Brownfields Proposal

for

No Action Necessary

Tract 1 and 3 of the Former Broken Arrow Landfill W/2 of NE/4 of Section 8, Township 18 North, Range 15 East Broken Arrow, Wagoner County, Oklahoma

> To **Obtain** A Certificate of No Action Necessary Pursuant to 27A § 2-15-01 et seq. and OAC 252:221-1-1 et seq.

October 13, 2014

Participants:

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O K L A H O M A DEPARTMENT OF ENVIRONMENTAL QUALITY RECEIVED March 13, 2017 BROKEN ARROW PLAN DEVELOPMENT

Brownfield Proposal for No Action Necessary Broken Arrow Landfill Pg. 1 of 21

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Table	of Contents	Page				
1.0	Introduction	4				
2.0	Eligibility	4				
3.0	Current and Proposed Use of Site	4				
3.1	Current Use of Site	4				
3.2	2 Current Use of Adjacent Properties					
3.3	3 Current Use of Groundwater in Vicinity					
3.4	Current Use of Surface Water in Vicinity	5				
3.5	Proposed Future Use of the Site	5				
4.0	Site Characterization	5				
4.1	Site Description and Historical Information	5				
	4 1 1 Latitude/Longitude	5				
	112 Legal Description	5				
	4.1.2 Current Conditions/Historical Conditions	7				
12	Finite Content Conditions and Conditions and Conditions	, 7				
4.2	A 2.1 General	7				
	4.2.1 General	/ 0				
	4.2.2 Topography	0				
	4.2.3 Geology	0				
	4.2.4 Hydrology	8				
	4.2.5 Utilities	9				
	4.2.6 Area Resources	9				
	4.2.7 Nearby Sensitive Environments	9				
4.3	Results of Environmental Investigation	9				
	4.3.1 Soil	11				
	4.3.2 Groundwater	13				
	4.3.3 Surface Water	14				
	4.3.4 Impacts to Indoor Air	14				
5.0 Risk Evaluation 14						
5.1	Residents	15				
5.2	Indoor Industrial Workers	15				
5.3	Outdoor Industrial Workers					
5.4	Construction/Remediation/Utility Workers					
5.5	Ecological Receptors	17				
5.6	Recreational Receptors	17				
5.7	Trespassers	17				
6.0	Proposal for No Action Necessary	18				
7.0	Proposed Engineering or Institutional Controls	18				
7.1	Description of Engineering and Institutional Controls	18				
7.2	Potential for Redevelopment to Impact Controls	18				
73	Proposed Plan for Financial Assurance of Engineering and Institutional Controls	18				
8.0	Proposed After Action Monitoring	19				
9.0	Public Review and Comment	19				
Q 1	Time Period for Comment	10				
9.1 0 7	DEC Contact for Comment	10				
9.2	Dev contact for Contact for Questions	19				
9.3		20				
9.4	керозногу	20				
10.0	keterences	21				

Appendices

Appendix A - Maps

Site Location Maps Identified Historical Uses Map Topographic Map Boring/Well/Sample Locations Map Property and Tract Survey

Appendix B – Summarized Data Tables

Table 1 Sediment Sample Analytical Results For The Unnamed Tributary Of AdamsTable 2 SurfaceWater from AdamsCreekSampleAnalyticalResultsforDetectedParameters

Table 3 Soil Sample Analytical Results For Detected Parameters (Updated June 2011)

Table 4 Groundwater Sample Analytical Results for Detected Parameters

Appendix C – Collected Data

Previous Investigation Reports

Boring Logs

Lab reports

Field notes



1.0 Introduction

The following Brownfield Proposal for a Certificate of No Action Necessary, submitted by JM Assets, is for property, hereafter referred to in this proposal as Tracts 1 and 3 of the former Broken Arrow Landfill ("Site") located in Broken Arrow, Wagoner County, Oklahoma (Figure Brownfield Plat, Appendix A). The Site is owned by JM Assets (the Participant) and this Proposal was prepared with the assistance of the Oklahoma Department of Environmental Quality (DEQ) Brownfields Program.

On March 24, 2009, JM Assets voluntarily entered into a Memorandum of Agreement and Consent Order for Site Characterization ("MACO") pursuant to the DEQ's Brownfields Program. See DEQ Case No. 09-057. Under the terms of the MACO, JM Assets was required to: (1) complete certain investigation and characterization activities at the Site under the supervision of the DEQ, and (2) enter into a new consent order for remediation prior to beginning any remedial work at the Site.

Site Characterization Activities were conducted with approval by DEQ in 2010, 2011, and 2013. Field activities were subsequently completed in December 2013, and the results submitted to DEQ.

