-1 GULFPORT Matrix: soil
Sample Date: 8/05/99 Time: 10:00 Date Received: 8/05/99
Current Status: Comp Analysis Completion Date: 8/13/99 Time: 13:03

Sample Taken By: Client Preserved: No
Sample Iced: Yes Amb.Temp (C) :

Container Correctly Received: Yes Supplied By: Micro-Methods
Container Size-Type: gls clr Teflon Top: Yes

Extraction Procedure: Extraction Date: By:
Sample Volume Extracted: Units:
Conc./Dilution Factor:

****

MICRO - METHODS
8/30/99 Wet Lab Sample Info. Report For M-M Lab #: 76357 Page 1

Client Sample Description: SOIL CUTTINGS-1 GULFPORT

	Init	Date	Time	Method
Inorganics/Organics				
Total : Metals				
Arsenic				
1-01-07-0002				SW 846, 7060A
Lead				
1-01-07-0081				SW 846, 7421

Client Sample Description: SOIL CUTTINGS-1 GULFPORT

Completed By: Harry P. Howell
Harry P. Howell
President

Results reported in Dry Weight.

MICRO - METHODS

8/30/99 Sample Information Report Time: 1:05 pm

Micro-Methods Inc.
P.O. Box 849
6500 Sunplex Dr.
Ocean Springs, MS 39564

TEL: (601) 875-6420
FAX: (601) 875-6423
BBS: Call

****

M-M Lab#: 76358
Client: Environmental Mgmt. Services (EMS)
Contact: Winston Russell Tel.: (601)544-3674 Ext.:
Sample ID: TRIP BLANK 8/2/99 Matrix: water
Sample Date: 8/02/99 Time: 08:00 Date Received: 8/05/99
Current Status: Comp Analysis Completion Date: 8/13/99 Time: 13:04

Sample Taken By: Micro-Methods Preserved: Yes
Sample Iced: Yes Amb.Temp (C) :

Container Correctly Received: Yes Supplied By: Micro-Methods
Container Size-Type: pls cont Teflon Top: No

Extraction Procedure: Extraction Date: By:
Sample Volume Extracted: Units:
Conc./Dilution Factor:

****

MICRO - METHODS

8/30/99 Wet Lab Sample Info. Report For M-M Lab #: 76358 Page 1

Client Sample Description: TRIP BLANK 8/2/99

	Init	Date	Time	Method
Inorganics/Organics				
Total : Metals				
Arsenic				
1-01-07-0002				
Lead				
1-01-07-0081				

Client Sample Description: TRIP BLANK 8/2/99

Completed By: Harry P. Howell

Harry P. Howell
President

MICRO-METHODS
LABORATORY, INC.

ANALYTICAL SERVICE COMPANY

September 20, 1999

Butler Services
P. O. Box 1164
Pascagoula, MS 39567

ATTN: Louis Fortenberry
RE: Lab File #110-EM-08-99

REPORT OF ANALYSES

Please find enclosed the additional analyses results requested for the above referenced lab file. Please replace these sheets with your original report.

If we can be of further assistance, please contact the office.

Sincerely,

Harry P. Howell

Harry P. Howell

HPH/dd

encl.

6528 Spanish Drive, Ocean Springs, MS 39564 (228) 875-6400 FAX (228) 875-6403

Client Sample Description: SOIL CUTTINGS-1 GULFPORT

	Init	Date	Time	Method
Inorganics/Organics				
Tclp : Metals				
Lead				
1-02-07-0081	CSS	9/16/99	11:30	SW 846, 6010A/1311

Completed By: Harry P. Howell
Harry P. Howell
President

Results reported in Dry Weight.

Micro-Methods Inc.
P.O. Box 849
6500 Sunplex Dr.
Ocean Springs, MS 39564

TEL: (601) 875-6420
FAX: (601) 875-6423
BBS: Call

****

M-M Lab#: 76357
Client: Butler Services (BUTL)
Contact: Louis Fortenberry Tel.: (228)769-6983 Ext.:
Sample ID: SOIL CUTTINGS-1 GULFPORT Matrix: soil
Sample Date: 8/05/99 Time: 10:00 Date Received: 8/05/99
Current Status: Comp Analysis Completion Date: 9/20/99 Time: 09:14

Sample Taken By: Client Preserved: No
Sample Iced: Yes Amb.Temp (C) :

Container Correctly Received: Yes Supplied By: Micro-Methods
Container Size-Type: gls clr Teflon Top: Yes

Extraction Procedure: Extraction Date: By:
Sample Volume Extracted: Units:
Conc./Dilution Factor:

****

Client Sample Description: SOIL CUTTINGS-1 GULFPORT

	Init	Date	Time	Method
Inorganics/Organics				
Total : Metals				
Arsenic				
1-01-07-0002				SW 846, 7060A
Lead				
1-01-07-0081				SW 846, 7421
Tclp : Metals				
Arsenic				
1-02-07-0002	CSS	9/16/99	11:30	SW 846, 6010A/1311

9/20/99
9:33 am

MICRO-METHODS, INC.
6500 Sunplex Drive
Ocean Springs, MS 39564
(601) 875-6420

Lab File#: 110-EM-08-9
MM#: 76357

Inorganics/Organics Analysis Data Sheet

Client: Butler Services (BUTL)

Sample ID: SOIL CUTTINGS-1 GULFPORT FERTILIZER PLANT

GENERAL INFORMATION	COLLECTION DATA	REMARKS
Received: 8/05/99 **Container:** gls clr **Tef.Top :** Yes **Preserved:** No **Completed:** 9/20/99	**Date:** 8/05/99 **Time:** 10:00 **By:** Client	Results reported in Dry Weight.

Index	Parameter	Units	Value 1	Value 2
Total:Metals				
1-01-07-0002	Arsenic	mg/kg	2.25	
1-01-07-0081	Lead	mg/kg	122	
Tclp:Metals				
1-02-07-0002	Arsenic	mg/l	< .1	
1-02-07-0081	Lead	mg/l	.1	

MICRO-METHODS, INC.
6500 SUNPLEX DRIVE
OCEAN SPRINGS, MISSISSIPPI 39564

QA/QC METALS

CLIENT: Butler Services

SAMPLE ID: Soil Cuttingas-1 Gulfport Fertilizer Plant

LAB FILE #: 110-EM-08-99

MM#: 76357

PARAMETERS	SPIKE ADDED mg/l	SAMPLE RESULT mg/l	SPIKE SAMPLE RESULT mg/l	SPIKE % RECOVERY
Arsenic	0.2	-0.2073	0.2497	125
Barium	0.2	0.0933	0.2400	73

APPENDIX B

ANALYSIS REQUEST AND CHAIN OF CUSTODY

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: LOUIS W. FORTENBERRY

Client/Project Name: GULFPORT FERTILIZER COMPANY

Company	Address	Contact	Project Location	Project No.
BUTLER SERVICES	PASCAGOULA, MS	L.W. FORTENBERRY Phone (228) 769-6983	33RD STREET GULFPORT, MS	300998

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
30RC1-2	9/30/98 10:00			9oz W/M Glass	SOIL	-	Lead, Arsenic		Composite
30RC1-4	9/30/98 10:02			"	"	-	" "		"
30RC2-2	9/30/98 10:10			"	"	-	" "		"
30RC2-4	9/30/98 10:12			"	"	-	" "		"
30RC3-2	9/30/98 10:18			"	"	-	" "		"
30RC3-4	9/30/98 10:20			"	"	-	" "		"
30RC4-2	9/30/98 10:35			"	"	-	" "		"
30RC4-4	9/30/98 10:38			"	"	-	" "		"
30RC5-2	9/30/98 11:02			"	"	-	" "		"
30RC5-4	9/30/98 11:08			"	"	-	" "		"

Samplers: (Signature)	Relinquished by: (Signature)	Date: / Time:	Received by: (Signature)	Date: / Time:	Intact
Affiliation: BUTLER SERVICES	Relinquished by: (Signature)	Date: / Time:	Received by: (Signature)	Date: / Time:	Intact
	Relinquished by: (Signature)	Date: / Time:	Received by: (Signature)	Date: / Time:	Intact
			Received for laboratory: (Signature)	Date: 10/1/98 Time: 1100	Laboratory No.
SAMPLER REMARKS:			Data Results to:	Report completed	10/16/98
Seal #					

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: LOUIS W. FORTENBERRY

Client/Project Name: GULFPORT FERTILIZER COMPANY

Company	Address	Contact	Project Location	Project No.
BUTLER SERVICES	PASCAGOULA, MS	LW FORTENBERRY Phone (228) 769-6583	33RD STREET, GULFPORT, MS	306788

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
30N11-2	9/30/58 1:15			90z WM glass	SOIL	—	Lead, Arsenic		GeoProbe
30N11-4	9/30/58 1:17			"	"	—	" "		"
30N12-2	9/30/58 1:32			"	"	—	" "		"
30N12-4	9/30/58 1:34			"	"	—	" "		"
30N13-2	9/30/58 1:46			"	"	—	" "		"
30N13-4	9/30/58 1:52			"	"	—	" "		"
30N14-2	9/30/58 2:09			"	"	—	" "		"
30N14-4	9/30/58 2:10			"	"	—	" "		"
30N15-2	9/30/58 2:25			"	"	—	" "		"
30N15-4	9/30/58 2:28			"	"	—	" "		"

Samplers: (Signature)	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
W. Butler BUTLER SERVICES Affiliation	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
			Received for laboratory: (Signature)	Date: Time:	Laboratory No.
SAMPLER REMARKS:			Data Results to:		
Seal #					

report completed 10/10/98
10.10 bolette

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: Louis W. Fontenberry

Client/Project Name: GULFPORT FERTILIZER COMPANY

Company	Address	Contact	Project Location	Project No.
BUTLER SERVICES	PASCAGOULA, MS	LW FONTENBERRY Phone (228) 769-6585	33RD STREET, GULFPORT, MS	300958

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
30N21-2	9/30/58 8:38			4oz WM glass	SOIL	—	Lead, Arsenic		GeoProbe
30N21-4	9/30/58 2:40			"	"	—	" "		"
30N22-2	9/30/58 2:55			"	"	—	" "		"
30N22-4	9/30/58 2:55			"	"	—	" "		"
30N23-2	9/30/58 3:05			"	"	—	" "		"
30N23-4	9/30/58 3:08			"	"	—	" "		"
30N24-2	9/30/58 3:18			"	"	—	" "		"
30N24-4	9/30/58 3:20			"	"	—	" "		"
30N25-2	9/30/58 3:35			"	"	—	" "		"
30N25-4	9/30/58 3:37			"	"	—	" "		"

Samplers: (Signature)

W. Butler

Affiliation: BUTLER SERVICES

Relinquished by: (Signature) LW FONTENBERRY — Date: 10/1/58 Time: 11:00

Relinquished by: (Signature) — Date: Time:

Relinquished by: (Signature) — Date: Time:

Received by: (Signature) — Date: Time: — Intact

Received by: (Signature) — Date: Time: — Intact

Received by: (Signature) — Date: Time: — Intact

Received for laboratory: (Signature) — Date: Time: — Laboratory No.

Data Results to:

SAMPLER REMARKS:

Seal #

Report completed 10/16/58

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: LOUIS W. FORTEN BERRY

Client/Project Name: GULF FUNS FERTILIZER COMPANY

Company	Address	Contact	Project Location	Project No.
BUTLER SERVICES	PASCAGOULA, MS	LOU FORTEN BERRY Phone (228) 769-6585	33RD STREET, GULFPORT, MS	500598

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
30N31-2	9/30/98 3:50			902 WIDE GLASS	SOIL	—	Lead, Arsenic		Geo Probe
30N31-4	9/30/98 3:52			"	"	—	" "		"
30N32-2	9/30/98 4:05			"	"	—	" "		"
30N32-4	9/30/98 4:07			"	"	—	" "		"
30N33-2	9/30/98 4:17			"	"	—	" "		"
30N33-4	9/30/98 4:19			"	"	—	" "		"
30N34-2	9/30/98 4:30			"	"	—	" "		"
30N34-4	9/30/98 4:32			"	"	—	" "		"
30N35-2	9/30/98 4:46			"	"	—	" "		"
30N35-4	9/30/98 4:48			"	"	—	" "		"

Samplers: (Signature) WP Butler

Affiliation: BUTLER SERVICES

Relinquished by: (Signature) LOU FORTEN BERRY	Date: 9/30/98 Time: 11:00am	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:
		Received for laboratory: (Signature)	Date: Time:
		Data Results to:	

Intact | Intact | Intact | Laboratory No.

SAMPLER REMARKS:

Seal #

report emailed 10/16/98 10:10 AM

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: LOUIS W. FORTENBERRY

Client/Project Name: GULFPORT FERTILIZER COMPANY

Company	Address	Contact	Project Location	Project No.
BUTLER SERVICES	PASCAGOULA, MS	LW FORTENBERRY Phone (228) 769-6983	33rd STREET, GULFPORT, MS	300998

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
30RC1	9/30/98 10:08			Plastic	water	HNO3	Lead, Arsenic		GeoProbe 4½'-5'
30RC4	9/30/98 10:42			"	"	"	" "		" "
30N11	9/30/98 1:19			"	"	"	" "		" "
30N14	9/30/98 2:15			"	"	"	" "		" "
30N21	9/30/98 2:45			"	"	"	" "		" "
30N24	9/30/98 3:25			"	"	"	" "		" "
30N31	9/30/98 3:55			"	"	"	" "		" "
30N34	9/30/98 4:36			"	"	"	" "		" "

Samplers: (Signature)	Relinquished by: (Signature)	Date: / Time:	Received by: (Signature)	Date: / Time:	Intact
N W Butler	LW FORTENBERRY	Date: 10/01/98 Time: 11:00			
BUTLER SERVICES Affiliation	Relinquished by: (Signature)	Date: / Time:	Received by: (Signature)	Date: / Time:	Intact
	Relinquished by: (Signature)	Date: / Time:	Received by: (Signature)	Date: / Time:	Intact
SAMPLER REMARKS:			Received for laboratory: (Signature)	Date: / Time:	Laboratory No.
Seal #			Data Results to:		

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: L.W. FORTENBERRY

Client/Project Name: GULFPORT FERTILIZER PLANT

Company	Address	Contact	Project Location	Project No.
BUTLER SERVICES	PASCAGOULA, MS	L W FORTENBERRY Phone: (228) 769-6983	33RD STREET, GULFPORT, MS	300998

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	METHOD	REMARKS
31S11-2	10/01/98 7:15A			4oz W/m glass	SOIL	--	Lead, Arsenic		
31S11-4	10/01/98 7:17A			"	"	—	" "		
31S12-2	10/01/98 7:32A			"	"	—	" "		
31S12-4	10/01/98 7:34A			"	"	—	" "		
31S13-2	10/01/98 7:42A			"	"	—	" "		
31S13-4	10/01/98 7:44A			"	"	—	" "		
31S14-2	10/01/98 7:54A			"	"	—	" "		
31S14-4	10/01/98 7:56A			"	"	—	" "		Mgmt complete 10/15/98 M. Woodruff
31S15-2	10/01/98 8:12A			"	"	—	" "		
31S15-4	10/01/98 8:14A			"	"	—	" "		

Samplers: (Signature)	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
	L W FORTENBERRY Louis Fortenberry	Date: 11/2/98 Time: 1130 AM			
BUTLER SERVICES Affiliation	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
SAMPLER REMARKS:			Received for laboratory: (Signature)	Date: 10/2/98 Time: 1130	Laboratory No.
Seal #			Data Results to:		

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: L.W. FORTENBERRY

Client/Project Name: GULFPORT FERTILIZER PLANT

Company	Address	Contact	Project Location	Project No.
BUTLER SERVICES	PASCAGOULA, MS	L.W. FORTENBERRY Phone: (228) 769-6983	33 RD STREET, GULFPORT, MS	300998

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
31521-2	10/01/98 8:24			16 OZ W/M GLASS	SOIL	—	Lead, Arsenic		
31521-4	10/01/98 8:26			16 OZ W/M GLASS	"	—	" "		
31522-2	10/01/98 8:38			16 OZ W/M GLASS	"	—	" "		
31522-4	10/01/98 8:40			16 OZ W/M GLASS	"	—	" "		
31523-2	10/01/98 8:50			4 OZ W/M GLASS	"	—	" "		
31523-4	10/01/98 8:52			"	"	—	" "		
31524-2	10/01/98 9:00			"	"	—	" "		
31524-4	10/01/98 9:02			"	"	—	" "		Report completed 11/5/98 D. Moore
31525-2	10/01/98 9:18			"	"	—	" "		
31525-4	10/01/98 9:21			"	"	—	" "		

Samplers: (Signature)	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
W.W. Butler	L.W. FORTENBERRY Louis Fortenberry	Date: 11/2/98 Time: 11:30 AM			
BUTLER SERVICES Affiliation	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
SAMPLER REMARKS:			Received for laboratory: (Signature) C.K. Ziegler	Date: 11/2/98 Time: 11:30	Laboratory No.
Seal #			Data Results to:		

Butler Services of Mississippi, Inc.

