

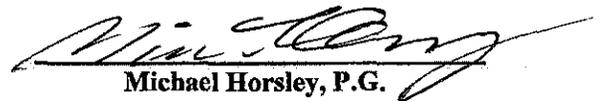
**SEMI-ANNUAL GROUNDWATER
MONITORING REPORT**
February 2011

Environmental Waste Solutions Camden Class II Landfill
TDSWM Permit Number IDL 03-0212
Camden, Tennessee

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EXECUTIVE SUMMARY:

This report documents the first semi-annual monitoring event of 2011 for the Environmental Waste Solutions, LLC (EWS) Class II Landfill which is registered with the Tennessee Division of Solid Waste Management (TDSWM) permit number IDL 03-0212. The EWS Camden Class II Landfill is located in Benton County at 200 Omar Circle, Camden, Tennessee (latitude 36°03'16" N/ longitude 88°05'16" W). The groundwater monitoring event was performed on February 8, 2011.

Representative groundwater samples were collected from monitor wells MW-1, MW-2, and MW-3. The groundwater samples were analyzed for Appendix I inorganics and a short list of ions. Every effort was employed by field personnel to ensure that the February 2011 groundwater monitoring event was conducted in accordance with the established Groundwater Monitoring Plan for this facility.

Laboratory analytical results for the groundwater samples collected from the facility monitor wells for the Class II Landfill indicated that no Appendix I listed constituents were detected above their respective maximum contaminant level (MCL), with the exception of one inorganic compound (Arsenic). Arsenic was detected in MW-1 at a concentration of (0.086 mg/l). The MCL for arsenic is (0.01 mg/l). Concentrations of arsenic observed in monitor well MW-1 have historically been above the MCL and are likely naturally occurring since there is no immediate development up-gradient of the well.

Review of the statistical analysis performed on the available data indicated that there were four statistically significant increases (SSI's) over background data. The SSI's over background data are as follows: Arsenic (MW-1), Barium (MW-2), and Chloride (MW-2 and MW-3). The SSI in MW-1 is not indicative of groundwater contamination associated with facility operations due to its location as the up-gradient monitoring point and having been present during all four of the background monitoring events. Also, although the concentration of Barium in MW-2 was determined to be a statistically significant increase





above background data it may not be an indication of a release. More specifically, the concentration of Barium at 0.15 ppm during this sampling event is only .01 ppm higher than the concentration detected in MW-2 from the April 2008 sampling event which was prior to any waste filling operations at the site.

Trend analysis utilizing the limited data available from the six total monitoring events showed slightly increasing concentrations of Arsenic in MW-1 and Chloride in MW-2. No other distinct trends are observed in the analysis.

The increasing trend in Chloride within MW-2 would ostensibly indicate the possibility of leachate migration through the composite liner system in the waste cell situated directly upgradient of MW-2. However, the increasing trend of chloride within MW-2 was somewhat surprising due to the age of the landfill and the installation of a double composite liner system at the base of the landfill. Therefore, a further evaluation was performed to determine if other factors could be influencing the concentration of Chloride in MW-2.

To further evaluate the potential source of the Chloride in MW-2 EWS sampled the landfill leachate and sent the sample to the lab to determine the concentration of Appendix 1 parameters. Another potential source of impact to the groundwater in MW-2 was also identified. The sanitary sewer manhole located 45 feet southeast of MW-2 has been observed to overflow on numerous occasions both before and since MW-2 was sampled. The overflow of the manhole results in standing water adjacent to and around MW-2. Therefore, EWS staff sampled the overflow of water from the manhole and delivered the sample to TEC Environmental Laboratories, Inc. in Jackson, Tennessee for testing. The pH of the sample determined along with the concentration of Aluminum and Chloride.

A review was performed of the results of both the landfill leachate testing and the manhole waste water testing. The results of the testing revealed Chloride concentrations in the water from the manhole at 367 ppm and Aluminum at 0.284 ppm. The results of the testing of the leachate revealed Chloride concentrations 23,100 ppm while Aluminum





was not detected. Based upon this analytical testing it appears that the source of the detected Chloride at a measured concentration of 44 ppm in MW-2 may in fact not be attributable to the landfill leachate. This opinion is based upon the fact that the concentration of chloride in the landfill leachate along with the proximity of the landfill could potentially result in much higher concentrations of chloride in the groundwater than 44 ppm. This in combination with the fact that no aluminum was detected in the leachate while the sanitary sewer waste water revealed aluminum concentrations within the range detected in MW-2. Therefore, the impacts of chloride and aluminum in MW-2 could possibly be more attributable to the recent problems with overflows from the Camden sanitary sewer system. Further testing is planned during the next observed overflow to monitor for Aluminum and Chloride. The results of the testing of the water sample collected from the Camden sanitary sewer manhole overflow is provided in **Appendix C**.





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I Introduction

A. Site Location

EWS, LLC. manages the Camden Class II landfill located just off highway US 70 at 200 Omar Circle, Camden, Tennessee. The site can be located on the Camden, Tennessee USGS quadrangle at north latitude $36^{\circ} 3' 16''$ and west longitude $88^{\circ} 05' 16''$ at an average elevation of 400 feet above mean sea level datum (MSL). The location of the facility is indicated in **Figure 1 - Site Vicinity Map, Appendix A**. The landfill footprint can be viewed in **Figure 2 - Site Map, Appendix A**.

B. Current Activities

The EWS Camden Class II Landfill currently receives secondary aluminum smelter waste for disposal including aluminum dross and salt cakes.

The original Class IV Landfill Permit issued to the site was canceled by the EWS prior to acceptance of waste.

II Aquifer Characteristics

A. Geologic and Aquifer Characteristics

The extensive reworking of the site as a result of the excavation of chert for local road and fill projects has significantly impacted the original site geology. However, the large cuts within the site boundaries have exposed the underlying geologic formations. Based upon a review of the Tennessee Division of Geology (TDOG) Geologic Map and site observations it appears that the site is within the Camden and Harriman Formations. It is reported by the TDOG that the Camden and Harriman Formations are lithologically identical, and not enough fossils are present to form a convenient basis for subdivision.

Camden and Harriman Formations

The Camden and Harriman Formations are described as follows:

Chert, gray with specks and mottlings of very light-gray and yellowish-gray (surfaces stained pale to dark yellowish-orange), bedded and blocky (beds 2 to 8 inches thick), dense, conchoidal fracture, contains pods of white to light gray tripolitic clay, locally stained yellow and brown, fossiliferous. Locally, especially near the top, fragments of chert are cemented into large masses and beds of breccia by dark-brown to moderate-red limonite.





Groundwater potentiometric data collected from the uppermost water bearing zone across the entire proposed waste area footprint during the 1999 and 2006 hydrogeological investigations indicate that the uppermost aquifer is sloped to the southwest. Comparisons of the water bearing zone elevations to static groundwater elevations for both indicate an unconfined aquifer.

B. Monitor Well Integrity & Static Water Levels

The groundwater monitoring network for the Class II Landfill consists of monitor wells MW-1, MW-2, and MW-3. Monitor well MW-1 serves as an up-gradient monitoring point while monitor wells MW-2 and MW-3 serve as down-gradient monitoring points.

The integrity of each monitor well is checked during each sampling event prior to groundwater collection. The physical condition of each wellhead is observed and noted along with the condition and ability of any and all locking mechanisms for each monitor well. Once the watertight seal is removed from the top of each monitor well's casing, the well is allowed to de-pressurize. A decontaminated electronic probe is slowly lowered into the monitor well to establish the distance between the established top of casing and the elevation of free groundwater. The distance is then re-checked to ensure that the measurement is of actual static water level and the groundwater is not rising or falling in the monitor well. The electronic probe is capable of determining this distance to within one, one-hundredth of one foot (0.01 foot). This distance is written in the site-specific field book as depth-to-water. Upon collection of this data, the electronic water level probe is removed from the monitor well and decontaminated from contact with the well casing / screen and groundwater.

The following equation is used to determine the elevation of groundwater at each well:

$$\text{Established Top of Casing Elevation} - \text{Depth to Water} = \text{Groundwater Elevation}$$

Top of casing elevation has been determined by a licensed land surveyor and is referenced to Mean Sea Level Datum of the World Geodetic Survey of 1984. Groundwater elevations are listed in **Table 1 - Field Parameters & Potentiometric Data, Appendix A.**

C. Groundwater Flow Direction

Groundwater flow at the landfill appears to flow in a southwesterly direction towards Charlie Creek. Groundwater flow in the vicinity of the





Class II Landfill appears to flow from a topographic high north, northeast of the landfill toward the southwest where monitor wells MW-2 and MW-3 are positioned to intercept any possible groundwater contaminants leaching from the landfill.

D. Potentiometric Gradient

The Potentiometric surface of the first aquifer occurring beneath the Class II Landfill occurs at approximately twenty-two (22) feet below ground surface at the up-gradient monitor well MW-1 to approximately seven (7) feet below ground surface at monitor well MW-2. The groundwater potentiometric data interpreted from the 1999 and 2006 hydrogeological investigations conducted at the site for the uppermost aquifer indicate that the uppermost water bearing zone is sloped to the southwest. Comparisons of water bearing zone elevations to static groundwater elevations for both investigations indicate an unconfined aquifer. The potentiometric gradient calculated from groundwater elevation data collected on February 8, 2011 is approximately 2.0% slope.

The potentiometric gradient is calculated according to the following formula:

$$\frac{\text{Highest GW. Elev.} - \text{Lowest GW. Elev.}}{\text{Horizontal Distance Between the Potentiometric Contours}} * 100 = \text{Pot. Grad.}$$

$$\frac{(393.01' \text{ at MW-1}) - (373.04' \text{ at MW-2})}{1,000'} * 100 = 2.0\%$$

The above calculation assumes a perpendicular gradient between the potentiometric contours drawn between MW-1 to MW-2. These assumptions may provide an artificially higher potentiometric gradient than is likely occurring at the site.

E. Hydraulic Conductivity

Hydraulic conductivity estimations within the first aquifer occurring beneath either landfill have not been determined at this time.





III Groundwater Sampling Procedures

A. Instrumentation

Depth to groundwater measurements are collected using a Solinst® electronic water level indicator, model # 122. A YSI 556 Multi-parameter probe is used to record pH, specific conductance, temperature, dissolved oxygen and ORP during groundwater sampling events at the landfill. A LaMotte model 2020 turbidity meter is used to collect turbidity readings. Each instrument is either checked against known standards or calibrated as per manufacturers' specifications prior to the commencement of sampling activities.