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Analysis Request and Chain of Custody Record

Sample submitted by: LW FORTENBERRY

Client/Project Name: GULFPORT FERTILIZER PLANT

Company	Address	Contact	Project Location	Project No.
BUTLER SERVICES	PASCAGOULA, MS	LW FORTENBERRY Phone: (228) 769-6983	33RD STREET, GULFPORT, MS	300998

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
31S31-2	10/01/98 9:32A			16oz w/m glass	SOIL	—	Lead, Arsenic		
31S31-4	10/01/98 9:34A			"	"	—	" "		
31S32-2	10/01/98 9:50A			"	"	—	" "		
31S32-4	10/01/98 9:52A			"	"	—	" "		
31S33-2	10/01/98 10:00A			"	"	—	" "		
31S33-2 DUP	10/01/98 10:02A			250ml HDPE	"	—	" "		DUPLICATE
31S33-4	10/01/98 10:04A			16 oz w/m glass	"	—	" "		report completed 10/15/98 L. Woolum
31S34-2	10/01/98 10:14A			4oz w/m glass	"	—	" "		
31S34-4	10/01/98 10:16A			"	"	—	" "		
31S35-2	10/01/98	10:26A		"	"	—	" "		
31S35-4	10/01/98	10:27A		"	"	—	" "		

Samplers: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Intact
	LW FORTENBERRY	Date: 11/2/98 Time: 1130 AM		Date: Time:	
BUTLER SERVICES (Affiliation)	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact

SAMPLER REMARKS:

Seal #

Received for laboratory: (Signature) C. K. Dyer — Date: 10/2/98 Time: 11:30 — Laboratory No.

Data Results to:

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: L.W. FORTENBERRY

Client/Project Name: GULFPORT FERTILIZER PLANT

Company	Address	Contact	Project Location	Project No.
BUTLER SERVICES	PASCAGOULA, MS	L.W. FORTENBERRY Phone: (228) 769-6983	33RD STREET, GULFPORT, MS	300998

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
31541-2	10/01/98 10:36			16oz W/M GLASS	SOIL	—	LEAD, ARSENIC		
31541-4	10/01/98 10:38			"	"	—	" "		
31542-2	10/01/98 10:50			250 ML HDPE	"	—	" "		
31542-4	10/01/98 10:52			"	"	—	" "		
31543-2	10/01/98 11:00			"	"	—	" "		
31543-4	10/01/98 11:02			"	"	—	" "		
									report completed 10/15/98

Samplers: (Signature)	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
BUTLER SERVICES (Affiliation)	L.W. FORTENBERRY Louis Fortenberry	Date: 11/2/98 Time: 1130 Pm			
	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
SAMPLER REMARKS:			Received for laboratory: (Signature) C.K. Douglas	Date: 11/2/98 Time: 1130	Laboratory No.
Seal #			Data Results to:		

Butler Services of Mississippi, Inc.

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Analysis Request and Chain of Custody Record

Sample submitted by: L.W. FORTENBERRY

Client/Project Name: GULFPORT FERTILIZER PLANT

Company	Address	Contact	Project Location	Project No.
BUTLER SERVICES	PASCAGOULA, MS	L.W. FORTENBERRY Phone: (228) 769-6983	33RD STREET, GULFPORT, MS	300998

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	METHOD	REMARKS
31551-2	10/01/98 11:12			16 OZ W/M GLASS	SOIL	—	LEAD, ARSENIC *		
31551-4	10/01/98 11:14			"	"	—	" " *		Refusal or conc. ± 4'
31552-2	10/01/98 11:30			"	"	—	" "		
31552-4	10/01/98 11:32			"	"	—	" "		
31553-2	10/01/98 11:40			"	"	—	" "		
31553-4	10/01/98 11:44			"	"	—	" "		
									report completed 10/15/98 D. Goodwin

Samplers: (Signature)	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
A.W. Butler	L.W. FORTENBERRY	11/2/98 1130 Am			
BUTLER SERVICES Affiliation	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact

SAMPLER REMARKS: * sample producing gas bubbles - use caution

Received for laboratory: (Signature) C.K. Ingle — Date: 10/2/98 Time: 1130 — Laboratory No.

Seal #

Data Results to:

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: LW FORTENBERRY

Client/Project Name: GULFPORT FERTILIZER PLANT

Company	Address	Contact	Project Location	Project No.
BUTLER SERVICES	PASCAGOULA, MS	LW FORTENBERRY Phone: (228) 769-6983	32ND STREET, GULFPORT, MS	300928

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	METHOD	REMARKS
31S61-2	10/01/98 1:06 pm			16oz W/M glass	SOIL	—	Lead, Arsenic		
31S61-4	10/01/98 1:08 pm			"	"	—	" "		
31S62-2	10/01/98 1:20p			"	"	—	" "		
31S62-2DUP	10/01/98 1:21 p			250mL HDPE	"	—	" "		DUPLICATE
31S62-4	10/01/98 1:23p			16 oz W/M Glass	"	—	" "		
31S63-2	10/01/98 1:32p			"	"	—	" "		
31S63-4	10/01/98 1:34p			"	"	—	" "		
									Report Complete 11/15/98 D. Doolittle

Samplers: (Signature)	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
W Butler	LW FORTENBERRY Louis Fortenberry	Date: 11/2/98 Time: 1130 Am			
BUTLER SERVICES Affiliation	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact

SAMPLER REMARKS:

Seal #

Received for laboratory: (Signature) C. K. Hughes — Date: 11/2/98 Time: 1130 — Laboratory No.

Data Results to:

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: L.W. FORTENBERRY

Client/Project Name: GULFPORT FERTILIZER PLANT

Company	Address	Contact	Project Location	Project No.
BUTLER SERVICES	PASCAGOULA, MS	L.W. FORTENBERRY Phone: (228) 769-6983	33RD STREET, GULFPORT, MS	300998

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
31S11	10/01/98 7:22A			250 ML HDPE	WATER	–	Lead, Arsenic		
31S14	10/01/98 8:02A			"	"	–	" "		
31S21	10/01/98 8:30A			"	"	–	" "		
31S24	10/01/98 9:08A			"	"	–	" "		
31S31	10/01/98 9:40A			"	"	–	" "		
31S34	10/01/98 10:20A			"	"	–	" "		report completed 10/15/98 D. Woolley
31S41	10/01/98 10:42			"	"	–	" "		
31S51	10/01/98 11:20			"	"	–	" "		
31S61	10/01/98 1:12P			"	"	–	" "		
	~~10/01/98~~					–	" "		

Samplers: (Signature)	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
BUTLER SERVICES Affiliation	L.W. FORTENBERRY Relinquished by: (Signature)	Date: 11/2/98 Time: 1130 AM	Received by: (Signature)	Date: Time:	Intact
	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
SAMPLER REMARKS:			Received for laboratory: (Signature) C.K. Dugler	Date: 10/2/98 Time: 1130	Laboratory No.
Seal #			Data Results to:		

Butler Services of Mississippi, Inc.

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Analysis Request and Chain of Custody Record

Sample submitted by: L. W. FORTENBERRY

Client/Project Name: GULFPORT FERTILIZER PLANT

Company	Address	Contact	Project Location	Project No.
BUTLER SERVICES	PASCAGOULA, MS	L. W. FORTENBERRY Phone: (228) 769-6983	33RD STREET, GULFPORT, MS	300998

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
31N36-2	10/01/98 1:46p			250mL HDPE	SOIL	—	Lead, Arsenic		
31N36-4	10/01/98 1:48p			"	"	—	" "		
31N37-2	10/01/98 1:56p			"	"	—	" "		
31N38-4	10/01/98 1:58p			"	"	—	" "		
31N39-2	10/01/98 2:05p			"	"	—	" "		
31N39-4	10/01/98 2:07p			"	"	—	" "		
31N26-2	10/01/98 2:22p			"	"	—	" "		Lab complete 10/5/98 D. Woodruff
31N26-4	10/01/98 2:24p			"	"	—	" "		
31N27-2	10/01/98 2:32p			"	"	—	" "		
31N27-4	10/01/98 2:36p			"	"	—	" "		

Samplers: (Signature)	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
	L.W. FORTENBERRY	11/2/98 1130 hrs			
BUTLER SERVICES Affiliation	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
SAMPLER REMARKS:			Received for laboratory: (Signature)	Date: 10/2/98 Time: 1130	Laboratory No.
Seal #			Data Results to:		

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: L.W. FORTENBERRY

Client/Project Name: GULFPORT FERTILIZER PLANT

Company	Address	Contact	Project Location	Project No.
BUTLER SERVICES	PASCAGOULA, MS	L.W. FORTENBERRY Phone: (228) 769-6983	33RD STREET, GULFPORT, MS	300998

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	METHOD	REMARKS
31N28-2	10/01/98 2:47p			250ML HDPE	SOIL	–	Lead, Arsenic		
31N28-4	10/01/98 2:46p			"	"	–	" "		
31N29-2	10/01/98 2:56p			"	"	–	" "		
31N29-4	10/01/98 2:58p			"	"	–	" "		
31N19-2	10/01/98 3:12p			"	"	–	" "		
31N19-4	10/01/98 3:14p			"	"	–	" "		
31S39-2	10/01/98 3:24p			"	"	–	" "		
31S39-4	10/01/98 3:26p			"	"	–	" "		
31S79-2	10/01/98 4:15p			"	"	–	" "		
31S79-4	10/01/98 4:18p			"	"	–	" "		

upon completion 10/5/98

D. Loadholt

Samplers: (Signature)	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
BUTLER SERVICES Affiliation	L.W. FORTENBERRY (Signature)	Date: 11/2/98 Time: 1130 hrs			
	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
			Received for laboratory: (Signature)	Date: 11/2/98 Time: 1130	Laboratory No.

SAMPLER REMARKS:

Seal #

Data Results to:

Butler Services of Mississippi, Inc.

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Analysis Request and Chain of Custody Record

Sample submitted by: L.W. FORTENBERRY

Client/Project Name: GULFPORT FERTILIZER PLANT

Company	Address	Contact	Project Location	Project No.
BUTLER SERVICES	PASCAGOULA, MS	L.W. FORTENBERRY Phone: (228) 769-6983	33RD STREET, GULFPORT, MS	300998

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	Analysis Requested: TEST	Analysis Requested: METHOD	REMARKS
31N39	10/01/98 2:12p			250mL HDPE	WATER	–	Lead, Arsenic		
31S39	10/01/98 3:42p			"	"	–	" "		
31S79	10/01/98 4:25p			"	"	–	" "		
31S149	10/01/98 4:32			"	"	–	" "		
31S146	10/01/98 4:42			"	"	–	" "		
31S143	10/01/98 4:56			"	"	–	" "		
FIELD BLANK	10/01/98 –			"	"	–	" "		report complete 10/15/98 10-1000++
31N37-4	10/01/98			"	SOIL				not listed on coc CK
31N38-2	10/01/98			"	SOIL				

Samplers: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Intact
[signature]	L.W. FORTENBERRY [signature: Louis Fortenberry]	Date: 11/2/98 Time: 1130 Am		Date: Time:	Intact
BUTLER SERVICES		Date: Time:		Date: Time:	Intact
Affiliation		Date: Time:		Date: Time:	Intact

SAMPLER REMARKS:

Received for laboratory: (Signature) C.K. Sigler — Date: 10/2/98 Time: 1130

Laboratory No.:

Data Results to:

Seal #

BUTLER SERVICES

CHAIN OF CUSTODY RECORD

PROJ. NO	PROJECT NAME
Gulfport 7/24	GFCo 98309

SAMPLERS: (Signature) [signature]

STA. NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS									REMARKS
RC1	10/21	1000 am		X		1									
RC4	10/21	1015 am		X		1									Pb
N12	10/21	1030 am		X		1									+ only
N14	10/21	1045 am		X		1									water As Samples
N21	10/21	1130 am		X		1									
N24	10/21	1150 am		X		1									
N31	10/21	1220 pm		X		1									
N34	10/21	1245 pm		X		1									
S39	10/21	1220 pm		X		1									
S51	10/21	1480 pm		X		1									
S51	10/21	210 pm		X		1									Soil report completed
S61	10/21	230 pm		X		1									Soil 10/23/98
															W. Woolworth

Relinquished by:(Signature)	Date/Time	Received by:(Signature)	Relinquished by:(Signature)	Date/Time	Received by:(Signature)
[signature]	10/21/98 330 pm				

Relinquished by:(Signature)	Date/Time	Received by:(Signature)	Relinquished by:(Signature)	Date/Time	Received by:(Signature)

Relinquished by:(Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:
		[signature]	10/21/98 1530	

Butler Service

CHAIN OF CUSTODY RECORD

PROJ. NO.

PROJECT NAME: Gulfport Fertilizer Plant

SAMPLERS: (Signature) [signature]

SAMPLERS: (Print Name) L. FORTENBERRY

STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	Pb	As							REMARKS
	2/12/99	0900			0212 S-5-1-2' deep	1	✓	✓							25' East
	2/12/99	0915			0212 S-5-1 -4' deep	1	✓	✓							25' East
	2/12/99	0930			0212 S-6-1 2' deep	1	✓	✓							25' East
	2/12/99	0945			0212 S-6-1 4' deep	1	✓	✓							25' East
															report completed
															2/17/99
															[illegible]

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	2/12 1015				
Print Name:		Print Name:	Print Name:	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for laboratory by: (Signature)	Date/Time		
		[signature]	2/12/99 1015		
Print Name:		REMARKS:			

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: Denton Bates / C. Day

Client/Project Name: GP Fertilizer Plant

Company	Address	Contact	Project Location	Project No.
Butler Env -	See above address	Denton Bates Phone: 228-769-6983	Gulfport, MS	98 HB001

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
~~N16-2'~~ S16 N16 CD 7/19/99	0845 7-19-99	X		glass 8 oz	Soil	~~No~~ Ice CD 7/19/99	As, Pb		
N16-4' ~~N16-4'~~ CD 7/19/99	0845 7-19-99	X							
RC6-2'	0855 7-19-99	X							
RC6-4'	0855 7-19-99	X							
N17-2'	0905 7-19-99	X							
N17-4'	0905 7-19-99	X							
N18-2'	0935 7-19-99	X							NO sample collected For 4 Ft interval
N20-2'	0955 7-19-99	X							report completed 7/28/99 N. Doucette
N20-4'	0955 7-19-99	X							

Samplers: (Signature)	Affiliation	Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	
Collin Day	EMS	Collin Day	7-19-99	1545	Brenda Hilbert			Intact
T. Bates	EMS	Brenda Hilbert	7-19-99	4.50				

SAMPLER REMARKS:

Seal #

Received for laboratory: (Signature) C. K. Degree — Date: 7-19-99 Time: 1650 — Laboratory No.