B. Purging and Collection of Field Parameter Values

The total volume of groundwater residing in each monitor well is calculated by subtracting the depth to water from the total depth of each well. This linear distance is next multiplied by 0.163 gallons per foot in a 2 inch (I.D.) monitor well. For purging, a disposable polyethylene bailer with sufficient nylon twine is slowly lowered into the water column. The bailer is allowed to completely submerge into the water column prior to extracting the bailer from the monitor well. The first bailer of purged groundwater is collected in a clean, high-density polyethylene (HDPE) reservoir where it is observed for Temperature, pH, specific conductance, dissolved oxygen, oxidation-reduction potential (ORP) and turbidity. These values are noted in the site specific field book as V_0 and then the collected groundwater is discarded onto the ground, away from the monitor well. Groundwater shall be purged using either a decontaminated down-well pump using new tubing or using new tubing connected to a peristaltic pump or in the case of a pump malfunction, a new disposable bailer.

Presently, bailers are not used at the EWS Camden Class II Landfill. However, if bailers are used due to pump malfunction, bailers shall be constructed of either polyethylene or Teflon. Bailers shall be factory decontaminated and sealed as to allow no environmental contaminants to interact with the bailer. New nylon twine shall be fixed to each bailer via a tied knot.

The collected groundwater will be decanted into a flow-through cell where it will be observed for pH, specific conductance, temperature, and turbidity. These values will be noted in the site specific field book as V_0





and then the collected groundwater will be poured onto the ground, down-gradient from the monitor well.

Groundwater shall be purged from the monitor well for a specific period of time that allows for a new volume of water to have passed into the flow-through cell. Once this volume of water has been purged, the field chemistry parameters will again be observed and recorded in the field book as V_1 . This procedure for purging groundwater continues for an additional well volume, if sufficient groundwater is available. After the second purged well volume has been observed for field parameter values, the values are checked against values for V_1 . If the pH and specific conductance values for each volume purged vary no more than 10% from V_1 to V_2 and the temperature has stabilized to within one degree Celsius, preparations are made to collect a groundwater sample for submittal to an analytical laboratory. If the field parameters have not stabilized, the purging procedure shall continue until either one of the following conditions are met:

1. Field stabilization occurs,
2. Well is purged dry, or
3. Five well volumes have been purged.

If the monitor well is purged dry, then the recharging groundwater shall be collected within twenty-four hours.

Field parameter values are presented in **Table 1 – Groundwater Field Data, Appendix A**. A detailed account of each purge and sample procedure conducted at each monitor well is presented in **Appendix B**.

C. Sample Collection & Preservation

Groundwater samples are collected from monitor wells once field parameter data indicates that stagnant water has been purged from the well. Groundwater is placed in laboratory supplied sample vessels in the following order if analyzed: Appendix I volatile organic constituents (VOCs) (Method V8260) – two (2), forty (40) milliliter (ml) amber glass vials with screw caps and Teflon septa preserved with hydrochloric (HCl) acid; Appendix I volatiles (Method SV8011) – two (2), forty (40) ml clear glass vials preserved with sodium thiosulfate (NaThio); Appendix I inorganics – one (1), five-hundred (500) ml HDPE jar preserved with nitric (HNO_3) acid. Groundwater samples are collected in decreasing order of susceptibility to volatilization. All groundwater samples placed in VOC vials are sealed with no air-space or trapped air bubbles.





D. Quality Assurance & Quality Control

Civil and Environmental Consultants, Inc. (CEC) procured a sealed VOC trip blank along with the laboratory prepared groundwater sample vessels from Environmental Science Corporation (ESC) prior to commencement of field sampling activities. The sample 'kit' was inspected to ensure that all requested sample vessels were present and accounted for prior to transport to site.

The sealed VOC trip blank was present during the collection of each and every groundwater sample collected from the monitor wells and springs at the landfill. Each sample was placed on ice in a laboratory supplied cooler immediately after collection. Upon the collection of the final groundwater sample, the trip blank was placed on ice in the sample cooler. The sample coolers were delivered to ESC on February 9, 2011.

A field blank was collected in the vicinity of the operating Class II Landfill next to monitor well MW-3. The field blank was collected by pouring deionized water, created in the CEC office by a series of ion exchange cartridges, into a duplicate set of sample bottles. Thereby, allowing any airborne contaminants a chance to enter the field blank sample. An equipment blank was also collected during the monitoring event from the decontaminated Grundfos pump after use on MW-1.

E. Sample Chain-of-Custody

A sample Chain-of-Custody (COC) traveled along with each sample kit from ESC to EWS and finally back to ESC for the sampling events. The CEC SOP for Chain of Custody 07-01-01 may be found in **Appendix F**.

IV Laboratory Analytical Procedures

A. Analytical Methods

All laboratory analyses for the February, 2011 monitoring event were completed by Environmental Science Corporation in Mt. Juliet, Tennessee. The analytical methods chosen for this monitoring event are the most appropriate procedures as directed by the Tennessee Division of Solid Waste Management (TN-DSWM) and the United States Environmental Protection Agency's publication SW-846, entitled *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (3rd Edition)*.





The SW-846 methods used for the analysis of groundwater were as follows:

Method 6010b	Inductively Coupled Plasma (ICP) - Atomic Emission Spectrometry
Method 6020	ICP - Mass Spectrometry
Method 7470A	Mercury in Liquid Waste - Manual Cold Vapor Technique
Method 8011	1,2-dibromoethane & 1,2 dibromo-3-chloropropane by Micro-extraction and Gas Chromatography
Method 8260B	Volatile Organic Compounds by Gas Chromatograph / Mass Spectrometry
Method 9056	Determination of Inorganic Anions by Ion Chromatography (Fluoride)

B. Analytical Results

Laboratory reports from the analysis of groundwater samples collected from the EWS Camden Class II Landfill during the February monitoring event were prepared by ESC and reported to CEC on February 18, 2011. Copies of the laboratory reports are located in **Appendix C - Laboratory Analytical Reports**. Constituent values from all laboratory analysis along with applicable maximum contaminant levels (MCLs) are presented in **Table 2 - Analytical Results, Appendix A**.

C. Quality Control Qualifier Codes

The EPA Contract Laboratory Program states that sample and result qualifiers should be utilized as part of a total quality control process. ESC complies with this directive and reports all qualifiers along with explanations of QC qualifier codes. One QC qualifier code was indicated during the laboratory analysis of groundwater samples during this monitoring event and can be viewed along with the **Laboratory Analytical Reports, Appendix C**.

V. Statistical Analysis

A. Applicable Methods

The Rules of Tennessee Department of Environment and Conservation, Division of Solid Waste Management Chapter 1200-1-7-.04 states, in part, that each landfill must conduct and report statistical analysis as part of the evaluation of groundwater monitoring data. Several methods may be employed for this endeavor. EWS Camden Class II Landfill has chosen to





use Inter and intra-well non-parametric prediction limit analysis (NPPL) at this time.

Additional statistical analyses were employed during this monitoring event. First, the distribution of the data was evaluated for normality. For all wells, the data was not normally distributed; therefore, non-parametric statistical methods were chosen. Inter and intra-well non-parametric prediction limit analyses (NPPL) were deemed appropriate for this data set. Inter-well analyses compared the concentrations observed at the down-gradient monitoring locations to the concentrations observed at the up-gradient monitoring location during this monitoring event. For the Class II Landfill, monitor well MW-1 was considered as background. Intra-well analysis was also utilized at MW-1 to compare the concentrations observed during the February 2011 groundwater sampling event to the established background data set.

The percentage of inter-well background non-detects for each parameter determines the primary statistical method utilized for each parameter. If the percentage of non-detects in the background samples is less than 50%, Shewart-CUSUM control charts are utilized. If more than 50% background non-detects exist for the given parameter, non-parametric inter-well prediction limit analysis is conducted on the data.

The computer program ChemStat was used for all statistical computations. Worksheets indicating inter-well and intra-well statistical analysis sheets and time versus concentration charts may be viewed in **Appendix D, Statistical and Trend Analysis.**

B. Results

Review of the statistical analysis indicated that there were four statistically significant increases (SSI's) over background data. The SSI's over background data are as follows: Arsenic (MW-1), Barium (MW-2), and Chloride (MW-2 and MW-3). The SSI in MW-1 is not indicative of groundwater contamination associated with facility operations, however, due to its location as the up-gradient monitoring point. It is also believed that the SSI in Barium concentration in MW-2 may also not be attributable to the landfill operation. A more detailed explanation of this opinion is provided in the conclusions and recommendations section of this document.

A review of the time versus concentration trend charts indicates few significant trends due to the lack of historical data.





VI Conclusions and Recommendations

Laboratory analytical results for the ground water samples collected from the facility monitor wells for the Class II Landfill indicated that no Appendix I listed constituents were detected above their respective maximum contaminant level (MCL), with the exception of one inorganic compound (Arsenic). Arsenic was detected in MW-1 at a concentration of (0.086 mg/l). The MCL for arsenic is (0.01 mg/l). Concentrations of arsenic observed in monitor well MW-1 have historically been above the MCL and are likely naturally occurring since there is no immediate development up-gradient of the well.

A review of the statistical analysis performed on the available data indicated that there were four statistically significant increases (SSI's) over background data. The SSI's over background data are as follows: Arsenic (MW-1), Barium (MW-2), and Chloride (MW-2 and MW-3). The SSI in MW-1 is not indicative of groundwater contamination associated with facility operations due to its location as the up-gradient monitoring point and having been present during all four of the background monitoring events. Although Barium was detected at a concentration in MW-2 that produced a statistically significant increase above background it may not be indicative of an impact to groundwater from the landfill. This opinion is based upon the fact that the concentration of Barium within MW-2 during the February 2008 sample event was detected at 0.15 ppm is only 0.01 ppm greater than the concentration of 0.14 ppm determined during the April 2008 sample event which was prior to waste filling operations at the site.

Trend analysis utilizing the limited data available from the six total monitoring events showed slightly increasing concentrations of Arsenic in MW-1 and Chloride in MW-2. No other distinct trends are observed in the analysis.

The increasing trend in Chloride concentrations within MW-2 would ostensibly indicate the possibility of leachate migration through the composite liner system in the waste cell situated directly upgradient of MW-2. However, upon further inspection of the leachate analytical test results and existing site conditions it appears that the Chloride detections within MW-2 could possibly be influenced from an external source rather than from leachate that has breached the double composite landfill liner system. More specifically, a sewer manhole located 45 feet southeast of MW-2 has been observed to overflow on numerous occasions both before and since MW-2 was sampled. The overflow of the manhole results in standing water adjacent to and around MW-2. EWS staff sampled the overflow of water from the manhole and delivered the sample to TEC Environmental Laboratories, Inc. in Jackson, Tennessee for testing. The pH of the sample determined along with the concentration of Aluminum and Chloride. The results of the testing revealed Chloride concentrations in the waste water overflow from the manhole at 367 ppm and Aluminum at 0.284 ppm. Comparatively, the results of the analytical testing of the landfill leachate revealed Chloride concentrations of 23,100. However, Aluminum was not detected in the landfill leachate sample.





The juxtaposition of MW-2 relative to the landfill and the sanitary sewer manhole was also a factor to consider in determining the source of impact the groundwater. Consideration of all of these factors does not produce sufficient factual evidence that the landfill leachate is the source of the impact to MW-2. Particularly since aluminum was not detected in the leachate but was detected in the waste water and groundwater. Also, the chloride levels in MW-2 have increased concurrently with observed overflow problems with the sanitary sewer pipe and manhole system. The location of the manhole in combination with the concentration of Chloride at 367 ppm in the sanitary sewer waste water is quite possibly the source of the recent increases in Chloride concentrations within MW-2. Further testing is planned during the next observed overflow to monitor for Aluminum, Ammonia and Chloride. The results of the testing of the water sample collected from the Camden sanitary sewer manhole overflow is provided in **Appendix C** of this report



Table 2
Environmental Waste Solutions Camden Class II Landfill IDL 03-0212
Historical Groundwater Analytical Results

Parameter	MCL (mg/l)	MW-1		MW-2		MW-3		MW-1		MW-2		MW-3		MW-1		MW-2		MW-3							
		Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date				
Chloride	250 ²	2.6	2/8/2011	2.8	7/16/2010	34	7/16/2010	25	5/19/2009	10	4/9/2009	1.9	1/21/2009	2.9	1/21/2009	3.3	1/21/2009	8.2	4/9/2009	2.3	4/9/2009	2	4/19/2008	1.9	4/19/2008
Fluoride	4																								
Nitrate	10	5.8	2/8/2011	7.3	2/8/2011	2.4	7/16/2010	0.87	5/19/2009	10	4/9/2009	<0.10	1/21/2009	<0.10	1/21/2009	<0.10	1/21/2009	<0.10	4/9/2009	<0.10	4/9/2009	<0.10	4/19/2008	<0.10	4/19/2008
Sulfate	250 ²	5.8	2/8/2011	8.2	2/8/2011	9.4	7/16/2010	5.1	5/19/2009	<5.0	4/9/2009	<5.0	1/21/2009	<5.0	1/21/2009	<5.0	1/21/2009	<5.0	4/9/2009	<5.0	4/9/2009	<5.0	4/19/2008	<5.0	4/19/2008
Ammonia Nitrogen	-	<0.10	2/8/2011	<0.10	2/8/2011	0.19	7/16/2010	0.53	5/19/2009	19	4/9/2009	19	1/21/2009	19	1/21/2009	19	1/21/2009	19	4/9/2009	19	4/9/2009	19	4/19/2008	19	4/19/2008
Alkalinity	-																								
Antimony	0.006	<0.0010	2/8/2011	<0.0010	2/8/2011	<0.0010	7/16/2010	<0.0010	5/19/2009	<0.0010	4/9/2009	<0.0010	1/21/2009	<0.0010	1/21/2009	<0.0010	1/21/2009	<0.0010	4/9/2009	<0.0010	4/9/2009	<0.0010	4/19/2008	<0.0010	4/19/2008
Arsenic	0.01	0.006	2/8/2011	0.006	2/8/2011	0.074	7/16/2010	0.064	5/19/2009	<0.0010	4/9/2009	0.067	1/21/2009	0.073	1/21/2009	0.012	1/21/2009	0.024	4/9/2009	0.024	4/9/2009	0.024	4/19/2008	0.024	4/19/2008
Beryllium	0.004	<0.0010	2/8/2011	<0.0010	2/8/2011	<0.0010	7/16/2010	<0.0010	5/19/2009	<0.0010	4/9/2009	<0.0010	1/21/2009	<0.0010	1/21/2009	<0.0010	1/21/2009	<0.0010	4/9/2009	<0.0010	4/9/2009	<0.0010	4/19/2008	<0.0010	4/19/2008
Cadmium	0.005	<0.00050	2/8/2011	<0.00050	2/8/2011	<0.00050	7/16/2010	<0.00050	5/19/2009	<0.00050	4/9/2009	<0.00050	1/21/2009	<0.00050	1/21/2009	<0.00050	1/21/2009	<0.00050	4/9/2009	<0.00050	4/9/2009	<0.00050	4/19/2008	<0.00050	4/19/2008
Copper	1.3	0.021	2/8/2011	0.020	2/8/2011	0.020	7/16/2010	0.037	5/19/2009	0.034	4/9/2009	0.064	1/21/2009	0.028	1/21/2009	0.033	1/21/2009	0.062	4/9/2009	0.062	4/9/2009	0.027	4/19/2008	0.043	4/19/2008
Lead	0.015	<0.0010	2/8/2011	<0.0010	2/8/2011	<0.0010	7/16/2010	0.074	5/19/2009	<0.0010	4/9/2009	<0.0010	1/21/2009	0.0094	1/21/2009	0.008	1/21/2009	0.008	4/9/2009	0.008	4/9/2009	<0.0050	4/19/2008	<0.0050	4/19/2008
Selenium	0.05	<0.0010	2/8/2011	<0.0010	2/8/2011	<0.0010	7/16/2010	<0.0010	5/19/2009	<0.0010	4/9/2009	<0.0010	1/21/2009	<0.0010	1/21/2009	<0.0010	1/21/2009	<0.0010	4/9/2009	<0.0010	4/9/2009	<0.0010	4/19/2008	<0.0010	4/19/2008
Thallium	0.002	<0.0010	2/8/2011	<0.0010	2/8/2011	<0.0010	7/16/2010	<0.0010	5/19/2009	<0.0010	4/9/2009	<0.0010	1/21/2009	<0.0010	1/21/2009	<0.0010	1/21/2009	<0.0010	4/9/2009	<0.0010	4/9/2009	<0.0010	4/19/2008	<0.0010	4/19/2008
Zinc	5 ²	0.016	2/8/2011	0.014	2/8/2011	0.013	7/16/2010	0.036	5/19/2009	0.015	4/9/2009	0.021	1/21/2009	0.031	1/21/2009	0.011	1/21/2009	0.018	4/9/2009	0.018	4/9/2009	0.011	4/19/2008	0.016	4/19/2008
Mercury	0.002	0.0024	2/8/2011	0.0020	2/8/2011	0.0020	7/16/2010	0.0065	5/19/2009	0.0020	4/9/2009	0.0020	1/21/2009	0.0045	1/21/2009	0.0045	1/21/2009	0.0045	4/9/2009	0.0045	4/9/2009	0.0020	4/19/2008	0.0020	4/19/2008
Aluminum	0.2 ²	0.12	2/8/2011	0.47	2/8/2011	0.2	7/16/2010	13	5/19/2009	1.4	4/9/2009	1	1/21/2009	0.94	1/21/2009	2	1/21/2009	0.96	4/9/2009	0.96	4/9/2009	1.2	4/19/2008	6	4/19/2008
Barium	2	0.021	2/8/2011	0.15	2/8/2011	0.052	7/16/2010	0.021	5/19/2009	0.033	4/9/2009	0.047	1/21/2009	0.028	1/21/2009	0.028	1/21/2009	0.088	4/9/2009	0.088	4/9/2009	0.084	4/19/2008	0.14	4/19/2008
Boron	-	<0.20	2/8/2011	<0.20	2/8/2011	<0.20	7/16/2010	<0.20	5/19/2009	<0.20	4/9/2009	<0.20	1/21/2009	<0.20	1/21/2009	<0.20	1/21/2009	<0.20	4/9/2009	<0.20	4/9/2009	<0.20	4/19/2008	<0.20	4/19/2008
Calcium	-	4	2/8/2011	21	2/8/2011	9.3	7/16/2010	4	5/19/2009	18	4/9/2009	5.7	1/21/2009	7.2	1/21/2009	7.2	1/21/2009	7.2	4/9/2009	7.2	4/9/2009	1.2	4/19/2008	1.2	4/19/2008
Chromium	0.1	<0.010	2/8/2011	<0.010	2/8/2011	<0.010	7/16/2010	0.014	5/19/2009	0.12	4/9/2009	0.12	1/21/2009	0.058	1/21/2009	0.032	1/21/2009	0.032	4/9/2009	0.032	4/9/2009	<0.010	4/19/2008	0.012	4/19/2008
Cobalt	-	0.031	2/8/2011	<0.010	2/8/2011	0.035	7/16/2010	0.016	5/19/2009	<0.010	4/9/2009	0.043	1/21/2009	0.03	1/21/2009	0.03	1/21/2009	0.03	4/9/2009	0.03	4/9/2009	0.032	4/19/2008	<0.010	4/19/2008
Iron	0.3 ²	20	2/8/2011	0.52	2/8/2011	<0.10	7/16/2010	19	5/19/2009	0.77	4/9/2009	1.6	1/21/2009	1.6	1/21/2009	1.6	1/21/2009	1.6	4/9/2009	1.6	4/9/2009	<0.010	4/19/2008	<0.010	4/19/2008
Magnesium	-	3.3	2/8/2011	5.5	2/8/2011	2.8	7/16/2010	3.5	5/19/2009	5.1	4/9/2009	2.4	1/21/2009	2.4	1/21/2009	2.4	1/21/2009	2.4	4/9/2009	2.4	4/9/2009	<0.020	4/19/2008	<0.020	4/19/2008
Manganese	0.05 ²	0.95	2/8/2011	0.022	2/8/2011	<0.010	7/16/2010	1	5/19/2009	<0.010	4/9/2009	0.2	1/21/2009	0.092	1/21/2009	0.048	1/21/2009	0.048	4/9/2009	0.048	4/9/2009	<0.020	4/19/2008	<0.020	4/19/2008
Nickel	-	0.94	2/8/2011	1.6	2/8/2011	1.5	7/16/2010	1	5/19/2009	3	4/9/2009	2.6	1/21/2009	2.6	1/21/2009	2.6	1/21/2009	2.6	4/9/2009	2.6	4/9/2009	<0.020	4/19/2008	<0.020	4/19/2008
Potassium	-																								
Silver	0.10 ²	<0.010	2/8/2011	<0.010	2/8/2011	<0.010	7/16/2010	<0.010	5/19/2009	<0.010	4/9/2009	<0.010	1/21/2009	<0.010	1/21/2009	<0.010	1/21/2009	<0.010	4/9/2009	<0.010	4/9/2009	<0.010	4/19/2008	<0.010	4/19/2008
Sodium	-	3	2/8/2011	13	2/8/2011	7.2	7/16/2010	3.5	5/19/2009	4.5	4/9/2009	2	1/21/2009	2	1/21/2009	2	1/21/2009	2	4/9/2009	2	4/9/2009	<0.010	4/19/2008	<0.010	4/19/2008
Vanadium	-	<0.010	2/8/2011	<0.010	2/8/2011	<0.010	7/16/2010	0.022	5/19/2009	<0.010	4/9/2009	<0.010	1/21/2009	<0.010	1/21/2009	<0.010	1/21/2009	<0.010	4/9/2009	<0.010	4/9/2009	<0.010	4/19/2008	0.013	4/19/2008