Data Results to:

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: _____

Client/Project Name: Gulfport Fertilizer Project

Company	Address	Contact	Project Location	Project No.
Butler -	See above address	Denton Bates Phone: 769-6983 (228)	Gulfport, MS	98HB001

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
RC10-2'	7-19-99 1005	✓		8 oz glass	Soil	Ice ~~None~~ CD 7/14/99	As, Pb		
RC10-4'	7-19-99 1005	✓							
RC9-2'	7-19-99 1040	✓							
RC9-4'	7-19-99 1040	✓							
RC8-2'	7-19-99 1050	✓							
RC8-4'	7-19-99 1050	✓							
RC7-2'	7-19-99 1110	✓							
RC7-4'	7-19-99 1110	✓							
S16-2'	7-19-99 1115	✓							
S16-4'	7-19-99 1115	✓							

REMARKS: report complete 7/28/99 D. Doolittle

Samplers: (Signature)	Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Intact
Collin Day EMS R. Bates EMS.	Collin Day	7-19-99	1545	Brendan Hibbard			
Affiliation	Relinquished by: (Signature) Brendan Hibbard	7-19-99	4:50	Received by: (Signature)			Intact
	Relinquished by: (Signature)			Received by: (Signature)			Intact

SAMPLER REMARKS:

Seal #

Received for laboratory: (Signature) C. K. Hughes — Date: 7-19-99 Time: 1650 — Laboratory No.

Data Results to:

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: Denton Bates / Collin Day

Client/Project Name: Gulfport Fertilizer Plant

Company	Address	Contact	Project Location	Project No.
See above	address Butler	Denton Bates Phone: 228-769-6983	Gulfport, MS	98HB001

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
S17-2'	7-19-99 1130	✓		8oz glass	Soil	(Ice) NA	As, Pb		
S17-4'	7-19-99 1130	✓							
S18-2'	7-19-99 1145	✓							
S18-4'	7-19-99 1145	✓							
S19-2'	1155 7-19-99	✓							
S19-4'	7-19 99 ~~1210~~ 1155	✓							report complete 7/28/99 D. Woolett
S20-2'	7-19-99 1200	✓							
S20-4'	7-19-99 1200	✓							
T4100E-2'	7-19-99 1320	✓							
T4100E-4'	7-19-99 1320	✓							

Samplers: (Signature)	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
Collin Day EMS R.P. Bates EMS	Collin Day EMS	Date: 7-19-99 Time: 1545 ~~1516~~ CD 7/19/99	Brendan Hudson		
Affiliation	Relinquished by: (Signature) Brendan Hudson	Date: 7.19.99 Time: 4:30	Received by: (Signature)	Date: Time:	Intact
	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact

SAMPLER REMARKS:

Seal #

Received for laboratory: (Signature) C.K. Hughes
Date: 7-19-99 Time: 1650
Laboratory No.

Data Results to:

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: Denton Bates / Collin Day

Client/Project Name: GP Fertilizer Plant

Company	Address	Contact	Project Location	Project No.
see above	Butler	Denton Bates Phone: 228-769-6983	Gulfport, MS	98HB001

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
~~T450E-2'~~	~~7-19-99 1335~~	~~X~~		~~8 oz glass~~	~~soil~~	~~(Ice) NA~~	~~As, Pb~~ CD 7-19-99		
~~T450E-4'~~	~~7-19-99 1335~~	~~X~~					CD 7-19-99		
T450N-2'	7-19-99 1405	X							
~~T450N-4'~~	~~7-19-99 1405~~	X							Resample per C. Day
T5-2'	7-19-99 1410	✓							
T5-4'	7-19-99 1410	X							
T550N-2'	7-19-99 1435	✓							
T550N-4'	7-19-99 1435	✓							
T5100E-2'	7-19-99 1455	✓							
T5100E-4'	7-19-99 1455	✓							

Resample not completed 7/28/99 D. Woodruff

Samplers: (Signature)	Affiliation	Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Intact
Collin Day	EMS	Collin Day	7-19-99	1545	Brenden Hillard			
D. Woodruff	EMS	Brenden Hillard	7-19-99	4:50				

SAMPLER REMARKS:

Seal #

Received for laboratory: (Signature) C. K. Duglee — Date: 7-19-99 Time: 1650

Data Results to:

Laboratory No.

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: Denton Bates / Collin Day

Client/Project Name: Gulfport Fertilizer Plant

Company	Address	Contact	Project Location	Project No.
Butler Serv.	See above address	Denton Bates Phone: 769-6983 (226)	Gulfport, MS	CD #98HB001 7-19-99

Field Sample No./ Identification	Date and Time	Grab	Comp.	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
T450S-2'	7-19-99 1520	X		8oz glass	Soil	(Ice) NA	As, Pb		
T450S-4'	7-19-99 1520	X		8oz glass					
									report complete 7/28/99 d. Woolsey

Samplers: (Signature)	Affiliation	Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Intact
Collin Day EMS R. Bates EMS		Collin Day EMS	7-19-99	1545	Brandon Gibbons			
		Relinquished by: (Signature)	7-19-99	4:50	Received by: (Signature)			Intact
		Relinquished by: (Signature)			Received by: (Signature)			Intact

SAMPLER REMARKS:

Seal #

Received for laboratory: (Signature) C. K. Clyde — Date: 7-19-99 Time: 1650

Data Results to:

Laboratory No.

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: Denton Bates / Collin Day

Client/Project Name: Gulfport Fertilizer Plant

Company	Address	Contact	Project Location	Project No.
Butler Servic.	See above address	Denton Bates Phone: 769-6983	Gulfport, MS	98HB001

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
-7-19-99	7-19-99 1430	✓		plastic 1 qt	Equ. Rinsate liquid	HNO_3	metals As, Pb		
3-7-19-99	7-19-99 1435	✓		plastic 1 qt	~~Equ. Rinsate~~ Field Blank	co 7-19-99 HNO_3	metals As, Pb		
B-7-19-99	7-16-99 0800	✓		↓	Trip Blank	(Ice) NA	metals As, Pb		
									report completed 7/28/99 D. Woolworth

Samplers: (Signature)	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
Collin Day EMS	Collin Day EMS	7-19-99 3:55	Brendan Stillard		
Affiliation	Relinquished by: (Signature) Brendan Stillard	7-19-99 4:50	Received by: (Signature)	Date: Time:	Intact
	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
SAMPLER REMARKS:			Received for laboratory: (Signature) C. Hughes	Date: 7-19-99 Time: 1658	Laboratory No.
Seal #			Data Results to:		

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: Collin Day / Denton Bates

Client/Project Name: Gulfport

Company	Address	Contact	Project Location	Project No.
Butler Serv.	SEE ADDRESS ABOVE	Denton Bates Phone: 228-769-6983	Gulfport, MS	98HB001

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
4SOE-2	7-19-99 13:35	X		GLASS 8oz SOIL	Soil	(ICE) NA	As, Pb		
4SOE-4	7-19-99 13:39	X		GLASS 8oz	Soil	(ICE) NA	As, Pb		
									report completed 8/3/99 D. Dossett

Samplers: (Signature)	Affiliation	Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	
Collin Day	EMS	Collin Day	7-20-99	1317	K.V. Bates	7-20-99	1317	Intact
K.V. Bates	EMS	K.V. Bates	7-20-99	14:19				Intact
								Intact

AMPLER REMARKS:

Seal #

Received for laboratory: (Signature) C. K. Ingle — Date: 7-20-99 — Time: 1419

Data Results to:

Laboratory No.

Page _____ of _____

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: DENTON BATES/COLLIN DAY

Client/Project Name: GULFPORT FERTILIZER PLANT

Company	Address	Contact	Project Location	Project No.
Butler Serv.	See address above	DENTON BATES Phone: 769-6983	GULFPORT, MS	98HB001

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
~~27-2'~~	7-19-99 1650	X		8oz glass Soil	Soil	(Ice) NA	As, Pb		
~~27-4'~~	7-19-99 1650	X							
26-2'	7-19-99 1635	X							
26-4'	7-19-99 1635	X							
28-2'	7-19-99 1705	X							report completed 8/3/99 D. Woolley
28-4'	7-19-99 1705	X							
29-2'	7-19-99 1725	X							
29-4'	7-19-99 1725	X							
S30-2'	7-19-99 1735	X							
S30-4'	1735	X							

Samplers: (Signature)	Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	
Collin Day EMS K.V. Bates EMS	Collin Day	7-20-99	1317	K.V. Bates	7-20-99	13:17	Intact
Affiliation	K.V. Bates	7-20-99	14:19				Intact
							Intact

SAMPLER REMARKS:

Seal #

Received for laboratory: (Signature) C.K. Hughes — Date: 7-20-99 Time: 1419 — Laboratory No.

Data Results to:

Butler Services of Mississippi, Inc.

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Analysis Request and Chain of Custody Record

ample submitted by: Denton Bates / Collin Day

Client/Project Name: Gulfport Fertilizer Plant

ompany	Address	Contact	Project Location	Project No.
Butler Serv	Addresses · Above	Denton Bates Phone: 769-6983	Gulfport, MS	98HB031

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	METHOD	REMARKS
S27-2'	7-19-99 1700	X		8oz glass	Soil	(Ice) NA	Pb, As		
27-4'	7-19-99 1700	X							
CD 7-19-99 ~~30-2'~~									
7100E-2'	1740	X							
7100E-4'	1740	X							report completed 8/3/99 D. Doolittle

Samplers: (Signature)	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	
Collin Day EMS R.V. Bates EMS	Collin Day R.V. Bates	7-20-99 1317 7-20-99 14:19	R.V. Bates	7-20-99 1317	Intact
Affiliation	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
AMPLER REMARKS:			Received for laboratory: (Signature) C.K. Chyou	Date: 7-20-99 Time: 1419	Laboratory No.
eal #			Data Results to:		

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: Denton Bates / Collin Day

Client/Project Name: Gulfport Fertilizer Plant

Company	Address	Contact	Project Location	Project No.
Butler Services	See above address	Denton Bates Phone: 769-6938	Gulfport, MS	98HB-001

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
S40-2' DUP	7-23-99 1020	X		8 oz glass	Soil	Ice (NA)	As, Pb		
S40-4' DUP	7-23-99 1020	X							
S57-2'	7-23-99 1030	X							
S57-4'	7-23-99 1030	X							
S58-4' 7-23-99									
S58-2'	7-23-99 1050	X							
S58-4'	7-23-99 1050	X							report completed 8/2/99 D. Doolittle
S59-2'	7-23-99 1115	X							
S59-4'	7-23-99 1115	X							
S60-2'	7-23-99 1130	X							
S60-4'	7-23-99 1130	X							

Samplers: (Signature) Collin Day EMS

Affiliation

SAMPLER REMARKS:

Seal #

Relinquished by: (Signature) Collin Day	Date: 7-23-99 Time: 2041	Received by: (Signature)	Date: 7/23/99 Time: 7:00 PM
Relinquished by: (Signature)	Date: 7-23-99 Time: 9:20 PM	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:
		Received for laboratory: (Signature) Tina O. Jones	Date: 7-23-99 Time: 9:20 pm
		Data Results to:	

Intact

Intact

Intact

Laboratory No.

Butler Services of Mississippi, Inc.

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Analysis Request and Chain of Custody Record

ample submitted by: Denton Bates / C. Day

Client/Project Name: Gulfport Fertilizer Project

ompany	Address	Contact	Project Location	Project No.
Butler Serv.	See above address	Denton Bates Phone: 769-6938	Gulfport, MS	98H5001

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	METHOD	REMARKS
36-2' ~~3 EB 7-23-99~~	7-23-99 0820	X		8oz glass	Soil	NA	As, Pb		
36-4'	7-23-99 0820	X							
38-2'	7-23-99 0840	X							
38-4'	7-23-99 0840	X							
9100W-2'	7-23-99 0950	X							
9100W-4'	7-23-99 0950	X							report completed 8/12/99
50-2'	7-23-99 1000	X							D. Doucette
50-4'	7-23-99 1000	X							
40-2'	7-23-99 1020	X							
40-4'	7-23-99 1020								

Samplers: (Signature)	Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	
Allen Day EMS	Allen Day	7-23-99	2040		7-23-99	2040	Intact
Affiliation	Relinquished by: (Signature)	7-23-99	920 PM	Received by: (Signature)	Date:	Time:	Intact
	Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Intact
AMPLER REMARKS:				Received for laboratory (Signature) Dina B Jones	Date: 7-23-99	Time: 9:20 pm	Laboratory No.
eal #				Data Results to:			

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: Denton Bates / C. Day

Client/Project Name: Gulfport Fertilizer Project

Company	Address	Contact	Project Location	Project No.
Butler Env.	See above address	Denton Bates Phone: 769-6983	Gulfport, MS	98H8007

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
S126-2'	7-23-99 1646	X		glass container 8oz	Soil	NA	As, Pb		
S126-4'	7-23-99 1646	X							
S98-2'	7-23-99 1700	X							
S98-4'	7-23-99 1700	X							
S77-2'	7-23-99 1712	X							report completed 8/12/99 D Doolittle
S77-4'	7-23-99 1712	X							
S96-2'	7-23-99 1727								
S96-4'	7-23-99 1727								
S94-2'	7-23-99 1754								
S94-4'	7-23-99 1754								

Samplers: (Signature)	Relinquished by: (Signature)	Date:	Received by: (Signature)	Date:	Intact
Collin Day EMS	Collin Day	7-23-99 Time: 2040		7-23-99 Time: 9:20 PM	
Affiliation	Relinquished by: (Signature)	Date: 7-23-99 Time: 920 PM	Received by: (Signature)	Date: Time:	Intact
	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
SAMPLER REMARKS:			Received for laboratory (Signature) Dina B. Jones	Date: 7-23-99 Time: 9:20 pm	Laboratory No.
Seal #			Data Results to:		

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: Denton Bates / Collin Day

Client/Project Name: Gulfport Fertilizer Plant

Company	Address	Contact	Project Location	Project No.
Butler Services	See above address	Phone: 228-769-6983	Gulfport, MS Gulfport Fertilizer	98HB0001

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
✓40-2'	7-23-99 744	X		8oz glass	Soil	Ice (NA)	As, Pb		
✓40-4'	7-23-99 744	X							
S49-2'	7-23-99 0930	X							
S49-4'	7-23-99 0930	X							
S-48-2'	7-23-99 0925	X							
S-48-4'	7-23-99 0925								
S-47-2'	7-23-99 0900								report completed 8/12/99 D. Woodruff
~~S-47-4'~~ S-37-4'	7-23-99 0830								
S-37-2	7-23-99 0830								
S-37-4	7-23-99 0830								

Samplers: (Signature)	Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	
Collin Day EMS	Collin Day	7-23-99	2040		7-23-99	900pm	Intact
Affiliation	Relinquished by: (Signature)	7-23-99	920pm	Received by: (Signature)	Date:	Time:	Intact
	Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Intact
SAMPLER REMARKS: Tina (home) 875-4582				Received for laboratory: (Signature) Tina B. Jones	Date: 7.23.99	Time: 9:20pm	Laboratory No.
Seal #				Data Results to:			

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: Denton Bates / C. Day

Client/Project Name: Gulfport Fertilizer Plant

Company	Address	Contact	Project Location	Project No.
Butler Env.	See above	Denton Bates Phone: 769-6983	Gulfport, MS	98H5001

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
S56-2'	7-23-99 1200	X		4oz glass	Soil	NA	As, Pb		
S56-4'	7-23-99 1200	X							
S55-2'	7-23-99 1255	X							
S55-4'	7-23-99 1255	X							
S55-2'DUP		X							
S55-4'DUP		X							
S54-2'	7-23-99 1315	X							report emailed 8/2/99 D. Woodruff
S54-4'	7-23-99 1315	X							
S45-2'	7-23-99 1320	X							
S45-4'	7-23-99 1320	X							

Samplers: (Signature)	Affiliation	Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	
Collin Day EMS		Collin Day	7-23-99	2040		7-23-99	2040	Intact
			7-23-99	720 PM				Intact
								Intact

SAMPLER REMARKS:

Seal #

Received for Laboratory: (Signature) Tina O Jones — Date: 7-23-99 Time: 9:20 pm — Laboratory No.