Notes:
MCL Maximum Contaminant Level Enforceable National Primary Drinking Water Standards
MCL² Maximum Contaminant Level Non-Enforceable National Secondary Drinking Water Standards
Bold text indicates laboratory analytical detections above the practical quantitation level
Greyed text indicates detection above respective MCL



Appendix B
Field Reports and Photographs



EWS (Customer Fine)

2/8/11

	TD	DTU	WC	V
MW-1	30.5	22.55	7.70	12.5
MW-2	10.0	7.11	5.29	0.85
MW-3	27.0	18.15	8.85	1.45

MW-2 TPT09) 12.40 DTU 7.11 WC 5.29 V=0.85g

V	T	Cond	D (cm)	pH	ORP	TURB
0	9.22	273	8.70	5.81	59.4	12.9
1	9.59	270	6.52	5.32	58.8	29.0
2	9.58	271	6.85	5.35	49.3	31.7

Day @ 1.2 gal.

V	Temp	Cond	DO	pH	ORP	Turb
0	13.29	139	9.39	4.99	70.1	4.8
1	13.46	139	9.04	5.15	38.7	18.3
2	13.40	139	8.92	5.07	46.4	11.7
3	13.42	139	8.08	5.04	47.2	9.52

12:50 Collect MW-3 & Duplicate

EWS (Customer Fine)

2/8/11

13:30 MW-1

V	T	Cond	DO	pH	ORP	Turb
0	15.72	144	15.02	5.10	-24.9	6.11
1	15.96	138	10.2	5.62	-54.8	25.4
2	15.94	135	6.32	5.62	-63.6	15.1
3	15.70	132	5.92	5.61	-64.3	28.6

13:50 Collect MW-1

14:10 Collect MW-2 Turb = 16.5

14:20 Collect Field blank @ MW-3

14:35 Collect Equipment Check San Dec
Gravel's pump head (used @ MW-1)

PHOTO 1 - EWS Class II Landfill South of the Current Cell Looking West





PHOTO 2 – Looking South from MW – 2





TEC Environmental Laboratories, Inc.

Date: 18-Mar-11

CLIENT: Environmental Waste Solutions
Lab Order: 11030906
Project: Stormwater samples
Lab ID: 11030906-02

Client Sample ID: Manhole/Well Site
Collection Date: 3/7/2011

Matrix: SURFACE WATER

Analyses	Result	Qual	MDL	RLimit	Units	DF	Date Analyzed
ICP METALS			E200.7				Analyst: RH
Aluminum	0.284		0.0050	0.0150	mg/L	1	3/11/2011 1:00:00 PM
CHLORIDE			E325.2				Analyst: HE
Chloride	367		1.0	1.00	mg/L	2	3/15/2011 10:06:00 A
PH			4500-H+-B				Analyst: RSD
pH	n/a		0	0	pH units	1	3/7/2011

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range





Appendix C
Laboratory Analytical Reports





12065 Lebanon Rd.
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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Mr. Mike Horsley
Civil & Environmental Consultants - TN
405 Duke Drive, Suite 270
Franklin, TN 37067

Report Summary

Friday February 18, 2011

Report Number: L501076

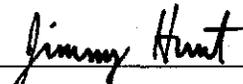
Samples Received: 02/09/11

Client Project:

Description: Custom Tire and Recycling Landfill

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:


Jimmy Hunt, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,
TX - T104704245, OK-9915

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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REPORT OF ANALYSIS

February 18, 2011

Mr. Mike Horsley
 Civil & Environmental Consultants -
 405 Duke Drive, Suite 270
 Franklin, TN 37067

Date Received : February 09, 2011
 Description : Custom Tire and Recycling Landfill
 Sample ID : MW-1
 Collected By : Mike Johnson
 Collection Date : 02/08/11 13:50

ESC Sample # : L501076-01

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	2.6	1.0	mg/l	9056	02/11/11	1
Nitrate	BDL	0.10	mg/l	9056	02/11/11	1
Sulfate	5.8	5.0	mg/l	9056	02/11/11	1
Ammonia Nitrogen	BDL	0.10	mg/l	350.1	02/14/11	1
Antimony	BDL	0.0010	mg/l	6020	02/11/11	1
Arsenic	0.086	0.0010	mg/l	6020	02/11/11	1
Beryllium	BDL	0.0010	mg/l	6020	02/15/11	1
Cadmium	BDL	0.00050	mg/l	6020	02/11/11	1
Copper	0.0021	0.0020	mg/l	6020	02/11/11	1
Lead	BDL	0.0010	mg/l	6020	02/11/11	1
Selenium	BDL	0.0010	mg/l	6020	02/11/11	1
Thallium	BDL	0.0010	mg/l	6020	02/11/11	1
Zinc	0.016	0.010	mg/l	6020	02/11/11	1
Mercury	0.00024	0.00020	mg/l	7470A	02/11/11	1
Aluminum	0.12	0.10	mg/l	6010B	02/13/11	1
Barium	0.021	0.0050	mg/l	6010B	02/13/11	1
Boron	BDL	0.20	mg/l	6010B	02/13/11	1
Calcium	4.0	0.50	mg/l	6010B	02/13/11	1
Chromium	BDL	0.010	mg/l	6010B	02/13/11	1
Cobalt	0.031	0.010	mg/l	6010B	02/13/11	1
Iron	20.	0.10	mg/l	6010B	02/13/11	1
Magnesium	3.3	0.10	mg/l	6010B	02/13/11	1
Manganese	0.95	0.010	mg/l	6010B	02/13/11	1
Nickel	BDL	0.020	mg/l	6010B	02/13/11	1
Potassium	0.94	0.50	mg/l	6010B	02/13/11	1
Silver	BDL	0.010	mg/l	6010B	02/13/11	1
Sodium	3.0	0.50	mg/l	6010B	02/13/11	1
Vanadium	BDL	0.010	mg/l	6010B	02/13/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

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REPORT OF ANALYSIS

February 18, 2011

Mr. Mike Horsley
 Civil & Environmental Consultants -
 405 Duke Drive, Suite 270
 Franklin, TN 37067

ESC Sample # : L501076-02

Date Received : February 09, 2011
 Description : Custom Tire and Recycling Landfill

Site ID :

Sample ID : MW-2

Project # :

Collected By : Mike Johnson
 Collection Date : 02/08/11 14:10

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	44.	1.0	mg/l	9056	02/10/11	1
Nitrate	7.3	0.10	mg/l	9056	02/10/11	1
Sulfate	8.2	5.0	mg/l	9056	02/10/11	1
Ammonia Nitrogen	BDL	0.10	mg/l	350.1	02/14/11	1
Antimony	BDL	0.0010	mg/l	6020	02/11/11	1
Arsenic	BDL	0.0010	mg/l	6020	02/11/11	1
Beryllium	BDL	0.0010	mg/l	6020	02/15/11	1
Cadmium	BDL	0.00050	mg/l	6020	02/11/11	1
Copper	BDL	0.0020	mg/l	6020	02/11/11	1
Lead	BDL	0.0010	mg/l	6020	02/11/11	1
Selenium	BDL	0.0010	mg/l	6020	02/11/11	1
Thallium	BDL	0.0010	mg/l	6020	02/11/11	1
Zinc	0.014	0.010	mg/l	6020	02/11/11	1
Mercury	BDL	0.00020	mg/l	7470A	02/11/11	1
Aluminum	0.47	0.10	mg/l	6010B	02/13/11	1
Barium	0.15	0.0050	mg/l	6010B	02/13/11	1
Boron	BDL	0.20	mg/l	6010B	02/13/11	1
Calcium	21.	0.50	mg/l	6010B	02/13/11	1
Chromium	BDL	0.010	mg/l	6010B	02/13/11	1
Cobalt	BDL	0.010	mg/l	6010B	02/13/11	1
Iron	0.52	0.10	mg/l	6010B	02/13/11	1
Magnesium	5.5	0.10	mg/l	6010B	02/13/11	1
Manganese	0.022	0.010	mg/l	6010B	02/13/11	1
Nickel	BDL	0.020	mg/l	6010B	02/13/11	1
Potassium	1.6	0.50	mg/l	6010B	02/13/11	1
Silver	BDL	0.010	mg/l	6010B	02/13/11	1
Sodium	13.	0.50	mg/l	6010B	02/13/11	1
Vanadium	BDL	0.010	mg/l	6010B	02/13/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

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REPORT OF ANALYSIS

Mr. Mike Horsley
 Civil & Environmental Consultants -
 405 Duke Drive, Suite 270
 Franklin, TN 37067

February 18, 2011

Date Received : February 09, 2011
 Description : Custom Tire and Recycling Landfill
 Sample ID : MW-3
 Collected By : Mike Johnson
 Collection Date : 02/08/11 12:55

ESC Sample # : L501076-03
 Site ID :
 Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	25.	1.0	mg/l	9056	02/10/11	1
Nitrate	2.4	0.10	mg/l	9056	02/10/11	1
Sulfate	BDL	5.0	mg/l	9056	02/10/11	1
Ammonia Nitrogen	BDL	0.10	mg/l	350.1	02/14/11	1
Antimony	BDL	0.0010	mg/l	6020	02/12/11	1
Arsenic	BDL	0.0010	mg/l	6020	02/12/11	1
Beryllium	BDL	0.0010	mg/l	6020	02/15/11	1
Cadmium	BDL	0.00050	mg/l	6020	02/12/11	1
Copper	BDL	0.0020	mg/l	6020	02/12/11	1
Lead	BDL	0.0010	mg/l	6020	02/12/11	1
Selenium	BDL	0.0010	mg/l	6020	02/12/11	1
Thallium	BDL	0.0010	mg/l	6020	02/12/11	1
Zinc	0.013	0.010	mg/l	6020	02/12/11	1
Mercury	BDL	0.00020	mg/l	7470A	02/11/11	1
Aluminum	BDL	0.10	mg/l	6010B	02/13/11	1
Barium	0.052	0.0050	mg/l	6010B	02/13/11	1
Boron	BDL	0.20	mg/l	6010B	02/13/11	1
Calcium	9.3	0.50	mg/l	6010B	02/13/11	1
Chromium	BDL	0.010	mg/l	6010B	02/13/11	1
Cobalt	BDL	0.010	mg/l	6010B	02/13/11	1
Iron	BDL	0.10	mg/l	6010B	02/13/11	1
Magnesium	2.8	0.10	mg/l	6010B	02/13/11	1
Manganese	BDL	0.010	mg/l	6010B	02/13/11	1
Nickel	BDL	0.020	mg/l	6010B	02/13/11	1
Potassium	1.5	0.50	mg/l	6010B	02/13/11	1
Silver	BDL	0.010	mg/l	6010B	02/13/11	1
Sodium	7.2	0.50	mg/l	6010B	02/13/11	1
Vanadium	BDL	0.010	mg/l	6010B	02/13/11	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)
 Note:
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REPORT OF ANALYSIS

February 18, 2011

Mr. Mike Horsley
Civil & Environmental Consultants -
405 Duke Drive, Suite 270
Franklin, TN 37067

ESC Sample # : L501076-04

Date Received : February 09, 2011
Description : Custom Tire and Recycling Landfill

Site ID :

Sample ID : DUPLICATE

Project # :

Collected By : Mike Johnson
Collection Date : 02/08/11 00:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	25.	1.0	mg/l	9056	02/11/11	1
Nitrate	2.4	0.10	mg/l	9056	02/11/11	1
Sulfate	BDL	5.0	mg/l	9056	02/11/11	1
Ammonia Nitrogen	BDL	0.10	mg/l	350.1	02/14/11	1
Antimony	BDL	0.0010	mg/l	6020	02/12/11	1
Arsenic	BDL	0.0010	mg/l	6020	02/12/11	1
Beryllium	BDL	0.0010	mg/l	6020	02/15/11	1
Cadmium	BDL	0.00050	mg/l	6020	02/12/11	1
Copper	BDL	0.0020	mg/l	6020	02/12/11	1
Lead	BDL	0.0010	mg/l	6020	02/12/11	1
Selenium	BDL	0.0010	mg/l	6020	02/12/11	1
Thallium	BDL	0.0010	mg/l	6020	02/12/11	1
Zinc	0.014	0.010	mg/l	6020	02/12/11	1
Mercury	BDL	0.00020	mg/l	7470A	02/11/11	1
Aluminum	0.12	0.10	mg/l	6010B	02/13/11	1
Barium	0.051	0.0050	mg/l	6010B	02/13/11	1
Boron	BDL	0.20	mg/l	6010B	02/13/11	1
Calcium	9.2	0.50	mg/l	6010B	02/13/11	1
Chromium	BDL	0.010	mg/l	6010B	02/13/11	1
Cobalt	BDL	0.010	mg/l	6010B	02/13/11	1
Iron	BDL	0.10	mg/l	6010B	02/13/11	1
Magnesium	2.8	0.10	mg/l	6010B	02/13/11	1
Manganese	BDL	0.010	mg/l	6010B	02/13/11	1
Nickel	BDL	0.020	mg/l	6010B	02/13/11	1
Potassium	1.6	0.50	mg/l	6010B	02/13/11	1
Silver	BDL	0.010	mg/l	6010B	02/13/11	1
Sodium	7.2	0.50	mg/l	6010B	02/13/11	1
Vanadium	BDL	0.010	mg/l	6010B	02/13/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

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REPORT OF ANALYSIS

Mr. Mike Horsley
 Civil & Environmental Consultants -
 405 Duke Drive, Suite 270
 Franklin, TN 37067

February 18, 2011

Date Received : February 09, 2011
 Description : Custom Tire and Recycling Landfill
 Sample ID : FIELD BLANK
 Collected By : Mike Johnson
 Collection Date : 02/08/11 14:20

ESC Sample # : 1501076-05

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	BDL	1.0	mg/l	9056	02/11/11	1
Nitrate	BDL	0.10	mg/l	9056	02/11/11	1
Sulfate	BDL	5.0	mg/l	9056	02/11/11	1
Ammonia Nitrogen	BDL	0.10	mg/l	350.1	02/14/11	1
Antimony	BDL	0.0010	mg/l	6020	02/12/11	1
Arsenic	BDL	0.0010	mg/l	6020	02/12/11	1
Beryllium	BDL	0.0010	mg/l	6020	02/15/11	1
Cadmium	BDL	0.00050	mg/l	6020	02/12/11	1
Copper	BDL	0.0020	mg/l	6020	02/12/11	1
Lead	BDL	0.0010	mg/l	6020	02/12/11	1
Selenium	BDL	0.0010	mg/l	6020	02/12/11	1
Thallium	BDL	0.0010	mg/l	6020	02/12/11	1
Zinc	BDL	0.010	mg/l	6020	02/12/11	1
Mercury	BDL	0.00020	mg/l	7470A	02/11/11	1
Aluminum	BDL	0.10	mg/l	6010B	02/13/11	1
Barium	BDL	0.0050	mg/l	6010B	02/13/11	1
Boron	BDL	0.20	mg/l	6010B	02/13/11	1
Calcium	BDL	0.50	mg/l	6010B	02/13/11	1
Chromium	BDL	0.010	mg/l	6010B	02/13/11	1
Cobalt	BDL	0.010	mg/l	6010B	02/13/11	1
Iron	BDL	0.10	mg/l	6010B	02/13/11	1
Magnesium	BDL	0.10	mg/l	6010B	02/13/11	1
Manganese	BDL	0.010	mg/l	6010B	02/13/11	1
Nickel	BDL	0.020	mg/l	6010B	02/13/11	1
Potassium	BDL	0.50	mg/l	6010B	02/13/11	1
Silver	BDL	0.010	mg/l	6010B	02/13/11	1
Sodium	BDL	0.50	mg/l	6010B	02/13/11	1
Vanadium	BDL	0.010	mg/l	6010B	02/13/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 02/18/11 12:25 Printed: 02/18/11 13:03



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REPORT OF ANALYSIS

Mr. Mike Horsley
 Civil & Environmental Consultants -
 405 Duke Drive, Suite 270
 Franklin, TN 37067

February 18, 2011

Date Received : February 09, 2011
 Description : Custom Tire and Recycling Landfill
 Sample ID : EQUIPMENT BLANK
 Collected By : Mike Johnson
 Collection Date : 02/08/11 14:35

ESC Sample # : L501076-06

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	BDL	1.0	mg/l	9056	02/11/11	1
Nitrate	BDL	0.10	mg/l	9056	02/11/11	1
Sulfate	BDL	5.0	mg/l	9056	02/11/11	1
Ammonia Nitrogen	BDL	0.10	mg/l	350.1	02/14/11	1
Antimony	BDL	0.0010	mg/l	6020	02/13/11	1
Arsenic	BDL	0.0010	mg/l	6020	02/13/11	1
Beryllium	BDL	0.0010	mg/l	6020	02/15/11	1
Cadmium	BDL	0.00050	mg/l	6020	02/13/11	1
Copper	BDL	0.0020	mg/l	6020	02/13/11	1
Lead	BDL	0.0010	mg/l	6020	02/13/11	1
Selenium	BDL	0.0010	mg/l	6020	02/13/11	1
Thallium	BDL	0.0010	mg/l	6020	02/13/11	1
Zinc	BDL	0.010	mg/l	6020	02/13/11	1
Mercury	BDL	0.00020	mg/l	7470A	02/11/11	1
Aluminum	BDL	0.10	mg/l	6010B	02/13/11	1
Barium	BDL	0.0050	mg/l	6010B	02/13/11	1
Boron	BDL	0.20	mg/l	6010B	02/13/11	1
Calcium	BDL	0.50	mg/l	6010B	02/13/11	1
Chromium	BDL	0.010	mg/l	6010B	02/13/11	1
Cobalt	BDL	0.010	mg/l	6010B	02/13/11	1
Iron	BDL	0.10	mg/l	6010B	02/13/11	1
Magnesium	BDL	0.10	mg/l	6010B	02/13/11	1
Manganese	BDL	0.010	mg/l	6010B	02/13/11	1
Nickel	BDL	0.020	mg/l	6010B	02/13/11	1
Potassium	BDL	0.50	mg/l	6010B	02/13/11	1
Silver	BDL	0.010	mg/l	6010B	02/13/11	1
Sodium	BDL	0.50	mg/l	6010B	02/13/11	1
Vanadium	BDL	0.010	mg/l	6010B	02/13/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L501076-01	WG521060	SAMP	Antimony	R1575174	B3
L501076-02	WG521060	SAMP	Antimony	R1575174	B3
L501076-03	WG521060	SAMP	Antimony	R1575174	B3
L501076-04	WG521060	SAMP	Antimony	R1575174	B3
L501076-05	WG521060	SAMP	Antimony	R1575174	B3
L501076-06	WG521060	SAMP	Antimony	R1575174	B3

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
B3	(ESC) - The indicated compound was found in the associated method blank, but all reported samples were non-detect.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy** - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision** - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate** - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC** - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
02/18/11 at 13:03:46

TSR Signing Reports: 350
R5 - Desired TAT

Charge \$6 for additional metals when metals list is run.