Data Results to:

Butler Services of Mississippi, Inc.

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Analysis Request and Chain of Custody Record

Sample submitted by: DENTON BATES / COLLIN DAY

Client/Project Name: GULFPORT FERTILIZER PLANT

Company	Address	Contact	Project Location	Project No.
BUTLER SERVICES	SEE ABOVE ADDRESS	DENTON BATES Phone: 228 769-6583	GULFPORT, MS	98HB001

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
S1110-2'	7-23-99 2005	X		8oz glass	Soil	NA	As, Pb		
S1110-4'	7-23-99 2005	X							
S80-2'	7-23-99 2015	X							
S80-4'	7-23-99 2015	X							
S75-4'	7-23-99 1530								these samples were shipped but not on C of C add as per Callin Day report complete 8/12/99 D. Woodruff
S124-2'	7-23-99 1955								
S124-4'	7-23-99 1955								
S112-2' Dup	7-23-99 1825								
S98-2' Dup	7-23-99 1700								
S71-2'	7-23-99 1517								

Samplers: (Signature)	Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	
Collin Day EMS	Collin Day	7-23-99	2040		7-23-99	2040	Intact
Affiliation	Relinquished by: (Signature)	7-23-99	9:20 PM	Received by: (Signature)	Date:	Time:	Intact
	Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Intact
SAMPLER REMARKS:				Received for laboratory (Signature) Ira B. Jones	7-23-99	9:20 pm	Laboratory No.
Seal #				Data Results to:			

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: DENTON BATES / COLLIN DAY

Client/Project Name: GULFPORT FERTILIZER PROJ

Company	Address	Contact	Project Location	Project No.
BUTLER SERVICES	SEE ABOVE ADDRESS	DENTON BATES Phone: 228 769-6983	GULFPORT, MS GULFPORT FERTILIZER	98HB001

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
S-1210-2'	7-23-99 1933	X							
S1210-4'	7-23-99 1933	X							
S128-2'	7-23-99 1948	X						Identify (as per Collin Day) by label CKD	lid reads 128-2' Dup
S128-4'	7-23-99 1948	X							no sample selects as per Collin Day CKD
S122-2'	7-23-99 1830	X							report completed 8/12/99 W. Beckett
S122-4'	7-23-99 1830	X							
S128-2Dup	7-23-99 1948							Identify by label (as per Collin Day) CKD	lid reads 128-2'
S44-2'								these samples were added as per Collin Day	rec'd but not on COC
S44-4'								labels were not dated, nor did they have a time sample was pulled. CKD	

Samplers: (Signature)	Affiliation	Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Intact
Collin Day EMS		Collin Day	7-23-99	2040		7-23-99	9:20 PM	
		Relinquished by: (Signature)	7-23-99	9:20 PM	Received by: (Signature)	Date:	Time:	Intact
		Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Intact

SAMPLER REMARKS:

Seal #

Received for laboratory: (Signature) Jena B. Jones — Date: 7-23-99 Time: 9:20 pm — Laboratory No.

Data Results to:

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: DENTON BATES / COCUN DMI

Client/Project Name: GULFPORT FERTILIZER PLANT

Company	Address	Contact	Project Location	Project No.
BUTLER SERVICES	SEE ABOVE ADDRESS	DENTON BATES Phone: 228 769-6985	GULFPORT, MS	98HB001

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
S46-2'	7-23-99 1340	X		glass 8 oz	Soil	NA	As, Pb		
S46-4'	7-23-99 1340	X							
S34-2'	7-23-99 1425	X							
S34-4'	7-23-99 1425	X							
S74-2'	7-23-99 1445	X							
S74-4'	7-23-99 1445	X							report completed 8/12/99
S72-2'	7-23-99 1500	X							
S72-4'	7-23-99 1500	X							
S73-2'	7-23-99 1510								
S73-4'	7-23-99 1510								

Samplers: (Signature)	Affiliation	Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Intact
Collin Day EMS		Collin Day	7-23-99	2040		7-23-99	9:40 pm	
		Relinquished by: (Signature)	Date: 7-23-99	Time: 9:20 PM	Received by: (Signature)	Date:	Time:	Intact
		Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Intact
					Received for laboratory: (Signature)	Date: 7.23.99	Time: 9:20 pm	Laboratory No.

SAMPLER REMARKS:

Seal #

Data Results to:

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: DENTON BATES/COLLIN DAY

Client/Project Name: GULFPORT FERTILIZER PLANT

Company	Address	Contact	Project Location	Project No.
BUTLER SERVICES	SEE ABOVE ADDRESS	DENTON BATES Phone: 228 769-6983	GULFPORT, MS	98HB0001

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
S76-2'	7-23-99 1523	X		glass 8oz	Soil	NA	As, Pb		
S76-4'	7-23-99 1523	X							
S75-2'	7-23-99 1530	X							
S75-2'DUP	7-23-99 1530	X							
S116-2'	7-23-99 1629	X							report completed 8/12/99 D. Woolley
S116-4'	7-23-99 1629	X							
S78-2'	7-23-99 1640	X							
S78-4'	7-23-99 1640	X							
~~S77-2'~~	7-23-99 1712	X							LISTED PREVIOUSLY on page 3
~~S77-4'~~	7-23-99 1712	X							LISTED PREVIOUSLY on page 5 CH

Samplers: (Signature) Collin Day CDay

Affiliation

SAMPLER REMARKS:

Seal #

Relinquished by: (Signature) Collin Day	Date: 7-23-99 Time: 2040	Received by: (Signature)	Date: 7-23-99 Time: 2040	Intact
Relinquished by: (Signature)	Date: 7-23-99 Time: 920 PM	Received by: (Signature)	Date: Time:	Intact
Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
		Received for laboratory: (Signature) Iris B. Jones	Date: 7-23-99 Time: 9:20 pm	Laboratory No.
		Data Results to:		

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: DENTON BATES/COLLIN DAY

Client/Project Name: GULFPORT FERTILIZER PUBLIC

Company	Address	Contact	Project Location	Project No.
BUTLER SERVICES	SEE ABOVE ADDRESS	DENTON BATES Phone: 228 769-6983	GULFPORT, MS	98HB0012

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED TEST	ANALYSIS REQUESTED METHOD	REMARKS
S92-2'	7-23-99 1802	X							
S92-4'	7-23-99 1802	X							
S114-2'	7-23-99 1815	X							
S114-4' CD	7-23-99 1815	X							
S112-2'	7-23-99 1825	X							
S112-4'	1825 ~~1825~~ CD 7-23-99	X							
S118-2'	7-23-99 1918	X							
S118-4'	7-23-99 1918	X							
~~9~~ S910-2'	7-23-99 1926	X							
S910-4'	7-23-99 1926	X							

Urgent analysis 8/12/99 D. Doolittle

Samplers: (Signature)	Affiliation	Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Intact
Collin Day GMS		Collin Day	7-23-99	2040		7-23-99	900 AM	
		Relinquished by: (Signature)	7-23-99	920 PM	Received by: (Signature)	Date:	Time:	Intact
		Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Intact

SAMPLER REMARKS:

Seal #

Received for laboratory: (Signature) Ina P. Domah — Date: 7-23-99 Time: 9:20 pm — Laboratory No.

Data Results to:

Butler Services of Mississippi, Inc.

Analysis Request and Chain of Custody Record

Post Office Box 1164 • Pascagoula, Mississippi
Telephone (601) 769-6983

Sample submitted by: Denton Bates / Tony Stuart

Client/Project Name: Gulfport Fertilizer Plant

Company: Butler Services

Address: see above

Contact: Denton Bates

Phone: 228/ 769-6983

Project Location: Gulfport Fertilizer, Gulfport, MS

Project No.: 98HB5001

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Soil Sludge, Etc.)	Preservative	ANALYSIS REQUESTED: TEST	ANALYSIS REQUESTED: METHOD	REMARKS
MW1-01U	7-23-99 ~~11:45~~ 11:10	Upper Tony Stuart		1 Liter	Liquid		Lead, Arsenic, Chrome		
MW1-01F	"			"	"		" "		
MW1-01 FILTER	"			250ml	Filter		Hold for instructions		
Field Blank	7-23-99 1746			1 LITER	Liquid	yes			
Rinsate	7-23-99 1750			1 LITER	Liquid	yes			
Trip Blank	7-19-99			1 LITER	WATER	yes			

Samplers: (Signature) Tony Stuart

Affiliation: EMS

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	
Tony Stuart	Date: 7-23-99 Time: 16:15	Collin Day	Date: 7-23-99 Time: 1618	Intact
Collin Day	Date: 7-23-99 Time: 2040	[signature]	Date: 7-23-99 Time: 9:00 PM	Intact
[signature]	Date: 7-23-99 Time: 920 PM		Date: Time:	Intact

Received for laboratory: (Signature) Teri P. Tomek — Date: 7-23-99 Time: 9:20 pm

Laboratory No.:

SAMPLER REMARKS:

Data Results to:

Seal #

CHAIN-OF-CUSTODY RECORD

Project No.: GULFPORT FERTILIZER PLANT
Location: GULFPORT, MS
Shipping Container ID: _____
Sampler(s): R BATES, J GONSOLIN

BUTLER SERVICES OF MISSISSIPPI
SUBCONTRACT JOB

SAMPLE CONTAINER DESCRIPTION

SAMPLE IDENTITY	SAMPLE DATE	SAMPLE TIME	Analyses Required: As	JF									TOTAL	Condition on Receipt Name & Date
DECON/RINSE WATER-1	8-5-99	10:00	1	1									2	
SOIL CUTTINGS-1	8-5-99	10:00	2										2	
METALS TRIP BLANK	8-5-99	08:00	1										1	
														REPORT COMPLETED 8/27/99 M. DOOLITTLE

Transporter: J. GONSOLIN Airbill/Invoice No. _____ Total Number of Containers: 4

5 RB 8-5-99

PO# 1267

SAMPLE TRANSFER (Retain original with samples)

		(Name)	(Organization)	(Date/Time)		(Name)	(Organization)	(Date/Time)
1.	Relinquished by:	Jeffrey Stonesifer	EMS	8-5-99 3:4	Received by:	M. Doolittle	Micro Methods	8/5/99 340
2.	Relinquished by:				Received by:			

Notes: SECOND SOIL CUTTINGS CONTAINER IS AN EXTRA

APPENDIX C

GEOPROBE DAILY FIELD LOGS

540U GEOPROBE DAILY FIELD LOG

Environmental Management Services, Inc.
600 N. 26th Avenue
Hattiesburg, MS 39401

Project: GP Fertilizer Plant
Location: Gulfport, MS

Date: 7-~~20~~19-99
Weather: warm 92°F, clear

TIME (military):	DESCRIPTION OF DAILY ACTIVITIES
0650	EMS personnel arrive at GP office for mobilization
0752	EMS personnel arrive at GP Fertilizer Plant site.
0855	Commence probing
1800	Completed probing for day, Summary as follows: performed probing at 27 sampling points material usage listed below.

TIME SUMMARY:

	Employee	Office (hrs)	Field (hrs)	Travel (hrs)	Total
1.	John Dobson	1	11	-	12
2.	Jeff Goossulin	1	11	-	12
3.	Collin Day	1	11	-	12
4.	Robbie Gates	1	11	-	12

EQUIPMENT AND SUPPLIES SUMMARY:

Code	Description	Amount	Code	Description	Amount
320	Survey Equipment		340	Peristaltic Pump	
322	GPS Unit			Sample Tubing 1/4 in.	
325	Water Level Indicator			Sample Tubing 3/8 in.	
326	pH/Conductivity Meter			PVC Well Riser	
	Geoprobe Truck/Mileage	-		PVC Well Screen	
	Support Vehicle Mileage	-		Core Liner (macro)	33
333	Camera - Video			Core Liner (small)	
334	Camera - 35mm		342	Per Diem	-
335	Camera - Digital		345	Health and Safety Supls.	
337	Metal Detector		346	Specialized Health/Safety	
338	Flame Ionization (FID)		Other	4 gallons HPLC water	
339	Combustible Gas Indicator			1/2 gal Isopropanol	
	Soil Conductivity Probe			MC Core catchers	33
	55 gallon drum	3			

540U GEOPROBE DAILY FIELD LOG

Environmental Management Services, Inc.
600 N. 26th Avenue
Hattiesburg, MS 39401

Project: GP Fertilizer Plant
Location: Gulfport, MS

Date: 7-20-99
Weather: Cloudy and rain

TIME (military):	DESCRIPTION OF DAILY ACTIVITIES
0610	Ems personnel onsite
0630	Set up at well MW-1 For purging
0730	Ems personnel J. Dobson, J. Gonsoulin and C. Day depart site. R. Gates remains to continue purging well. Rain has stopped all other work.
1100	R. Gates departs site Following completion of well purge.

TIME SUMMARY:

	Employee	Office (hrs)	Field (hrs)	Travel (hrs)	Total
1.	J. Dobson	1	1	-	2
2.	J. Gonsoulin	1	1	-	2
3.	C. Day	1	1	-	2
	R. Gates	0	5	-	5

EQUIPMENT AND SUPPLIES SUMMARY:

Code	Description	Amount
320	Survey Equipment	
322	GPS Unit	
325	Water Level Indicator	
326	pH/Conductivity Meter	
	Geoprobe Truck/Mileage	
	Support Vehicle Mileage	
333	Camera - Video	
334	Camera - 35mm	
335	Camera - Digital	
337	Metal Detector	
338	Flame Ionization (FID)	
339	Combustible Gas Indicator	
	Soil Conductivity Probe	
	Peristaltic pump 1 day @ $15/day	

Code	Description	Amount
340	Peristaltic Pump	1 day
	Sample Tubing 1/4 in.	
	Sample Tubing 3/8 in.	
	PVC Well Riser	
	PVC Well Screen	
	Core Liner (macro)	
	Core Liner (small)	
342	Per Diem	
345	Health and Safety Supls.	
346	Specialized Health/Safety	
Other		

540U GEOPROBE DAILY FIELD LOG

Environmental Management Services, Inc.
600 N. 26th Avenue
Hattiesburg, MS 39401

Project: GP Fertilizer Plant
Location: Gulfport, MS

Date: 7-21-99
Weather: clear + warm

TIME (military):	DESCRIPTION OF DAILY ACTIVITIES
1030	EMS personnel arrive onsite to grout borings
1130	EMS personnel complete site grouting.

TIME SUMMARY:

	Employee	Office (hrs)	Field (hrs)	Travel (hrs)	Total
1.	J. Dobson		1	-	1
2.	J. Gonsoulin		1	-	1
3.	R. Gates		1	-	

EQUIPMENT AND SUPPLIES SUMMARY:

Code	Description	Amount
320	Survey Equipment	
322	GPS Unit	
325	Water Level Indicator	
326	pH/Conductivity Meter	
	Geoprobe Truck/Mileage	
	Support Vehicle Mileage	
333	Camera - Video	
334	Camera - 35mm	
335	Camera - Digital	
337	Metal Detector	
338	Flame Ionization (FID)	
339	Combustible Gas Indicator	
	Soil Conductivity Probe	

Code	Description	Amount
340	Peristaltic Pump	
	Sample Tubing 1/4 in.	
	Sample Tubing 3/8 in.	
	PVC Well Riser	
	PVC Well Screen	
	Core Liner (macro)	
	Core Liner (small)	
342	Per Diem	
345	Health and Safety Supls.	
348	Specialized Health/Safety	
Other		

540U GEOPROBE
DAILY FIELD LOG

Environmental Management Services, Inc.
600 N. 26th Avenue
Hattiesburg, MS 39401

Project: GP Fertilizer Plant - Butler Services, Inc Date: 7-23-99
Location: Gulfport, MS Weather: Clear to Partly Cloudy
Rain + Thunderstorms 4-6 pm

TIME (military):	DESCRIPTION OF DAILY ACTIVITIES
0[illegible]	EMS personnel arrive at Gulfport office For mobilization
0600	EMS arrive at GP Fertilizer Plant site to begin Field activities. Commenced setting up sampling equipment at well MW-1.
0730-0525	Commence probing at N40 location and continued probing to completion of all sampling points.
	EMS porsonnel depart site due to rain and move sampling/logging to Gulfport office
2000	R. Gates, J. Gonsoulin and J. Dobson depart Ems office site For day
2100	C. Day, Butler Services Porsonnel D. Bates and J. Fortenberry as well as MDEQ inspector P. Johnston depart Ems office For the day.