Sample: L501076-01 Account: CEC Received: 02/09/11 15:30 Due Date: 02/21/11 00:00 RPT Date: 02/18/11 12:25
UNINV 572859 ln 2/18/11
Sample: L501076-02 Account: CEC Received: 02/09/11 15:30 Due Date: 02/21/11 00:00 RPT Date: 02/18/11 12:25
Sample: L501076-03 Account: CEC Received: 02/09/11 15:30 Due Date: 02/21/11 00:00 RPT Date: 02/18/11 12:25
Sample: L501076-04 Account: CEC Received: 02/09/11 15:30 Due Date: 02/21/11 00:00 RPT Date: 02/18/11 12:25
Sample: L501076-05 Account: CEC Received: 02/09/11 15:30 Due Date: 02/21/11 00:00 RPT Date: 02/18/11 12:25
Sample: L501076-06 Account: CEC Received: 02/09/11 15:30 Due Date: 02/21/11 00:00 RPT Date: 02/18/11 12:25



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Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Chloride	< 1	mg/l			WG521009	02/10/11 10:38
Nitrate	< .1	mg/l			WG521009	02/10/11 10:38
Sulfate	< 5	mg/l			WG521009	02/10/11 10:38
Mercury	< .0002	mg/l			WG520849	02/11/11 10:28
Chloride	< 1	mg/l			WG521173	02/11/11 06:41
Sulfate	< 5	mg/l			WG521173	02/11/11 06:41
Chloride	< 1	mg/l			WG521132	02/11/11 06:41
Nitrate	< .1	mg/l			WG521132	02/11/11 06:41
Sulfate	< 5	mg/l			WG521132	02/11/11 06:41
Aluminum	< .1	mg/l			WG521126	02/13/11 11:28
Barium	< .005	mg/l			WG521126	02/13/11 11:28
Boron	< .2	mg/l			WG521126	02/13/11 11:28
Calcium	< .5	mg/l			WG521126	02/13/11 11:28
Chromium	< .01	mg/l			WG521126	02/13/11 11:28
Cobalt	< .01	mg/l			WG521126	02/13/11 11:28
Iron	< .1	mg/l			WG521126	02/13/11 11:28
Magnesium	< .1	mg/l			WG521126	02/13/11 11:28
Manganese	< .01	mg/l			WG521126	02/13/11 11:28
Nickel	< .02	mg/l			WG521126	02/13/11 11:28
Potassium	< .5	mg/l			WG521126	02/13/11 11:28
Silver	< .01	mg/l			WG521126	02/13/11 11:28
Sodium	< .5	mg/l			WG521126	02/13/11 11:28
Vanadium	< .01	mg/l			WG521126	02/13/11 11:28
Ammonia Nitrogen	< .1	mg/l			WG521219	02/14/11 14:44
Antimony	0.00226	mg/l			WG521060	02/11/11 14:29
Arsenic	< .001	mg/l			WG521060	02/11/11 14:29
Cadmium	< .0005	mg/l			WG521060	02/11/11 14:29
Copper	< .002	mg/l			WG521060	02/11/11 14:29
Lead	< .001	mg/l			WG521060	02/11/11 14:29
Selenium	< .001	mg/l			WG521060	02/11/11 14:29
Thallium	< .001	mg/l			WG521060	02/11/11 14:29
Zinc	< .01	mg/l			WG521060	02/11/11 14:29
Beryllium	< .001	mg/l			WG521060	02/15/11 18:33

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
Chloride	mg/l	1300	1300	2.33	20	L500836-01	WG521009
Chloride	mg/l	1000	1200	13.3	20	L500784-01	WG521009
Mercury	mg/l	0	0	0	20	L501080-01	WG520849
Sulfate	mg/l	530.	550.	3.14	20	L500556-05	WG521173

* Performance of this Analyte is outside of established criteria.
 For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
Chloride	mg/l	2.50	2.60	3.13	20	L501076-01	WG521132
Nitrate	mg/l	0	0	0	20	L501076-01	WG521132
Sulfate	mg/l	5.50	5.80	5.13	20	L501076-01	WG521132
Chloride	mg/l	24.0	25.0	3.67	20	L501076-04	WG521132
Nitrate	mg/l	2.30	2.40	5.13	20	L501076-04	WG521132
Sulfate	mg/l	0	0	0	20	L501076-04	WG521132
Aluminum	mg/l	0	0.0103	NA	20	L501049-05	WG521126
Barium	mg/l	0.0180	0.0178	1.67	20	L501049-05	WG521126
Boron	mg/l	0	0.0412	NA	20	L501049-05	WG521126
Calcium	mg/l	0	0.0418	NA	20	L501049-05	WG521126
Chromium	mg/l	0	0	0	20	L501049-05	WG521126
Cobalt	mg/l	0	0.00470	NA	20	L501049-05	WG521126
Iron	mg/l	0	0.0783	NA	20	L501049-05	WG521126
Magnesium	mg/l	0.360	0.352	2.80	20	L501049-05	WG521126
Manganese	mg/l	0.0950	0.0922	3.41	20	L501049-05	WG521126
Nickel	mg/l	0	0	0	20	L501049-05	WG521126
Potassium	mg/l	0.730	0.738	1.64	20	L501049-05	WG521126
Silver	mg/l	0	0.00110	NA	20	L501049-05	WG521126
Sodium	mg/l	0.790	0.830	4.43	20	L501049-05	WG521126
Vanadium	mg/l	0	0	0	20	L501049-05	WG521126
Ammonia Nitrogen	mg/l	0	0	0	20	L500955-03	WG521219
Ammonia Nitrogen	mg/l	2.00	2.10	3.39	20	L501072-01	WG521219
Antimony	mg/l	0	0	0	20	L501210-04	WG521060
Arsenic	mg/l	0	0	0	20	L501210-04	WG521060
Cadmium	mg/l	0	0	0	20	L501210-04	WG521060
Copper	mg/l	0	0	0	20	L501210-04	WG521060
Lead	mg/l	0	0	0	20	L501210-04	WG521060
Selenium	mg/l	0	0	0	20	L501210-04	WG521060
Thallium	mg/l	0	0	0	20	L501210-04	WG521060
Zinc	mg/l	0	0.00220	NA	20	L501210-04	WG521060
Beryllium	mg/l	0	0	0	20	L501210-04	WG521060

Analyte	Units	Laboratory Known Val	Control Sample Result	% Rec	Limit	Batch
Chloride	mg/l	40	41.3	103.	90-110	WG521009
Nitrate	mg/l	8	8.35	104.	90-110	WG521009
Sulfate	mg/l	40	41.1	103.	90-110	WG521009
Mercury	mg/l	.003	0.00287	95.7	85-115	WG520849
Chloride	mg/l	40	40.0	100.	90-110	WG521173
Sulfate	mg/l	40	39.9	99.8	90-110	WG521173
Chloride	mg/l	40	40.4	101.	90-110	WG521132
Nitrate	mg/l	8	8.19	102.	90-110	WG521132
Sulfate	mg/l	40	40.1	100.	90-110	WG521132
Aluminum	mg/l	1.13	1.02	90.3	85-115	WG521126

* Performance of this Analyte is outside of established criteria.
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Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Barium	mg/l	1.13	1.12	99.1	85-115	WG521126
Boron	mg/l	1.13	1.07	94.7	85-115	WG521126
Calcium	mg/l	11.3	11.5	102.	85-115	WG521126
Chromium	mg/l	1.13	1.18	104.	85-115	WG521126
Cobalt	mg/l	1.13	1.23	109.	85-115	WG521126
Iron	mg/l	1.13	1.13	100.	85-115	WG521126
Magnesium	mg/l	11.3	11.8	104.	85-115	WG521126
Manganese	mg/l	1.13	1.16	103.	85-115	WG521126
Nickel	mg/l	1.13	1.13	100.	85-115	WG521126
Potassium	mg/l	11.3	11.3	100.	85-115	WG521126
Silver	mg/l	1.13	1.16	103.	85-115	WG521126
Sodium	mg/l	11.3	11.6	103.	85-115	WG521126
Vanadium	mg/l	1.13	1.18	104.	85-115	WG521126
Ammonia Nitrogen	mg/l	7.5	7.27	96.9	90-110	WG521219
Antimony	mg/l	.0567	0.0552	97.4	85-115	WG521060
Arsenic	mg/l	.0567	0.0523	92.2	85-115	WG521060
Cadmium	mg/l	.0567	0.0525	92.6	85-115	WG521060
Copper	mg/l	.0567	0.0525	92.6	85-115	WG521060
Lead	mg/l	.0567	0.0525	92.6	85-115	WG521060
Selenium	mg/l	.0567	0.0495	87.3	85-115	WG521060
Thallium	mg/l	.0567	0.0517	91.2	85-115	WG521060
Zinc	mg/l	.0567	0.0533	94.0	85-115	WG521060
Beryllium	mg/l	.0567	0.0539	95.1	85-115	WG521060

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Chloride	mg/l	41.2	41.3	103.	90-110	0.242	20	WG521009
Nitrate	mg/l	8.35	8.35	104.	90-110	0	20	WG521009
Sulfate	mg/l	41.1	41.1	103.	90-110	0	20	WG521009
Chloride	mg/l	40.0	40.0	100.	90-110	0	20	WG521173
Sulfate	mg/l	40.0	39.9	100.	90-110	0.250	20	WG521173
Chloride	mg/l	39.6	40.4	99.0	90-110	2.00	20	WG521132
Nitrate	mg/l	8.01	8.19	100.	90-110	2.22	20	WG521132
Sulfate	mg/l	39.2	40.1	98.0	90-110	2.27	20	WG521132
Ammonia Nitrogen	mg/l	6.90	7.27	92.0	90-110	5.22	20	WG521219

Analyte	Units	Matrix Spike				Limit	Ref Samp	Batch
		MS Res	Ref Res	TV	% Rec			
Chloride	mg/l	123.	78.0	50	90.0	80-120	L500812-01	WG521009
Sulfate	mg/l	80.1	32.0	50	96.2	80-120	L500812-01	WG521009
Mercury	mg/l	0.00291	0	.003	97.0	70-130	L501080-01	WG520849
Chloride	mg/l	72.7	24.0	50	97.4	80-120	L501126-02	WG521173