TIME SUMMARY:

	Employee	Office (hrs)	Field (hrs)	Travel (hrs)	Total
1.	J. Dobson	1	14	-	15
2.	J. Gonsoulin	1	14	-	15
3.	C. Day	2	14	-	16
4.	R. Gates	1	14	1	16

EQUIPMENT AND SUPPLIES SUMMARY:

Code	Description	Amount
	Lamotte turbidmeter	$15.00/day 1 day
320	Survey Equipment	
322	GPS Unit	
325	Water Level Indicator	
328	pH/Conductivity Meter	
	Geoprobe Truck/Mileage	
	Support Vehicle Mileage	
333	Camera - Video	
334	Camera - 35mm	
335	Camera - Digital	
337	Metal Detector	
338	Flame Ionization (FID)	
339	Combustible Gas Indicator	
	Soil Conductivity Probe	
	55 gallon Steeldrum	3
	Nitrile gloves	2 boxes
	[illegible]	1 day @ $[illegible]

Code	Description	Amount
	MC Core catchers	45
340	Peristaltic Pump	1 day
	Sample Tubing 1/4 in.	
	Sample Tubing 3/8 in.	32 Ft
	PVC Well Riser	
	PVC Well Screen	
	Core Liner (macro)	45
	Core Liner (small)	
342	Per Diem	
345	Health and Safety Supls.	2 boxes nitrile glov
346	Specialized Health/Safety	
Other	Turbidity meter	$15.00
	Aluminum Foil Rolls	10
	1 Gallon Plastic bags	4 boxes
	Ice bags	4
	HPLC water	8 gallons

APPENDIX D

SOIL BORING DRILLING LOGS

EMS DRILLING LOG 7-19-99

HOLE NUMBER ~~S30~~ T7100E

PROJECT GP Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-0.4 Dk brown (10YR 3/2) silty SM sand dry.	NA	NA	T7100E-2'	Recover 2.9 Ft
2		0.4-4 SM/sc gley (7/N) silty Sand - Saturated at 2.2 Ft to bottom of sampler.			T7100E-4'	Contact water at ~2.2 Ft bgl
3						
4						TD=4 Ft

EMS DRILLING LOG 7-19-99

HOLE NUMBER T450S

PROJECT GP- Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-0.9 SM Black (2.5/N) Silty sand w/ brick Fragments. dry	NA	T450S-2' Split DEQ		Recover = 3.8' Probe 4 ft
2		0.9 - 4 SC Gley (7/10Y) Sandy clay Very moist; wet at 3.8 - 4 ft or 0.2 ft From bottom of sampler.				
3						
4				T450S-4' Split DEQ		TD = 4 ft

EMS DRILLING LOG

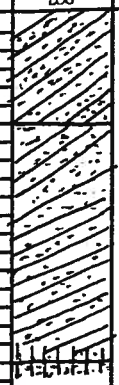
7-19-99

HOLE NUMBER T4100E

PROJECT GP- Fertilizer Plant

GEOLOGIST C. Dey

SHEET 1 of 1



DEPTH (FT)	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1	0-1.1 SC red (10 R 5/8) Sandy Clay with gravel and brick chips/fragments	NA	NA	T4100-2'	Probe 4 Ft Recover 3 Ft
2	1.1 - 4 Color and lithology change noted to gley (S/N) SM/SC sandy clay to silty sand at bottom of interval Saturated From 3 - 4 Ft (1 Ft from bottom of interval.				
3					
4				T4100-4'	TD = 4 Ft

EMS DRILLING LOG

7-19-99

HOLE NUMBER T450E

PROJECT GP - Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 OF 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0 - 1.7 Gley (7/N) (SM) Silty sand, Dry	NA	~~T450-2'~~ CD 7-19-99	T450-2'	Probe 4 Ft Recover 3.6 Ft
2		1.7 - ~~4.0~~ Brown (10YR 3/2) (SC) Sandy clay w/ brick fragments and wood chips. / mottled		~~T450-2'~~ 7-19-99 CD ~~Split DEQ~~	T450-2' Split DEQ	
3		~~2.2~~ mucky black soil w/ red 10R(5/6). brick fragments wet gray 7/N) (SM) Sand at 0.1 Ft of sampler bottom.			T450-4'	
4				CD 7-19-99 ~~T450-4'~~		TD = 4 Ft

EMS DRILLING LOG

7-19-99

HOLE NUMBER T450N

PROJECT GP Fertilizer Plant Project

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0 - 0.45 Red (10R 3/3) SC Sandy clay with brick Fragments Dry and loose to 0.45 Ft.	NA	NA	T450N-2'	Probe 4 Ft Recover 3.2 Ft
2		0.45 - 4 Ft gley (4/N) (SM) silty Sand and (SC) sandy clay. Saturated 0.45 - 4 Ft. Collected only 0-2 Ft Sample due to sat. at rest of interval.				
3						
4						TD = 4 Ft

EMS DRILLING LOG

7-19-99

HOLE NUMBER T5

PROJECT GP- Fertilizer Project

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-1 Dark gray (SM) silty sand. Dry (5/N) gley	NA	NA	T5-2'	Probe = 4Ft
2		1-2 Red (10 R 3/3) bric fragments and sandy clay. moist				Recover 3Ft
3		2-4 Gley (6/N) Silty (SM) Sand saturated @ 7-19-99 from ~~3~~ 4 Ft			T5-4'	Contact water at 3.0 Ft.
4						TD = 4Ft

EMS DRILLING LOG

7-19-99

HOLE NUMBER T550N

SHEET 1 OF 1

PROJECT GP- Fertilizer Plant Project

GEOLOGIST C. Day

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-0.2 Ft Red (10R3/3) brick Frygments and Sandy clay.	NA	NA	T550N-2'	Probe 4 Ft Recover 3.5Ft Contact water at 1.3 Ft
2		0.2 - 2.2 yellow-brown (10YR 6/6) mottled w/ (10YR 6/2) SC				
3		SM/SC silty sand Sandy clay mixture throughout interval			T550N-4'	
4						TD = 4Ft

EMS DRILLING LOG

7-19-99

HOLE NUMBER TS100E

PROJECT GP- Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1 2 3 4		0 - 1.7 mottled red (10R/3/3) and ~~black~~ gray brick fragments w/ silty sand: Color 1.7 - 4 yellow brown (10YR6/6) SC sandy clay (10YR 6/4) mottled with 7.5YR 6/6 brown. Saturated bottom 1 Ft of Sample.	NA	NA	TS100E-2' TS100E-4'	Recover 3.8' Contact water at approx 3 Ft bgl. TD = 4 Ft

EMS DRILLING LOG

7-19-99

HOLE NUMBER N-16

PROJECT GP Fertilizer Plant

GEOLOGIST Collin Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0 - 1.4 Black (10YR3/2) SM silty sand becoming sandier at depth. Dry to slightly moist	NA		N16-2'	probe 4 Ft recover 3.1 Ft
2						
3		1.4 - 2 color change noted at 1.4 Ft changed to black (10YR 3/2) and white (N 8 10Y) (gley). Silty sand to moderately ~~poorly~~ sorted sand				
4		2 - 4 Yellow brown (10YR 6/6) silty sand moisture increasing w/ depth saturated at approx 3 Ft below surface			N16-4'	TD = 4 Ft

EMS DRILLING LOG

7-19-99

HOLE NUMBER N17

PROJECT GP Fertilizer Plant

GEOLOGIST C. Day

SHEET

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
		0-2 SM brown (10YR 4/2) silty sand 2-4 SP Yellow brown ~~(6/4 Y CO~~ 10YR (6/6) moderately sorted sand. very moist to saturated at bottom 0.5 Ft of sampler			N17-2' N17-4'	Probe 4 Ft Recover 2.3 Ft TD = 4 Ft

EMS DRILLING LOG

7-19-99

HOLE NUMBER N18

PROJECT GP- Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
0		SM Black (10YR 3/2) Silty Sand top soil w/ organics For 0-0.5 interval				Probed 4 Ft Recovered 3 Ft Sampler saturated From 2-4 Ft. Collected only 2 Ft sample No unsaturated soil remaining For 4 Ft Sample.
1						
2		0.5 - 4 SM/SW Yellow - brown (10YR 6/6) Silty sand to sand saturated From 1 Ft to bottom of sampler Sand increasing with depth w/ Fewer Fines.				
3						
4						

EMS DRILLING LOG

7-19-99

HOLE NUMBER N20

PROJECT GP - Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		SM silty sandy top soil from 0 - 1.4 ft (gley 6/N) Dry w/ white mottling	NA	NA	N20-2'	Probe 4' Recover 3.1 Ft Contacted water at ~ 3.6 Ft
2		1.4 - 4 SC Yellow - brown (10YR 6/6) Sandy clay. sat.				
3		at bottom 0.4 ft of Sampler.				
4					N20-4'	TD = 4 ft

EMS DRILLING LOG

7-19-99

HOLE NUMBER RC-6

PROJECT GP- Fertilizer Plant

GEOLOGIST C. Day

SHEET

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
		0-2 SM brown (10YR 4/2) silty sand dry and loose	NA	NA	RC-6-2'	
		2-4 SM Yellow brown (10YR 6/6) silty sand wet at approx 3.5 Ft.			RC-6-4'	

EMS DRILLING LOG

7-19-99

HOLE NUMBER RC7

PROJECT GP Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 OF 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-0.6 Dark brown silty sand topsoil w/ organics.	NA	NA	RC-7-2'	Recover 2.6 Ft Probe 4 Ft
2		0.6-4 Clay 7/N Sands (SM/SW) wet/saturated at botton 0.3 Ft of sampler. Very moist 2-2.3 Ft of sampler.			RC7-4'	
3						
4					~~RC7 4'~~ CD 7-19-99	TD = 4 Ft

EMS DRILLING LOG

7-19-99

HOLE NUMBER RC8

PROJECT GP Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-4 SC glay (S/N) Sandy clay wet 2-4 Ft. In sampler	NA	NA	RC8-2'	Probe 4 Ft Recover 3 Ft
2					~~RC8-4'~~ @ 1430 7-19-99	
3					RC8-4'	
4						TD =

EMS DRILLING LOG

7-19-99

HOLE NUMBER RC9

PROJECT GP- Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-1.2 Gley (5/N) Sandy clay SC	NA	NA	1	Probe 4 Ft
2		1.2-4 Gley(5/N) mottled with yellow brown (10YR6/6) Sandy clay (SC)/ SM			RC9-2'	Recover 3.4 Ft
3						
4					RC9-4'	TD = 4 Ft

EMS DRILLING LOG

7-19-99

HOLE NUMBER ~~N~~ RC10

PROJECT GP - Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0 - 0.5 SM Brown (10YR 4/2) silty sand dry loose	NA	NA	RC10-2'	Probe 4' Recover 2.5ft
2		0.5 - ~~2.5~~ 4 SC Sandy clay yellow brown (10YR 6/6) wet at ~~2.5 ft~~ approx 0.5 Ft bgl.			RC10-4'	
3						
4					~~RC10-4~~ CD 7-19-99	TD = 4 Ft

EMS DRILLING LOG

7-19-99

HOLE NUMBER S16

PROJECT GP Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-0.4 Dk brown (10YR4/2) Silty sand ~~charging~~. Dry	NA	NA	S16-2'	Probe 4 Ft
2		0.4 - 1 Ft red (2.5YR 4/8) gravelly Sandy clay (SC). Dry				Recover 3.2 Ft
3						
4		1 - 4 tan (10YR 6/3) SC sandy clay wet/ sat. at bottom 0.5 Ft of sampler.			S16-4'	TD = 4 Ft

EMS DRILLING LOG

7-19-99

HOLE NUMBER S17

PROJECT GP Fertilizer Project

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-0.3 dk brown (10YR4/2) silty sand topsoil	NA	NA	S17-2'	Recover 3.2' Probe 4' water contact approx 3 ft bgl.
2		0.3-0.5 red (SC) (2.5YR 4/8) sandy clay				
3		0.5 - 4 tan (10YR7/3) Sand (SM) wet at bottom 0.2 Ft of sampler. moisture increases w/depth - very moist 3.5 Ft 3.0 Ft of sampler.			S17-4'	TD = 4 Ft
4					~~S17-4'~~ CD 7-19-99	

EMS DRILLING LOG

7-19-99

HOLE NUMBER S18

PROJECT GP Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1 2 3 4		~~0 — 0. CD 7-19-99~~ ~~0 — 3.7 SW well CD 7-19-99~~ ~~Sorted~~ CD 7-19-99 0 – 3.7 SM/SW Poorly sorted to well sorted gt silty Sand changing ~~to~~ all sand at depth of 2 Ft. color tan (10YR 7/3). 3.7 – 4 red (10R 4/3) mottled with black (2.5/N) sand and rock gravel size Fragments. wet/sat at 0.3 ft bottom of sampler.	NA	NA	S18-2' S18-4' ~~S18-4'~~ CD 7-19-99	TD = 4Ft

EMS DRILLING LOG

7-19-99

HOLE NUMBER S19

PROJECT GP Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-0.8 Black (2.5/N) silty sand topsoil w/ red (10 R/3) gravel size chips Dry	NA	NA	S19-2'	Recover 3.8' Probe 4 ft
2						
3		0.8 - 4 gley (7/10Y) Sandy (SC) and clay			S19-4'	
4		SM silty sand. wet 1 Ft - 4 Ft.				TD = 4 Ft

EMS DRILLING LOG

7-19-99

HOLE NUMBER S20

PROJECT GP Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1 2 3 4		0 – 2.4 Ft (Gley 3/N) mucky clay, Fairly plastic. wet 2 - 2.4 Ft. 2.4 - ~~4~~ 3.8 Color change abrupt at 2.4 Ft to (6/10Y) gley. Lithology also changes to (SM) Silty Sand and Sandy clay (SC) Saturated at ~~2.9~~ 2.4 to 4 Ft. Very plastic gley clay (6/10Y) noted at 3.8 Ft to 4 Ft.	NA	NA	S20-2' S20-4' CD 7-19-99 ~~S20-4'~~	Recover 3.6 Ft Probe 4 Ft TD = 4 Ft

EMS DRILLING LOG

7-19-99

HOLE NUMBER S-26

PROJECT GP- Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 OF 1

DEPTH (FT)	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1	0-1.2 brown silty sand topsoil (10YR3/2) (SM) dry w/ organics fragments of (10 R 3/3) red brick.	NA	NA	S26-2'	Probe = 4' Recover = 3.8Ft
2	1.2 - 4 tan (10YR 6/4) and			S26-2' split DEQ	
3	gley (7/N) sandy clay (SC) / silty sand (SM).				
4	Saturated bottom ~~1.5~~ 1.5 Ft of sampler. CO 7-19-99			S26-4'	TD = 4Ft
				S26-4' split DEQ	

EMS DRILLING LOG

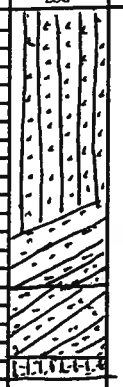
7-19-99

HOLE NUMBER S27

PROJECT GP Fertilizer Project

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1 2 3 4		0-1.3 SM/SC Red (10 R 3/3) silty Sand mottled w/ Brown 10 YR 3/2. Clay increases w/ depth becoming (SC). 1.3 - 4 (SC)/SM Gley (6/10Y) ~~SM~~ CD 7-19-99 silty sand saturated at 1.6' bgl.	NA	NA	S27-2' S27-4'	Probe 4 Ft Recover 3.8' Contact water at 1.6 Ft bgl approx TD = 4 Ft

EMS DRILLING LOG

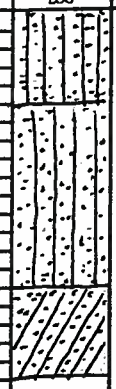
7-19-99

HOLE NUMBER S28

PROJECT GP Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1 2 3 4		0-1 (SM) Brown (10YR 3/2) and gley (7/N) silty sand dry and loose 1-4 (SM/SC) gley (7/N) silty sand becoming sandy clay with increasing depth 3-4 ft. mottled with yellow brn (10YR4/6) Saturated at 1.2 Ft bgl.	NA	NA	S28-2' S28-4'	Probe = 4Ft Recover = 3.8 Ft TD = 4Ft

EMS DRILLING LOG

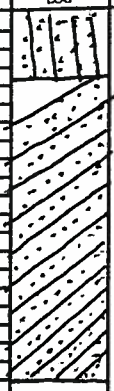
7-19-99

HOLE NUMBER S29

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 OF 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1 2 3 4		SM Silty sand 0-0.7 Brown (10YR) 3/2 mottled with red 10 R 3/3 brick chips. 0.7-4 Ft SC gley 7/N Sandy Clay. Saturated at approximately 1.1 Ft bgl.	NA	NA	S29-2' S29-4'	Recover 3.8 Probe 4 Ft TD=4 Ft

EMS DRILLING LOG

7-19-99

HOLE NUMBER S 30

PROJECT GP Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
		0 - 1 (SC) Dark brown (10YR 3/2) Sandy clay organic rich topsoil 1 - 4 SC (7/N) gley Sandy clay; sat at 1.1 Ft bgl.	NA	NA	S30-2' S30-4'	Recovery 3 Ft Probe 4 Ft Contact water 1.1 Ft bgl TD = 4 Ft

EMS DRILLING LOG

7-23-98

HOLE NUMBER S-T9100W

PROJECT Gulfcoast Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1 2 3 4		0-0.2 Dark Gray (Gley) (3/10Y) silty sand topsoil (SM) 0.2-0.5 (SP) Yellow-brown (10YR 7/3) well sorted qtz sand Dry 0.5-1.1 Red (10R3/3) brick chip layer. Dry. 1.1-4 SM/SC gley Gray (3/10Y) silty Sand, slighty moist. changing to (10YR 6/6) Sandy clay (SC) at bottom 0.4 ft.	NA	NA	T9100W-2' T9100W-4'	Probe = 4 Ft Recover = 3 Ft TD = 4 Ft

EMS DRILLING LOG 7-23-99

HOLE NUMBER N40

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 OF 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0 - 1.5 (SC) Yellow-brown (10YR 6/6) Sandy clay, poorly plastic. moist	NA	NA	N40-2'	Probe 4 Ft Recover 3.8'
2		1.5 - 4 ~~SM~~ ~~Stiff~~ ~~loose~~ moderately sorted qtz sand tan (10YR 8/3) very moist 1.5-3' Saturated 3 - 4 Ft.			N40-4'	TD = 4 Ft
3						
4						

EMS DRILLING LOG

7-23-99

HOLE NUMBER S910

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 OF 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-2.3 Dark gley (4/N) (SC) sandy clay saturated	NA	NA	S910-2'	Recover = 3.8'
2		2.3 - 4 gley (6 5GY) SM/SW Silty sand becoming all sand at lower interval.			S910-4'	
3						
4						TD = 4 Ft

EMS DRILLING LOG

7-23-99

HOLE NUMBER S1110

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-2.3 (SM) yellow brown 10YR 6/6 silty sand change to (SW) Sand at 2.3 ft.	NA	S1110-2'	S1110-2'	
2						
3		2.3-4 yellow-brown (SW) and white 8/N Sand (clean) wet 2.3-4.		~~S1110-4~~	S1110-4'	
4						TD = 4Ft

EMS DRILLING LOG

7-23-99

HOLE NUMBER S1210

PROJECT C. Day

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1 2 3 4		0-0.7 Dark gley (3/N)(SM) silty sand 0.7-4 (SM) yellow-brown (10YR 6/6) silty sand w/ 2.YR 5/8 mottling.	NA	NA	(1933) 1210-2' 1210-4' 1210-4' split DEQ	Recover=3.8'

EMS DRILLING LOG

7/23/99

HOLE NUMBER S34

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 OF 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-1.9 Red (10R/3/3) brick chips with (SM) black organic matter	NA	NA	S34-2'	Recovery 3.5'
2						Probe = 4Ft
3		1.9 - 4.0 SM 10 YR 6/3 Silty Sand wet at 3.0 Ft			S34-4'	
4						TD=4Ft

EMS DRILLING LOG

7/23/99

HOLE NUMBER S36

PROJECT GP Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1 2 3 4		0-2 SM Dark Tan (10YR 5/2) silty sand concrete chips/rock 0-0.2 ft. Dry to slighty moist. 2-4 SC/SM Yellow-brown (10YR6/6) Sandy clay becoming Silty Sand w/ depth. Subround qt grains. Saturated at 2.4 Ft.	NA	NA	S36-2' S36-4'	Probe 4 Ft Recover 3.5 Ft TD = 4 Ft

EMS DRILLING LOG

7-23-99

HOLE NUMBER S37

PROJECT GP Fert.1

GEOLOGIST C. Day

SHEET 1 OF 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0 - 0.4 White Concrete chips and chert gravel (0.1 inch dm) Dry	NA	NA	S37-2'	Recover 2.4 Probe 4 Ft
2		0.4 - 4 (SC/SW) Dark tan (10YR 5/2) Sandy clay. Lithology and color change noted at 3.7-4' Change to gley (6GY) ~~Silty sand~~ qtz sand wet at 3.2 Ft.			S37-4'	TD = 4 Ft
3						
4						

EMS DRILLING LOG

7/23/99

HOLE NUMBER S38

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 OF 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-0.2 Concrete chips and sand.	NA	NA	S38-2'	Recover 2.4Ft Probe 4'
2		0.2-0.5 SM White silty qtz sand Clay 8/N				
3		0.5 - 4 SC Dark gray (3/10Y) sandy clay. slighty moist.			S38-4'	
4						TD = 4Ft

EMS DRILLING LOG

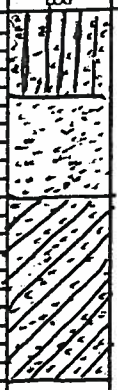
7/23/99

HOLE NUMBER S40

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 OF 1



DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		Dark Gray (Gley) (SM) silty Sand Dry 0-0.9	NA	NA	S40-2'	Recover = 2.2'
2		0.9-2 Light gray (7/N) sand (SW) Dry			S40-2' DUP	Probe = 4 Ft
3		2-4 (SC) 10YR 7/3) Sandy clay wet at 3.7 Ft.			S40-4'	
4					S40-4' DUP	TD = 4 Ft

EMS DRILLING LOG

7/23/99

HOLE NUMBER S44

PROJECT Gulfport

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0 - 1.5 SM yellow brown silty sand	NA	NA	S44-2'	Recover 3.65'
2		1.5 - 2 SC Black (2.5/N) sandy clay (moist) w/ some wood chips			S44-4'	Probe 4ft
3		2 - 4 tan (10YR 6/4) SM silty sand (10YR 6/3)				
4						T.D = 4ft

EMS DRILLING LOG

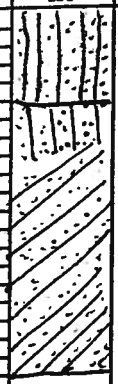
7/23/99

HOLE NUMBER S45

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1



DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-0.4 SM red (10R/3/3 sand and brick chips	NA	NA	S45-2'	Recover = 2.3 Probe 4 Ft
2		0.4-1 asphaltic chips and clay.				
3		1-4 SM/SC yellow brown and gley silty sand and sandy clay			S45-4'	
4						TD = 4 Ft

EMS DRILLING LOG

7/23/99

HOLE NUMBER S46

SHEET 1 OF 1

PROJECT GP Fertilizer Plant

GEOLOGIST C. Day

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
0		0-0.5 Concrete chips	NA	NA	S46-2'	Probe 4 Ft
1		0.5-4 SC (10YR 6/2) sandy clay			S46-2' Split DEQ	Recover 3.0
2						
3						
4						TD = 4Ft

EMS DRILLING LOG

7/23/99

HOLE NUMBER S-47

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-0.7 dark brown Silty Sand (SM) top soil w/ organics	NA	NA	S47-2'	Recover 3.8 Ft Probe 4 Ft
2		0.7 - 1.2 red (10R3/3) brick chips dry				
3		1.2 - 2.3 (SC) Dark Gray brown (10YR3/2) Sandy clay Poorly plastic - moist.				
4		2.3-4 (SM) Dark gray ~~brown (10YR3/2)~~ (3 10Y) silty sand moisture increases Bottom 0.3 ft.				TD = 4 Ft

EMS DRILLING LOG

7/23/99

HOLE NUMBER S48

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 OF 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-0.6 Black ~~2.5~~ (SM) 4/5G.Y silty sand	NA	NA	S38-2'	Recover = 2.9ft Probe 4 ft
2		0.6-1' Red 10R 3/3 Brick chips Dry				
3		1-4 Dark Gray (Gley) (4/5G) SM silty Sand moist to very moist at bottom.			S38-4'	
4						TD = 4ft

EMS DRILLING LOG

7/23/99

HOLE NUMBER S49

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-0.3 white concrete chips and sand. Noted Gley (7/5G) apparent Oxidized Copper zone 0.3-0.4 ft. (SM)	NA	NA	S49-2'	Recover=3.6' Probe 4 Ft
2		0.4-1 Red (10R/3/3) brick chips Dry.				
3		1-2.2 SM Dark Gray (3/10Y) Silty Sand very moist			S49-4'	
4		2.2-3 SM (10YR6/4) Silty sand yellow-brown very moist				TD = 4 Ft
		3-4 SM (10YR7/3) yellow-tan Silty Sand. Saturated at 3.4 Ft.				

EMS DRILLING LOG

7/23/99

HOLE NUMBER S50

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 OF 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-0.3 White Concrete Chips and Sand Dry	NA	NA	S50-2'	Recover = 2 Ft Probe = 4 Ft
2		0.3-.9' Red 10 R 3/3 brick chips 0.9 - 1.1 Black (2.5/N) (CL) with creosote odor.				
3					S50-4'	
4		1.1 - 1.7 Dark Gray Gley (5GY) Sandy Clay (SC) 1.7 - 4 (SC) Yellow-brown (10YR 6/6) Sandy clay. wet 3.8 - 4 Ft.				TD = 4 Ft

EMS DRILLING LOG

7/23/79

HOLE NUMBER S54

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-0.6 SC red-brown (5YR 5/8) sandy clay dry	NA	NA	S54-2'	Probe 4 Ft Recover 2.9'
2		0.6-4 SM gray gley (4/10Y) silty sand changing to (5GY) at 2 Ft. wet 3.2 Ft.			S54-4'	TD = 4'
3						
4						

EMS DRILLING LOG

7-23-99

HOLE NUMBER SS5

SHEET 1 of 1

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-0.5 SM silty Sand, dark gray (4/10Y) Dry	NA	NA	SS5-2'	Probe 4 ft
2		0.5-4 SC Grey (Gley) (6/10Y) Sandy clay w/ yellow brown (10YR 5/8) mottling. wet 3-4'			SS5-2' DUP	Recover 3.8 ft
3					SS5-4'	
4					SS5-4' DUP	TD = 4 Ft

EMS DRILLING LOG

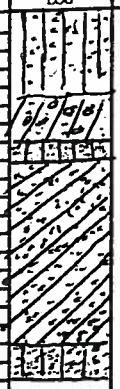
7/23/99

HOLE NUMBER S56

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 OF 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-1.4 SM/SC silty sand and sandy clay mixture gley (6/10Y) w/ (7.5YR 5/8) some gravel.	NA	NA	S56-2'	Probe 4 Ft
2						Recover = 3.8'
3		1.4-1.6 SM Red (10R 3/3) sand and brick chips. Dry			S56-4' split DER S56-4	
4		1.6-4 SC/SM Gley (6/10Y) Sandy clay - Firm w/ silty sand at 0.2 ft From bottom.				TD = 4 Ft

EMS DRILLING LOG

7/23/99

HOLE NUMBER S57

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-1.1 Silty clay and Sand SC/SM dark ~~gray~~ brown (10YR4/2) Dry w/ some gravel present.	NA	NA	S57-2'	Probe 4Ft Recover = 3.5'
2		1.1-1.5 (SM) yellow-brown (10YR6/6) silty Sand, moist.				
3		~~1.5~~			S57-4'	
4		1.5-3.7 (SM) Dark gray (gley) (4/5GY) Silty sand, moist				TD = 4 Ft
		3.7-4 (SW) ~~poorly~~ to moderately sorted qtz sand. wet.				

EMS DRILLING LOG

7/23/99

HOLE NUMBER S58

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0 - 0.2 SM Gley silty sand top soil (4/10Y)	NA	NA	S58-2'	Probe=4 Ft
2		0.2 - 2 SC/CL Gley (4/10Y) and Brown (10YR 4/2) Sandy clay and clay. Dry Some gravel present				Recover = 3.4Ft
3					S58-4'	
4		2 - 4 (SM) Gley (5/~~10GY~~ 10Y) silty sand w/ yellow brown (10YR 5/8) mottling noted at 3.7 - 4.				TD = 4Ft

EMS DRILLING LOG

7/23/99

HOLE NUMBER S 59

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1	0-3 Dark Gray SM (Gley) (5/10Y) moist with moisture increasing with depth	NA	NA	S-59-2'	Probe 4 ft Recover 3.3 Ft
2					
3	3-4 (SC) Dark Gray Sandy clay w/ yellow-brown 10YR (6/6) Sandy clay mottling. Wet at 3.8 - 4.0 Ft.			S59-4'	
4					TD = 4ft

EMS DRILLING LOG

7-23-99

HOLE NUMBER S60

PROJECT Gulfport Fertilizer Project

GEOLOGIST C. Day

SHEET 1 OF 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-0.3 Black (SM) silty sand and organics w/ topsoil Dry	NA	NA	S60-2'	Probe = 4 Ft
2		0.3-2.9 (SC) Clay (5/5PB) with yellow-brown (10YR 6/6) mottling Sandy clay wet at 0.9 Ft.				Recover = 3.8'
3					S60-4'	
4		2.9 SW Tan (10YR6/2) moderate to well sorted sand - saturated at well rounded to subrounded.				TD = 4Ft

EMS DRILLING LOG

7-23-99

HOLE NUMBER S71

PROJECT GP Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 OF 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-1 Dark silty sand (4/N) Dry (SM)	NA	NA	S71-2'	Recovery = 2.8
2		1-4 SM yellow-brown (10YR 6/6) Sandy silt. wet				Probe = 4 Ft
3		3-4 ft.			S71-4'	
4						TD = 4 Ft

EMS DRILLING LOG

7-23-99

HOLE NUMBER S72

PROJECT Gulfport Fertilizer Project

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0 - 1.5 Gray SM Silty sand (5/6B) moist	NA	NA	S72-2'	Probe 4 Ft Recover 3.1 Ft
2		1.5 - 4 SM Yellow brown (10YR 6/6) moisture increases w/ depth. moist - very moist			S72-4'	
3						
4						TD = 4 Ft

EMS DRILLING LOG

7-23-99

HOLE NUMBER S73

PROJECT GP Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-0.5 Dark Grey (SM) (2.5/N) silty sand topsoil w organics	NA	NA	S73-2'	Recovery = 3.65
2		0.5 - 3 SC/SM Yellow-brown (10YR6/4) Silty clay change to SM at 3Ft.			S73-4'	Probe = 4Ft
3		3 - 3.5 SM/SP change to tan (10YR8/4) and white (8/N) well sorted clean qtz sand.				
4						TD = 4Ft