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Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Chloride	mg/l	58.4	9.60	50	97.6	80-120	L501126-01	WG521132
Aluminum	mg/l	1.05	0.0103	1.13	92.0	75-125	L501049-05	WG521126
Barium	mg/l	1.12	0.0178	1.13	97.5	75-125	L501049-05	WG521126
Boron	mg/l	1.10	0.0412	1.13	93.7	75-125	L501049-05	WG521126
Calcium	mg/l	11.8	0.0418	11.3	104.	75-125	L501049-05	WG521126
Chromium	mg/l	1.15	0	1.13	102.	75-125	L501049-05	WG521126
Cobalt	mg/l	1.22	0.00470	1.13	108.	75-125	L501049-05	WG521126
Iron	mg/l	1.17	0.0783	1.13	96.6	75-125	L501049-05	WG521126
Magnesium	mg/l	11.9	0.352	11.3	102.	75-125	L501049-05	WG521126
Manganese	mg/l	1.26	0.0922	1.13	103.	75-125	L501049-05	WG521126
Nickel	mg/l	1.13	0	1.13	100.	75-125	L501049-05	WG521126
Potassium	mg/l	11.1	0.738	11.3	91.7	75-125	L501049-05	WG521126
Silver	mg/l	0.638	0.00110	1.13	56.4*	75-125	L501049-05	WG521126
Sodium	mg/l	11.4	0.830	11.3	93.5	75-125	L501049-05	WG521126
Vanadium	mg/l	1.15	0	1.13	102.	75-125	L501049-05	WG521126
Ammonia Nitrogen	mg/l	4.99	0	5	99.8	90-110	L500955-02	WG521219
Antimony	mg/l	0.0545	0	.0567	96.1	75-125	L501210-04	WG521060
Arsenic	mg/l	0.0518	0	.0567	91.4	75-125	L501210-04	WG521060
Cadmium	mg/l	0.0529	0	.0567	93.3	75-125	L501210-04	WG521060
Copper	mg/l	0.0542	0	.0567	95.6	75-125	L501210-04	WG521060
Lead	mg/l	0.0548	0	.0567	96.6	75-125	L501210-04	WG521060
Selenium	mg/l	0.0503	0	.0567	88.7	75-125	L501210-04	WG521060
Thallium	mg/l	0.0532	0	.0567	93.8	75-125	L501210-04	WG521060
Zinc	mg/l	0.0554	0.00220	.0567	93.8	75-125	L501210-04	WG521060
Beryllium	mg/l	0.0507	0	.0567	89.4	75-125	L501210-04	WG521060

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Chloride	mg/l	125.	123.	94.0	80-120	1.61	20	L500812-01	WG521009
Sulfate	mg/l	81.6	80.1	99.2	80-120	1.86	20	L500812-01	WG521009
Mercury	mg/l	0.00284	0.00291	94.7	70-130	2.43	20	L501080-01	WG520849
Chloride	mg/l	72.2	72.7	96.4	80-120	0.690	20	L501126-02	WG521173
Chloride	mg/l	60.2	58.4	101.	80-120	3.04	20	L501126-01	WG521132
Aluminum	mg/l	1.03	1.05	90.2	75-125	1.92	20	L501049-05	WG521126
Barium	mg/l	1.12	1.12	97.5	75-125	0	20	L501049-05	WG521126
Boron	mg/l	1.10	1.10	93.7	75-125	0	20	L501049-05	WG521126
Calcium	mg/l	11.7	11.8	103.	75-125	0.851	20	L501049-05	WG521126
Chromium	mg/l	1.15	1.15	102.	75-125	0	20	L501049-05	WG521126
Cobalt	mg/l	1.21	1.22	107.	75-125	0.823	20	L501049-05	WG521126
Iron	mg/l	1.15	1.17	94.8	75-125	1.72	20	L501049-05	WG521126
Magnesium	mg/l	11.9	11.9	102.	75-125	0	20	L501049-05	WG521126
Manganese	mg/l	1.26	1.26	103.	75-125	0	20	L501049-05	WG521126
Nickel	mg/l	1.12	1.13	99.1	75-125	0.889	20	L501049-05	WG521126

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Civil & Environmental Consultants - TN
Mr. Mike Horsley
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Franklin, TN 37067

Quality Assurance Report
Level II

L501076

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
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Tax I.D. 62-0814289

Est. 1970

February 18, 2011

Analyte	Units	Matrix Spike Duplicate			Limit	RPD	Limit	Ref	Samp	Batch
		MSD	Ref	%Rec						
Potassium	mg/l	11.7	11.1	97.0	75-125	5.26	20	L501049-05	WG521126	
Silver	mg/l	0.633	0.638	55.9*	75-125	0.787	20	L501049-05	WG521126	
Sodium	mg/l	11.9	11.4	98.0	75-125	4.29	20	L501049-05	WG521126	
Vanadium	mg/l	1.14	1.15	101.	75-125	0.873	20	L501049-05	WG521126	
Ammonia Nitrogen	mg/l	4.92	4.99	98.4	90-110	1.41	20	L500955-02	WG521219	
Antimony	mg/l	0.0553	0.0545	97.5	75-125	1.46	20	L501210-04	WG521060	
Arsenic	mg/l	0.0519	0.0518	91.5	75-125	0.193	20	L501210-04	WG521060	
Cadmium	mg/l	0.0532	0.0529	93.8	75-125	0.566	20	L501210-04	WG521060	
Copper	mg/l	0.0542	0.0542	95.6	75-125	0	20	L501210-04	WG521060	
Lead	mg/l	0.0551	0.0548	97.2	75-125	0.546	20	L501210-04	WG521060	
Selenium	mg/l	0.0495	0.0503	87.3	75-125	1.60	20	L501210-04	WG521060	
Thallium	mg/l	0.0536	0.0532	94.5	75-125	0.749	20	L501210-04	WG521060	
Zinc	mg/l	0.0553	0.0554	93.6	75-125	0.181	20	L501210-04	WG521060	
Beryllium	mg/l	0.0510	0.0507	89.9	75-125	0.590	20	L501210-04	WG521060	

Batch number /Run number / Sample number cross reference

WG521009: R1571329: L501076-02 03
 WG520849: R1571910: L501076-01 02 03 04 05 06
 WG521173: R1572372: L501076-05 06
 WG521132: R1572529: L501076-01 04
 WG521126: R1573729: L501076-01 02 03 04 05 06
 WG521219: R1574669: L501076-01 02 03 04 05 06
 WG521060: R1575174: L501076-01 02 03 04 05 06

* * Calculations are performed prior to rounding of reported values.
 * Performance of this Analyte is outside of established criteria.
 For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

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February 18, 2011

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

TEC Environmental Laboratories, Inc.

Date: 01-Apr-11

CLIENT: Environmental Waste Solutions
Lab Order: 11032106
Project: EWS Camden
Lab ID: 11032106-01

Client Sample ID: EWS Camden
Collection Date: 3/21/2011
Matrix: LEACHATE

Analyses	Result	Qual	MDL	RLimit	Units	DF	Date Analyzed
ORGANOCHLORINE PESTICIDES/PCB			E608		Analyst: SUB		
Methoxychlor	ND		2.5	2.50	µg/L	1	3/24/2011
Toxaphene	ND		12	12.5	µg/L	1	3/24/2011
Surr: Decachlorobiphenyl	87.7		0	1-133.7	%REC	1	3/24/2011
Surr: Tetrachloro-m-xylene	66.2		0	1-124.2	%REC	1	3/24/2011
PURGEABLES			E624		Analyst: TLM		
1,1,1-Trichloroethane	ND		0.0050	0.00500	mg/L	5	3/24/2011 7:48:00 AM
1,1,2,2-Tetrachloroethane	ND		0.025	0.0250	mg/L	5	3/24/2011 7:48:00 AM
1,1,2-Trichloroethane	ND		0.025	0.0250	mg/L	5	3/24/2011 7:48:00 AM
1,1-Dichloroethane	ND		0.010	0.0100	mg/L	5	3/24/2011 7:48:00 AM
1,1-Dichloroethene	ND		0.0050	0.00500	mg/L	5	3/24/2011 7:48:00 AM
1,2-Dichlorobenzene	ND		0.025	0.0250	mg/L	5	3/24/2011 7:48:00 AM
1,2-Dichloroethane	ND		0.025	0.0250	mg/L	5	3/24/2011 7:48:00 AM
1,2-Dichloropropane	ND		0.025	0.0250	mg/L	5	3/24/2011 7:48:00 AM
1,3-Dichlorobenzene	ND		0.025	0.0250	mg/L	5	3/24/2011 7:48:00 AM
1,4-Dichlorobenzene	ND		0.025	0.0250	mg/L	5	3/24/2011 7:48:00 AM
2-Chloroethylvinylether	ND		0.12	0.125	mg/L	5	3/24/2011 7:48:00 AM
Acrolein	ND		0.10	0.100	mg/L	5	3/24/2011 7:48:00 AM
Acrylonitrile	ND		0.025	0.0250	mg/L	5	3/24/2011 7:48:00 AM
Benzene	ND		0.0050	0.00500	mg/L	5	3/24/2011 7:48:00 AM
Bromodichloromethane	ND		0.025	0.0250	mg/L	5	3/24/2011 7:48:00 AM
Bromoform	ND		0.025	0.0250	mg/L	5	3/24/2011 7:48:00 AM
Bromomethane	ND		0.025	0.0250	mg/L	5	3/24/2011 7:48:00 AM
Carbon tetrachloride	ND		0.0050	0.00500	mg/L	5	3/24/2011 7:48:00 AM
Chlorobenzene	ND		0.025	0.0250	mg/L	5	3/24/2011 7:48:00 AM
Chloroethane	ND		0.0050	0.00500	mg/L	5	3/24/2011 7:48:00 AM
Chloroform	ND		0.015	0.0150	mg/L	5	3/24/2011 7:48:00 AM
Chloromethane	ND		0.025	0.0250	mg/L	5	3/24/2011 7:48:00 AM
cis-1,3-Dichloropropene	ND		0.025	0.0250	mg/L	5	3/24/2011 7:48:00 AM
Dibromochloromethane	ND		0.025	0.0250	mg/L	5	3/24/2011 7:48:00 AM
Ethylbenzene	ND		0.020	0.0200	mg/L	5	3/24/2011 7:48:00 AM
Methylene chloride	ND		0.025	0.0250	mg/L	5	3/24/2011 7:48:00 AM
Tetrachloroethene	ND		0.025	0.0250	mg/L	5	3/24/2011 7:48:00 AM
Toluene	ND		0.025	0.0250	mg/L	5	3/24/2011 7:48:00 AM
trans-1,2-Dichloroethene	ND		0.0050	0.00500	mg/L	5	3/24/2011 7:48:00 AM
trans-1,3-Dichloropropene	ND		0.025	0.0250	mg/L	5	3/24/2011 7:48:00 AM
Trichloroethene	ND		0.010	0.0100	mg/L	5	3/24/2011 7:48:00 AM

Reviewed By: _____
 Billie Haynes

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 B - Analyte detected in the associated Method Blank
 * - Value exceeds Maximum Contaminant Level
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 E - Value above quantitation range

TEC Environmental Laboratories, Inc.