EMS DRILLING LOG

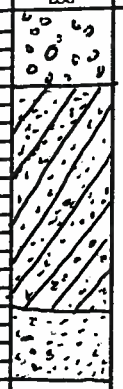
7/23/99

HOLE NUMBER S74

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1



DEPTH (FT)	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1	0 - 0.35 Red 10 R 3/3 brick chips	NA	NA	S74-2'	Probe = 4Ft
2	0.35 - 0.8 Black (SM) silty sand				Recover = 3.6Ft
3	0.8 - 3.2 SC (10YR 6/4) Sandy clay wet at 2 Ft.			S74-4' split DEQ	
4	3.2 - 4 (SP) white very well sorted qtz Sand. wet.				TD = 4 Ft

EMS DRILLING LOG

7/23/99

HOLE NUMBER S75

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 OF 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-2 SM gley(4/10Y) Silty Sand topsoil Dry to	NA	NA	S75-2' (1530) S75-2' DUP	Recover=3.7 Probe 4 Ft
2		2-4 SM gley(6/10Y) silty sand wet at 2.5 Ft.				
3					S75-4' (1530)	
4						TD= 4 Ft

EMS DRILLING LOG

7/23/99

HOLE NUMBER S76

SHEET 1 of 1

PROJECT Gulfport Fertilizer Project

GEOLOGIST C. Day

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-1 SC/SM Black (3/N) Silty clay and silty sand at bottom of interval 1-4 gley (7/10Y) Saturated at 1 Ft.	NA	NA	S76-2'	Recovery = 3.3 Probe = 4ft
2						
3					S76-4'	
4						TD = 4Ft

EMS DRILLING LOG 7-23-99

HOLE NUMBER S77

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1	0-1.1 Dark Gley (3/N silty sand.	NA	NA	S77-2'	Recovery = 3.3 Ft
2	1.1 - 3.1 Yellow-brown silty sand (SC) saturated from 1.3				Probe = 4 Ft Contact water 1.3 Ft bgl
3	3.1 - 4 gley sand (SW) 7/N moderately to poorly sorted saturated			S77-4'	TD = 4 Ft
4					

EMS DRILLING LOG GP 7-23-99

HOLE NUMBER S78

PROJECT GP - Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1 2 3 4		0-0.7 Dark grey gley (3/N) silty (SM) Sand topsoil. Dry 0.7-4 Gley (6/N) Silty Sand (SM) wet @ 2 Ft. Observed 10yr 6/16 yellow brown mottling From 2.5 to 3.0 ft.	NA	NA	S78-2' S78-4'	Recovery = 3.6 Ft Probe = 4 Ft contact water at 2 ft. TD = 4 ft

EMS DRILLING LOG

7-23-99

HOLE NUMBER S80

SHEET 1 of 1

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		~~0-0.~~ 0-1.2 Dark Gray (Gley 4/N) sm			S80-2'	
2		1.2-4 Gley (5/N) SM wet at 1.2'				
3						
4					S80-4'	TD = 4 Ft

EMS DRILLING LOG

7/23/99

HOLE NUMBER S92

PROJECT GP Fertilizer Plant

GEOLOGIST C. Day

SHEET S92 1 OF 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-1 Black topsoil (2.5 N) (sm)	NA	NA	S92-2' ~~1751~~	Recovery = 3.9Ft Probe = 4Ft
2		1-2 SC yellow-brn (10YR 6/6)				
3		2-3 SW yellow-brown (10YR 6/6)			S92-4'	
4		3-4 SW gley (8/N) white				TD = 4 Ft

EMS DRILLING LOG

7-23-99

HOLE NUMBER S94

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-0.8 Black topsoil (SM) silty sand (2.5 5/N gley)	NA	NA	S94-2'	Recovery = 3.3' Probe = 4ft
2		0.8 - 2.4 Dark Gley (SM) silty sand (4/N)				
3					S94-4'	
4		2.4 - 4 white (B/N) (SW) clean white sand saturated at 2.4Ft				TD = 4 Ft

EMS DRILLING LOG

7/23/99

HOLE NUMBER S96

PROJECT GP Fertilizer Project

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-0.95 SM Black (2.5/N) silty sand Dry	NA	NA	S96-2'	Recover=3.8' Probe 4Ft Contact water 1.8 Ft Bgl 1727
2		0.95-1.8 SC Sandy clay yellow brown (10YR 6/6) wet at 1.8 Ft				
3					S96-4'	
4		1.8-4Ft SM/SW silty sand (yellow-brown (10YR 6/6) wet silty sand change to tan (10YR 8/3) moderetly sorted qt sand				TD = 4Ft

EMS DRILLING LOG

HOLE NUMBER S98

SHEET 1 of 1

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-1.3 SC Dark Gley (2.5/N) Sandy clay	NA	NA	S98-2'	Recovery = 3.4
2		1.3-4 SM/SW light ~~tan~~ gley (7/10Y) silty sand changing to moderately sorted qtz sand wet at 1.3 ft				Probe = 4 ft
3					S98-4'	
4						TD = 4 ft

EMS DRILLING LOG 7-23-99

HOLE NUMBER S112

PROJECT C. Day

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
0	0 - 1 SM Black (SM) silty sand topsoil	NA	NA	S112-2'	Recover = 3.7 Probe = 4 Ft
1	1 - 1.7 yellow brown (dark) (SC) 10YR 5/4				
2	1.7 - 2.2 yellow-brown (10YR 6/6) SM silty sand.			S112-4'	
3	2.2 - 4 (8/N) gley white clean qtz sand. wet 3-4 ft				TD = 4 Ft
4					

EMS DRILLING LOG

7-23-99

HOLE NUMBER S114

SHEET S114

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-0.6 Black (2.5/N) silty sand topsoil (SM) organics.	NA	NA	S114-2' Split DEQ S114-2'	Recover = 3.3 Ft Probe = 4 Ft
2		0.6-3 SC/SM Yellow brown (10YR6/6) wet 3-4				Contact water 3.8'
3		3-4 SW white 8/N clean qtz sand.			S114-4'	
4						TD = 4 Ft

EMS DRILLING LOG

7/23/99

HOLE NUMBER S116

PROJECT GP Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 OF 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-1 - (SM) Silty Sand topsoil Black (2.5/N)	NA	NA	S116-2'	Recovery = 3.6' Aobc = 4 Ft
2		1 - 3.7 SC/SM silty sand and silty clay				
3		~~3.7 - 4~~ Yellow-brown (10YR6/6)			S116-4'	
4		3.7 - 4 light tan (10YR 8/2) SP/W Sand, moderately Sorted.				TD = 4 Ft

EMS DRILLING LOG

7-23-99

HOLE NUMBER S118

PROJECT Gulfport Fertilizer Plant GEOLOGIST C. Day

SHEET S118 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-0.8 SM silty sand Dark gley (2.5N) organics.	NA	NA	S118-2'	Recover 3.65 Ft Probe 4 Ft
2		0.8-2.2 (SM) yellow-brown (10YR 6/6) silty sand moisture increases				
3		2.2-4 (SW) white clean sand wet.			S118-4'	
4						TD = 4 Ft

EMS DRILLING LOG

7-23-99

HOLE NUMBER S122

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

SHEET 1 of 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0 - 2.3 (SC) yellow-brn (10YR 5/4) sandy clay moist	NA	NA	S122-2'	Recovery 3.8 ft
2		2.3 - 3.6 (SM) yellow-brown (10YR 6/6) silty sand wet at 3.2 ft. (SM)				Probe 4 ft
3					S122-4'	
4		3.6 - 4 (SW) white (8/N) and yellow brown (10YR 5/8) qtz sand, saturated				TD = 4 Ft

EMS DRILLING LOG 7/23/99

HOLE NUMBER S124

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

SHEET S124 1 OF 1

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-0.4 (SC) Dark Gley (4/N) Sandy clay w/ organics	NA	NA	S124-2'	
2		0.4-3.3 (SM) Yellow brown (10YR 6/6) silty sand wet 3.3ft				
3		3.3 - 4 (SW) Dark brown (5YR 3/4) poorly sorted sand			S124-4'	
4		wet 3.3 feet				TD = 4Ft

EMS DRILLING LOG

7-23-98

HOLE NUMBER S126

SHEET 1 OF 1

PROJECT Gulfport Fertilizer Plant

GEOLOGIST C. Day

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-1.1 Black 2.5/N silty clay (SC) top soil w/ organics	NA	NA	S126-2'	Recovery = 3.6
2		1.1-3.3 SC yellow-brown sandy clay (10YR 6/6)			S126-4'	Probe = 4ft
3		3.3-4 SW light tan (10YR 8/4) saturated qtz sand.				TD=4ft
4						

EMS DRILLING LOG 7-23-99

HOLE NUMBER S128

SHEET 1 OF 1

PROJECT Gulfport Fertilizer Project

GEOLOGIST C. Day

DEPTH (FT)	USCS GRAPHIC LOG	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	REMARKS
1		0-0.4 Dark Gley (3/N) (SC) Sandy Clay wet	NA	NA	S128-2' DUP S128-2'	Recover = 3.3 Ft Probe 4 Ft
2		0.4 - 4 SM/SW yellow brown 10YR6/6 Silty sand wet at all interval.				
3		mottling (2.YR5/8) red brown.				
4		No 2-4 Ft Sample interval collected due to wet interval.				TD = 4Ft

APPENDIX E

GROUNDWATER SAMPLING LOGS AND MONITORING WELL SURVEY DATA

GROUNDWATER SAMPLING LOG

CLIENT: HANCOCK BANK DATE: JULY 23, 1999

PROJECT LOCATION: 33RD STREET, GULFPORT MS PROJECT NO: 98HB001

FORMER GULFPORT FRANCHISE SITE

WELL INFORMATION

LOCATION _____ WELL NO: MW-1

MEASURING POINT (MP) TOP OF CASING (21" AGS DIAMETER: 4"

CASING STICK-UP 21" (1.75) SCREENED INTERVAL: 10' DEPTH: 11.5 BGS

PURGE DATA

METHOD SLOW PURGE DATE/TIME 7/23/99 6:55

WELL DEPTH BELOW MP	13.25	WELL DIAMETER	0.333		
– INITIAL WATER LEVEL	(6.42)	AREA OF WELL (sq ft)			
= WATER COLUMN (ft)	6.83	x VOLUME PER FT (gals/lf)	0.6528	= 4.44	gallons

TIME	WATER LEVEL	TEMP	pH	SC	PURGE VOLUME GALLONS	TURBIDITY
06:20	–	25°C	3.16	1250	–	2.1
09:15	–	29°C	3.31	1000	–	2.1
09:35	6.62	28°C	3.35	1000	± 26	0.55
09:50	6.62	28.5°C	3.32	1000	± 27	0.0
10:05	–	28.5°C	3.35	1000	–	0.0
11:10	6.63					

SAMPLING DATA

DATE/TIME 7/23/99 11:16

PARAMETERS _____ METHOD _____

FIELD PARAMETERS _____ °F _____ pH _____ SC

FIELD OBSERVATIONS AND REMARKS _____

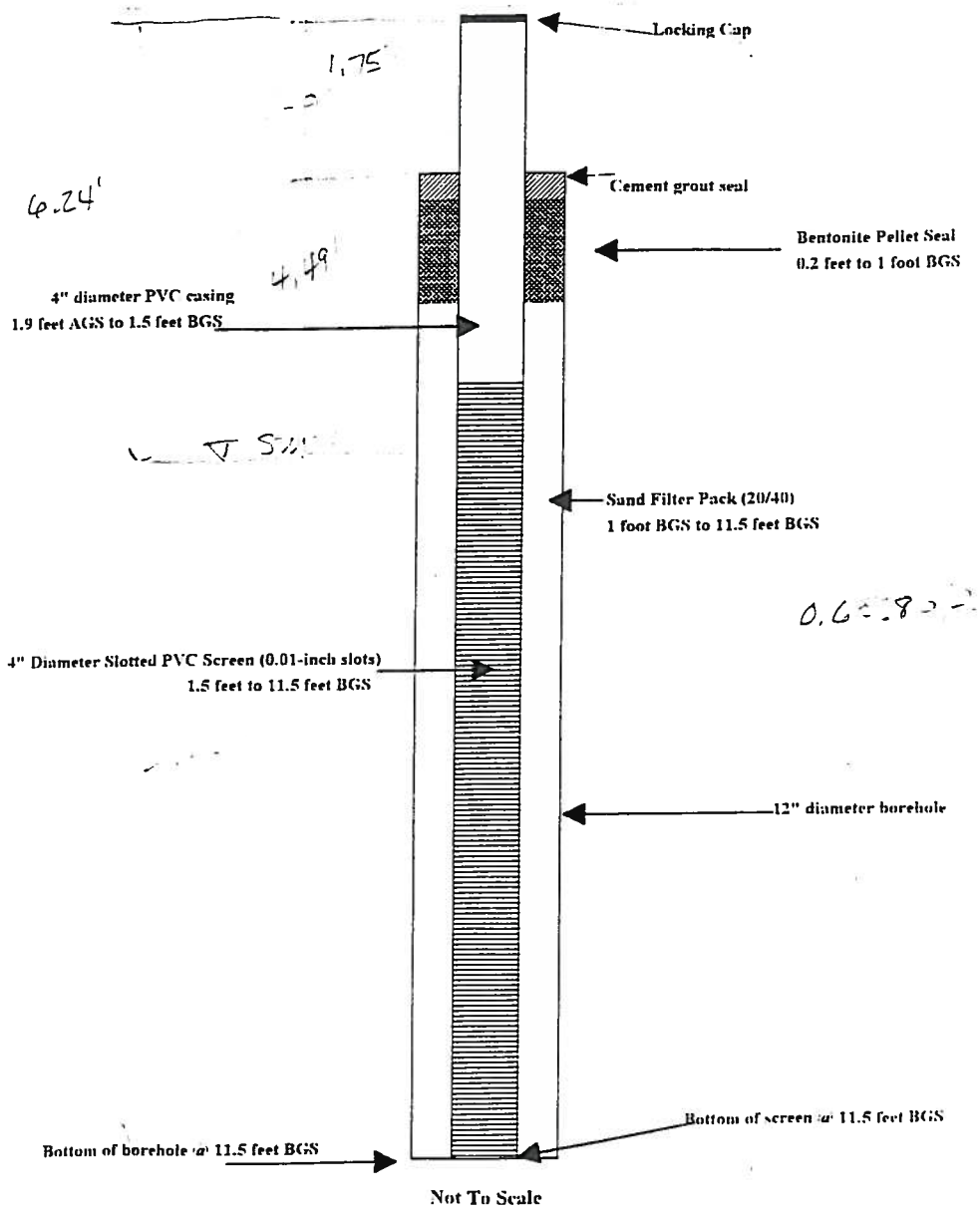
SAMPLER'S SIGNITURE _____

Resources Engineering & Management

Well Construction Diagram
Former Gulfport Fertilizer Company
Gulfport, Mississippi

Logged by: ACY	**Rig Type:** H.S.A. B-57	**Surface Elevation:** N/A
Start Date: 6/2/98	**Boring Type:** 10.6-inch hollow stem auger	**Casing Elevation:** N/A
Completion Date: 6/2/98	**Hammer Wt/Drop:** N/A	**Refusal Depth:** N/A
Location: Former Gulfport Fertilizer Co. Site		

WELL CONSTRUCTION



Not To Scale

	WELL CONSTRUCTION DIAGRAM **Former Gulfport Fertilizer Company** **CAC PROJECT NO. 6175**	**Well MW-1** Sheet 1 of 1 Figure 1

GROUNDWATER SAMPLING LOG

CLIENT: HANCOCK BANK DATE: July 23, 1998

PROJECT LOCATION: 33RD STREET GULFPORT MS PROJECT NO: 98HB001

FORMER GULFPORT FERTILIZER SITE

WELL INFORMATION

LOCATION _____ WELL NO: MW-2

MEASURING POINT (MP) TOP OF CASING (31.5" AGS) DIAMETER: 4"

CASING STICK-UP 31.5" (2.63') SCREENED INTERVAL: _____ DEPTH: 12.0 BGS

PURGE DATA

METHOD SLOW PURGE (1gal/min) DATE/TIME 7/23/98

WELL DEPTH BELOW MP	15.0	WELL DIAMETER	0.333
-- INITIAL WATER LEVEL	(8.0)	AREA OF WELL (sq ft)	
= WATER COLUMN (ft)	7.0 x	VOLUME PER FT (gals/lf)	0.6528 = 4.57 gallons

TIME	WATER LEVEL	TEMP	pH	SC	PURGE VOLUME GALLONS

SAMPLING DATA

DATE/TIME _____

PARAMETERS _____ METHOD _____

FIELD PARAMETERS _____ °F _____ pH _____ SC

FIELD OBSERVATIONS AND REMARKS _____

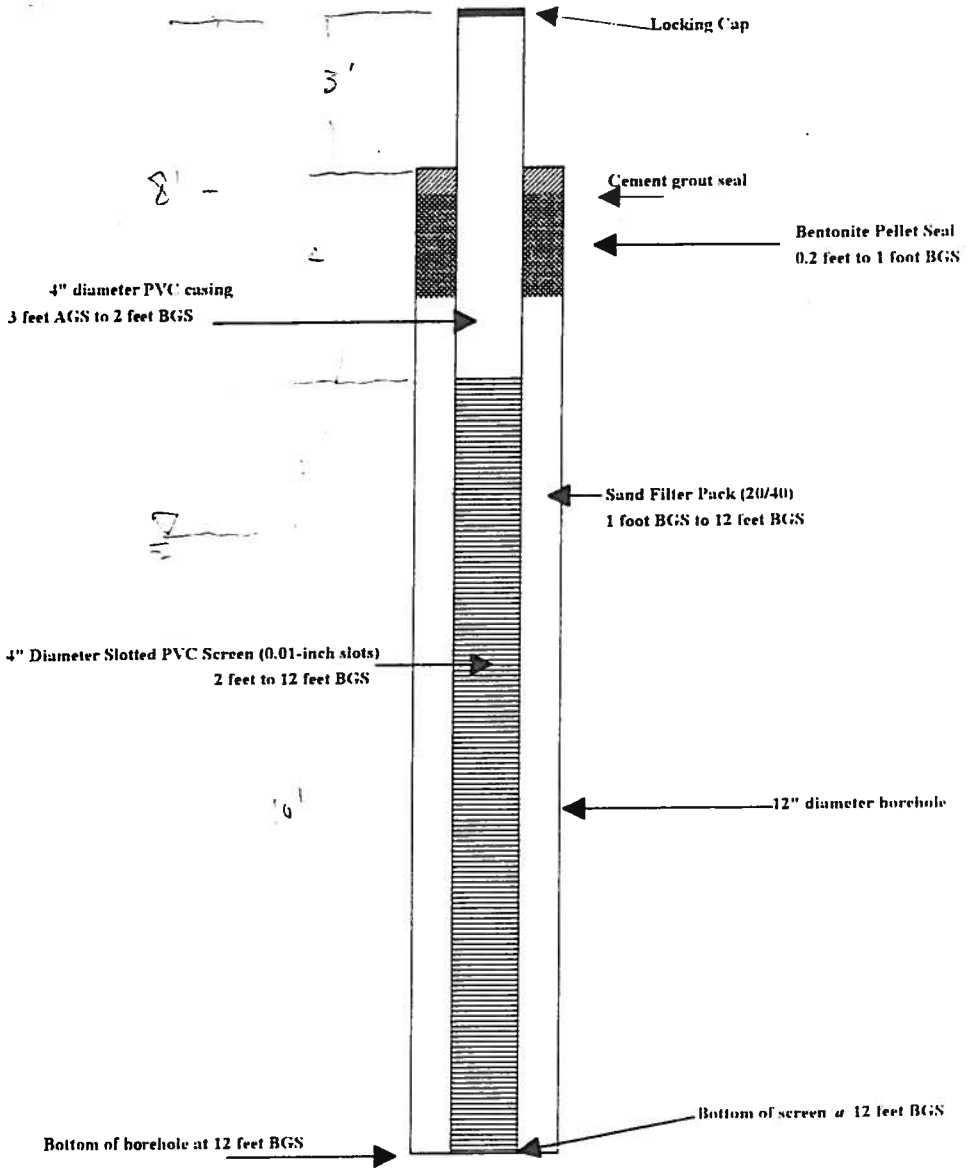
SAMPLER'S SIGNITURE _____

Resources Engineering & Management

Well Construction Diagram
Former Gulfport Fertilizer Company
Gulfport, Mississippi

Logged by: ACY	**Rig Type:** H.S.A. B-57	**Surface Elevation:** N/A
Start Date: 6/2/98	**Boring Type:** 10.6-inch hollow stem auger	**Casing Elevation:** N/A
Completion Date: 6/2/98	**Hammer Wt/Drop:** N/A	**Refusal Depth:** N/A
Location: Former Gulfport Fertilizer Co. Site		

WELL CONSTRUCTION



Not To Scale

	WELL CONSTRUCTION DIAGRAM Former Gulfport Fertilizer Company **CAC PROJECT NO. 6175**	Well MW-2 Sheet 1 of 1 Figure 1

KNESALENGINEERING
SERVICES, INC.

CLIENT: Butler Services of Mississippi, Inc. (Proposed Soil Sample Locations)
JOB SITE: 33rd Street, west of Hwy 49 and adjacent to the west margin of railroad track.
KES Project No.: 99060

All Elevations are based on USGS monument Number "J191 1955" as published in the City of Gulfport bench mark book page 113.

Elevation of the North monitoring well at mark on top of pipe =	31.06'
Grade at the North monitoring well =	29.27'
Elevation of the South monitoring well at mark on top of pipe =	33.86'
Grade at the South monitoring well =	31.27'

APPENDIX F

HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN

Subsurface Investigation
Gulfport Fertilizer Plant Site
33rd Street, Gulfport, MS

This Health and Safety Plan outlines the basic safety requirements for the site/assessment work to be performed at the above site. The plan addresses the expected potential hazards that may be encountered on this project. If changes in site or working conditions occur as the activities progress, addenda to this plan will be provided.

The provisions set forth in this plan will apply to all employees and subcontractors of Butler Services of Mississippi that will be working on this project. The subcontractors may request to increase the safety requirements what is described herein with a written request to and approval from the Butler Services Safety Officer.

AUTHORITY FOR SAFETY

The Butler Site Safety Officer (SSO) will be responsible for implementing the requirements of the site safety plan. Mr. Denton Bates will be designated SSO for this project.

The SSO is responsible for addressing the following items:

- Implementing the provisions of the HASP.
- Dissemination of information contained in the plan to all on-site personnel involved in the project through a daily safety meeting.
- Ensure all onsite workers have proof of OSHA 40-Hour Health and Safety Training.
- Review on-site safety supplies and equipment inventory.
- Procedures for reporting accidents or incidents.

The SSO has the authority to suspend work at any time he finds nonconformance to the plan or discovers that the provisions of the plan are inadequate for worker safety.

MEDICAL SURVEILLANCE

Butler personnel and it's subcontractors engaged in project activities must be participants in a medical surveillance program and must be cleared by the examining physician to wear respiratory protection and protective clothing, if necessary, for working with hazardous substances. All applicable State and Federal occupational safety requirements are to be observed.

HAZARD ASSESSMENT

Chemical hazards

The constituents of concern that may be encountered on the site are lead and arsenic in the soil and groundwater. These contaminants are the result of the manufacture of phosphate fertilizer at the site. When the fertilizer plant was in operation the type of phosphate commonly manufactured at that time was normal super-phosphate. Normal super-phosphate is manufactured by introducing sulfuric acid to phosphate rock (tri-calcium-phosphate). Typically, the phosphorous pentoxide, referred to as P205, and calcium oxide content of the rock used in production at the time the plant was operating was about 33% and 48%, respectively. The remainder of the

constituents in the phosphate rock consisted of lead and arsenic as well as a low percentage of other compounds such as aluminum, iron, carbon dioxide, fluorine and miscellaneous trace elements.

The typical exposure pathways include inhalation, ingestion and dermal absorption. Ingestion is the primary exposure pathways of concern. Level "D" protection consisting of hard hats, steel toed boots, long trousers, long sleeve shirts and protective gloves will be mandatory on site.

Table 1
Anticipated Contaminants

CONTAMINATE	HIGHEST OBSERVED CONCENTRATION	PEL/TLV ppm or mg/m^3	IDLH ppm or mg/m^3	SYSTEMS/EFFECTS OF ACUTE EXPOSURE
Lead	Soil 11,000 ppm			See MSDS – Attachment A
Arsenic	Soil 325 ppm			See MSDS – Attachment A

Controls and procedures of this plan will be used to keep exposures below the lowest recommended limit.

Physical Hazards

The work area shall be secured and the area restricted during the soil and groundwater

The location of underground utilities shall be marked prior to the initiation of subsurface activities at the site. Mississippi one-call (1-800-227-6477) has been contacted to cause to have the utility companies mark utility locations at the site, Verification No. 99071214410706. Known utilities at the site include a buried underground utility cable along the railroad right-of-way on the eastern boundary of the site.

Whenever possible work should be scheduled during the cooler parts of the day. The following protocols are to be used to counter heat stress:

- Allow workers to replace body fluids, water will be available at the site. Liquids for electrolyte replenishment will be available at the discretion of the SSO.
- Cool vests will be made available. Their use will be designated at the discretion of the SSO, if a lack of shade in the work zones results in their need regardless of the temperature.
- Allow workers to obtain adequate shade from direct exposure to the sun during rest periods in the tree-shaded area on the north end of the property.
- At the discretion of the SSO, workers' vital signs will be monitored (i.e., body temperature, blood pressure and heart rate). If deemed necessary by the SSO, workers will be fitted with be fitted with heat stress monitors.
- Field personnel are encouraged to maintain their physical fitness.
- Intake of diuretics (coffee or alcohol) should be minimized prior to field work

GENERAL PROJECT SAFETY REQUIREMENTS

Project activities will be conducted in accordance with the minimum safety requirements:

- Eating, drinking and smoking will be restricted to designated areas. All personnel will be required to wash hands and face before eating, drinking or smoking in designated areas.

- Gross decontamination and removal of all personal protective equipment will be performed prior to leaving the site. Contaminated protective clothing will be removed and collected for disposal.

- The SSO will be responsible for taking the necessary steps to protect on-site personnel from physical hazards, including falling objects, falls from elevations, slip and trip hazards, and for providing proper equipment and appropriate safety equipment.

- On-site personnel will be cautioned to observe each other for the effects of the presence of toxic exposure such as headaches, dizziness, nausea, blurred vision, cramps, irritation of the eyes, skin or respiratory tract, changes in skin complexion/color, changes in motor coordination, changes in personality or changes in speech or pattern.

WORK ZONES

All areas within 15 feet of soil boring operations will be designated as Exclusion Zones. Cones or yellow caution tape will be used, if necessary, to deny public access to these areas. Surveillance of the areas will be performed by all on-site personnel to deny public access. Work will stop immediately when unauthorized access to the Exclusion Zones occurs.

PROTECTIVE EQUIPMENT REQUIREMENTS

On-site personnel are required to wear the following clothing and equipment, as a minimum while in the work areas:

- Hard Hat
- Steel Toed Boots
- Long Trousers
- Long Sleeve Shirt
- Protective Gloves

Cool vests and heat stress monitors will be available on-site if the ambient temperature is above 90° F and the SSO determines their use is appropriate. At the discretion of the SSO, a lack of shade may result in the need for cool vests regardless of the temperature.

EMERGENCY RESPONSE PROCEDURES

At a minimum, the following equipment will be present on-site and be readily accessible for use in the event of emergency:

- Emergency eye-wash bottle
- First Aid Kit
- 10 Pound NFPA approved Class ABC Fire Extinguisher

If suspected hazardous waste comes into contact with the eyes, the victim's eyelids must be held open and the eyes rinsed with eyewash solution for a minimum of 15 minutes. The victim must then be taken to a hospital for further treatment.

If suspected hazardous waste comes into contact with the skin, the affected areas must be held open and the skin rinsed with water for a minimum of 15 minutes. If further irritation exists, the victim must be taken to a hospital for further treatment.

If a fire starts, a Fire Department must be called immediately. Attempts to put out a fire should be considered only if there is little risk in doing so. Chemical fires will not be approached under any circumstance. In the case of chemical fires, the site will be vacated immediately.

In the event of an accident resulting in physical injury, first aid will be administered and the injured worker will be transported to the nearest hospital for emergency treatment.

EMERGENCY TELEPHONE NUMBERS

A list of emergency telephone numbers is attached to this site safety plan. Telephone numbers for the utility companies with services in the area are also included in the list of emergency telephone numbers.

EMERGENCY MEDICAL TREATMENT

In the event of injury or illness requiring emergency medical care beyond on-site capabilities, the following resources will be utilized as appropriate:

Local Emergency Hospital:	Memorial Hospital at Gulfport 4500 13th Street Emergency (228) 865-3420 Main (228) 867-4000
Ambulance Service:	American Medical Response Emergency 911

The hospital is located approximately seven (7) minutes at a distance of 2.9 miles from the site traveling east along 33rd Street to US Highway No. 49, then south on US Highway No. 49 to US Highway No. 90, then west along US Highway No. 90 to Broad Avenue, then north on Broad Avenue to 13th Street. The hospital is located in the first block on the left side of 13th Street. A map is attached to this plan with directions from the site to the hospital.

This site safety plan has been prepared to prescribe minimum procedural and equipment requirements for worker protection in accordance with OSHA guidance for Hazardous Waste Site Activities.

This document was prepared by: _____ DATE: _____

WD BATES, Site Safety Officer

ATTACHMENTS:

EMERGENCY CONTACTS
HOSPITAL ROUTE MAP
A - MATERIAL SAFETY DATA SHETTS FOR LEAD AND ARSENIC
B - EQUIPMENT DECONTAMINATION PROCEDURES

EMERGENCY CONTACTS:

National Response Center Hotline	800-424-8802
US EPA Region IV	800-424-8802
CMA Chemical Referral Center	800-262-8200
CHEMTREC	800-424-9300
Mississippi Department of Environmental Quality	601-961-5171
Mississippi Emergency Management Agency	601-352-9100
City of Gulfport Fire Department	911
City of Gulfport Police Department	911
Mississippi State Highway Department	601-833-7811
Mississippi State Health Department	601-894-2271
Poison Control Center	601-684-7361

MEDICAL EMERGENCY:

Local Emergency Hospital: Memorial Hospital at Gulfport
4500 13th Street
Emergency (228) 865-3420
Main (228) 867-4000

Ambulance Service: American Medical Response, Inc.
Emergency 911

UTILITY CONTRACTS:

City of Gulfport Department of Public Works (Water and Sewer)	228-868-5765
Mississippi Power Company	800-487-3275BellSouth
Telephone	800-227-6477

ATTACHMENT B
EQUIPMENT DECONTAMINATION PROCEDURES

- The sampler and sample tubes will be cleaned using tap water and Liquinox. A brush will be used, if necessary, to remove particulate matter and surface films during cleaning.

- The equipment will then triple rinsed thoroughly with tap water, analyte free water and pesticide-grade isopropanol followed by a final rinse of analyte free water only. If analyte free water is not available, the equipment will be allowed to air dry following the solvent rinse. A solvent rinse will not be applied to PVC items or plastic items.

- Once the equipment has been cleaned it will be removed from the decontamination area and covered with aluminum foil when not in use.

- Equipment to be stored overnight will be wrapped in aluminum foil and covered with clean, unused plastic.

- The rinsate will be containerized and transferred to drums for characterization and disposal off-site in a permitted facility.