Date: 01-Apr-11

CLIENT: Environmental Waste Solutions
Lab Order: 11032106
Project: EWS Camden
Lab ID: 11032106-01

Client Sample ID: EWS Camden
Collection Date: 3/21/2011
Matrix: LEACHATE

Analyses	Result	Qual	MDL	RLimit	Units	DF	Date Analyzed
PURGEABLES			E624			Analyst: TLM	
Trichlorofluoromethane	ND		0.0050	0.00500	mg/L	5	3/24/2011 7:48:00 AM
Vinyl chloride	ND		0.0050	0.00500	mg/L	5	3/24/2011 7:48:00 AM
Surr: 4-Bromofluorobenzene	124		0.025	72.7-136	%REC	5	3/24/2011 7:48:00 AM
Surr: Dibromofluoromethane	117		0.025	73.7-129	%REC	5	3/24/2011 7:48:00 AM
Surr: Toluene-d8	102		0.025	75.1-126	%REC	5	3/24/2011 7:48:00 AM
SEMIVOLATILE ORGANICS			E625			Analyst: TLM	
1,2,4-Trichlorobenzene	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
1,2-Dichlorobenzene	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
1,2-Diphenylhydrazine	ND		0.0050	0.00500	mg/L	1	3/29/2011 10:12:00 A
1,3-Dichlorobenzene	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
1,4-Dichlorobenzene	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
2,4,6-Trichlorophenol	ND		0.0027	0.00270	mg/L	1	3/29/2011 10:12:00 A
2,4-Dichlorophenol	ND		0.0050	0.00500	mg/L	1	3/29/2011 10:12:00 A
2,4-Dimethylphenol	ND		0.010	0.0100	mg/L	1	3/29/2011 10:12:00 A
2,4-Dinitrophenol	ND		0.0050	0.00500	mg/L	1	3/29/2011 10:12:00 A
2,4-Dinitrotoluene	ND		0.0050	0.00500	mg/L	1	3/29/2011 10:12:00 A
2,6-Dinitrotoluene	ND		0.0050	0.00500	mg/L	1	3/29/2011 10:12:00 A
2-Chloronaphthalene	ND		0.0020	0.00200	mg/L	1	3/29/2011 10:12:00 A
2-Chlorophenol	ND		0.0050	0.00500	mg/L	1	3/29/2011 10:12:00 A
2-Methyl-4,6-Dinitrophenol	ND		0.010	0.0100	mg/L	1	3/29/2011 10:12:00 A
2-Nitrophenol	ND		0.0050	0.00500	mg/L	1	3/29/2011 10:12:00 A
3,3-Dichlorobenzidine	ND		0.010	0.0100	mg/L	1	3/29/2011 10:12:00 A
4-Bromophenylphenylether	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
4-Chloro-3-methylphenol	ND		0.010	0.0100	mg/L	1	3/29/2011 10:12:00 A
4-Chlorophenylphenylether	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
4-Nitrophenol	ND		0.010	0.0100	mg/L	1	3/29/2011 10:12:00 A
Acenaphthene	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
Acenaphthylene	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
Anthracene	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
Azobenzene	ND		0.0050	0.00500	mg/L	1	3/29/2011 10:12:00 A
Benzidine	ND		0.020	0.0200	mg/L	1	3/29/2011 10:12:00 A
Benzo(a)anthracene	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
Benzo(a)pyrene	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
Benzo(b)fluoranthene	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
Benzo(g,h,i)perylene	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
Benzo(k)fluoranthene	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A

Reviewed By: Billie Haynes

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 B - Analyte detected in the associated Method Blank
 * - Value exceeds Maximum Contaminant Level
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 E - Value above quantitation range

TEC Environmental Laboratories, Inc.

Date: 01-Apr-11

CLIENT: Environmental Waste Solutions
Lab Order: 11032106
Project: EWS Camden
Lab ID: 11032106-01

Client Sample ID: EWS Camden
Collection Date: 3/21/2011
Matrix: LEACHATE

Analyses	Result	Qual	MDL	RLimit	Units	DF	Date Analyzed
SEMIVOLATILE ORGANICS			E625		Analyst: TLM		
Bis(2-chloroethoxy)methane	ND		0.0050	0.00500	mg/L	1	3/29/2011 10:12:00 A
Bis(2-chloroethyl)ether	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
Bis(2-chloroisopropyl)ether	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
Bis(2-ethylhexyl)phthalate	ND		0.0050	0.00500	mg/L	1	3/29/2011 10:12:00 A
Butyl benzyl phthalate	ND		0.0020	0.00200	mg/L	1	3/29/2011 10:12:00 A
Chrysene	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
Di-n-butyl phthalate	ND		0.0020	0.00200	mg/L	1	3/29/2011 10:12:00 A
Di-n-octyl phthalate	ND		0.0020	0.00200	mg/L	1	3/29/2011 10:12:00 A
Dibenz(a,h)anthracene	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
Diethyl phthalate	ND		0.0020	0.00200	mg/L	1	3/29/2011 10:12:00 A
Dimethyl phthalate	ND		0.0020	0.00200	mg/L	1	3/29/2011 10:12:00 A
Fluoranthene	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
Fluorene	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
Hexachlorobenzene	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
Hexachlorobutadiene	ND		0.0050	0.00500	mg/L	1	3/29/2011 10:12:00 A
Hexachlorocyclopentadiene	ND		0.0050	0.00500	mg/L	1	3/29/2011 10:12:00 A
Hexachloroethane	ND		0.0050	0.00500	mg/L	1	3/29/2011 10:12:00 A
Indeno(1,2,3-cd)pyrene	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
Isophorone	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
N-Nitrosodi-n-propylamine	ND		0.0020	0.00200	mg/L	1	3/29/2011 10:12:00 A
N-Nitrosodimethylamine	ND		0.0050	0.00500	mg/L	1	3/29/2011 10:12:00 A
N-Nitrosodiphenylamine	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
Naphthalene	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
Nitrobenzene	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
Pentachlorophenol	ND		0.0050	0.00500	mg/L	1	3/29/2011 10:12:00 A
Phenanthrene	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
Phenol	ND		0.0050	0.00500	mg/L	1	3/29/2011 10:12:00 A
Pyrene	ND		0.0010	0.00100	mg/L	1	3/29/2011 10:12:00 A
Total Phthalates	0.107		0.0020	0.00200	mg/L	1	3/29/2011 10:12:00 A
Surr: 2,4,6-Tribromophenol	106		0	28.1-185	%REC	1	3/29/2011 10:12:00 A
Surr: 2-Fluorobiphenyl	81.2		0	60.8-141	%REC	1	3/29/2011 10:12:00 A
Surr: 2-Fluorophenol	83.3		0	38.4-163	%REC	1	3/29/2011 10:12:00 A
Surr: 4-Terphenyl-d14	75.2		0	42.3-147	%REC	1	3/29/2011 10:12:00 A
Surr: Nitrobenzene-d5	84.0		0	44.9-146	%REC	1	3/29/2011 10:12:00 A
Surr: Phenol-d5	86.5		0	38.2-162	%REC	1	3/29/2011 10:12:00 A

CBOD

M5210 B

Analyst: KNH

Reviewed By:

Billie Haynes

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 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 E - Value above quantitation range

TEC Environmental Laboratories, Inc.

Date: 01-Apr-11

CLIENT: Environmental Waste Solutions
Lab Order: 11032106
Project: EWS Camden
Lab ID: 11032106-01

Client Sample ID: EWS Camden
Collection Date: 3/21/2011
Matrix: LEACHATE

Analyses	Result	Qual	MDL	RLimit	Units	DF	Date Analyzed
CBOD Carbonaceous Biochemical Oxygen Demand	Est. 1606		M5210 B 3.0	3.00	mg/L	1	Analyst: KNH 3/28/2011 11:00:00 A
CHLORIDE Chloride	23100		E325.2 50	50.0	mg/L	100	Analyst: HE 4/1/2011 8:53:00 AM
TOTAL CYANIDE Cyanide	0.143		E335.4 0.025	0.0250	mg/L	5	Analyst: HE 3/24/2011 11:32:00 A
FLASH/IGNITABILITY Flash	>140		SW1010 0	0	°F	1	Analyst: RSD 3/25/2011 11:39:00 A
MERCURY Mercury	ND		E245.1 0.00020	0.000500	mg/L	1	Analyst: RH 3/29/2011 2:30:00 PM
AMMONIA AS N Ammonia as N	2100		M4500-NH3 D 200	200	mg/L	1000	Analyst: KNH 3/24/2011 12:30:00 P
PH pH	bc 10		4500-H+-B 0	0	pH units	1	Analyst: RSD 3/21/2011 8:00:00 AM
TOTAL PHENOLICS Phenols	0.0466		E420.2 0.0020	0.00500	mg/L	1	Analyst: HE 3/24/2011 10:56:00 A
TEMPERATURE Temperature	52		2550_B 0	0	°F	1	Analyst: RSD 3/21/2011 8:00:00 AM
TOTAL SUSPENDED SOLIDS Suspended Solids (Residue, Non-Filterable)	117		2540-D 2.0	2.00	mg/L	1	Analyst: KNH 3/24/2011 4:15:00 PM

Reviewed By: _____
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