Based upon the analytical data resulting from those efforts, JM Assets broke the property up into 4 Tracts to address varying environmental conditions encountered across the site. These Tracts can be seen on the plat map in Appendix A. This proposal addresses the environmental conditions found in Tract 1 and 3. This proposal for No Action Necessary is based on limiting the use of the property for commercial/industrial purposes (i.e., non-residential), which is consistent with the intended redevelopment of the Site. A deed notice will be placed in the County land records in accordance with 27A O.S. § 2-7-123. JM Assets is seeking liability relief for potential environmental impacts to the Site and requests issuance of a Brownfield Certificate of No Action Necessary.

A&M Engineering submitted a Brownfields Proposal on behalf of JM Assets for the Site in October 2011 and JM Assets has been working with DEQ to produce a Proposal in response to further sampling activities onsite. To simplify review of the existing record, this Brownfields Proposal will replace the previously- submitted information presented in the 2011 Proposal.

2.0 Eligibility

The DEQ has determined that the site participants are eligible under 27A § 2-15-104(D) and the property is an eligible response site under 42 USC 9601 §101(41). The participants entered into a Memorandum of Agreement and Consent Order for Site Characterization (OAC 252:221-3-1) on March 24, 2009.

3.0 Current and Proposed Uses of the Site

3.1 Current Use of the Site

The site is currently unoccupied land. Below the surface is the former Broken Arrow Landfill that operated from 1973 until 1976. Sampling data indicates that the fill area of the landfill is located in Tract 2. Prior to being used for a landfill, the property was part of a large surface coal mine.

3.2 Current Use of Adjacent Properties

The properties around the site are a mix of residential and commercial use as well as pasture land. To the north, there are commercial buildings and residential properties. To the east, there is pasture land and residential development. To the south, there is unoccupied land with surface water and residential housing. To the west is more of the former strip mine, which is now largely unoccupied except for one residence and an oil tank to the very north of the property.

3.3 Current Use of Groundwater in the vicinity

Currently, groundwater is not used onsite. A deed notice will be placed on the property to prevent the use of groundwater for anything other than monitoring purposes.

The nearest water well is 0.4 miles to the north of the site and is for domestic use and is owned by J.T. Rader. It is situated at 138 ft. of depth.

3.4 Current Use of Surface Water

The former strip mine extends beyond the site boundaries and over several neighboring properties. The drainage feature to the northwest of the property is part of a larger feature created by the furthest west lift of the coal mine. This is not a natural water feature and sediments in the drainage feature are impacted by the former strip mine.

The closest water supply intake is Broken Arrow's water intake on the Verdigris River and is roughly 8.5 miles northeast of the site and potentially downgradient in the watershed. However, it is uncertain whether the drainage feature associated with the former strip mine is perennial, or if it connects with the watershed at all. The OWRB Map viewer indicates that it may not be connected, and it is not recognized as a natural water feature by OWRB.

3.5 Proposed Future Use of the site

The proposed future use of the site is Commercial/Industrial. Residential use of the site will not be allowed and a deed restriction will be filed with the Brownfield Certificate in the county land records restricting the use of the property to commercial/industrial.

4.0 Site Characterization

4.1 Site Description and Historical Information

4.1.1 Latitude/Longitude

The current entrance to the site is located at (36.060798°, -95.730975°). It is anticipated that redevelopment will alter access to the site. The site will not remain accessible through the Tract 2 entrance.

4.1.2 Legal Description

The full legal definition of the site as it was entered into the Brownfield Program is:

Part of W/2 of NE/4 of Section 8, Township 18 North, Range 15 East of the Indian Base and Meridian, Wagoner County, State of Oklahoma, according to the U.S. Government Survey thereof, being more particularly described as follows: Beginning at a point 50 feet South of the NE corner of said W/2 of NE/4, Thence S 01°17′51″ E along the East line of said W/2 of NE/4 2595.97 feet to the SE corner of said W/2 of NE/4, Thence S 88°49′1″ W along the South line of said W/2 of NE/4 1320.16 feet to the SW corner of said W/2 of NE/4, Thence N 01°19′88″E along the West line of said W/2 of NE/4 1473.60 feet, Thence N 88°40′28″ a distance of 1261.08 feet to a point that is 60 feet West of the East line of said W/2 of NE/4, Thence N 01°17′51″ W and parallel to said East line a distance of 1118.97 feet to a point on the South right-of-way line of East Kenosha Ave. (E. 71st St. South), Thence N 88°40′28″ E along said right-of-way 60 feet to the Point of Beginning.



The site was surveyed on February 6, 2014 and broken into three separate Tracts as follows:

TRACT 1

A tract of land that is port of the W/2 NE/4 of Section 8, Township 18 North, Range 15 East of the Indian Base and Meridian, Wagoner County, State of Oklahoma, being more particularly described as follows: Commencing at the NW Corner of the NE/4, Thence S01'19'59"E along the West line of NE/4 50.00 feet; thence N88'40'18"E 73.54 feet; thence S88'27'57"E 200.25 feet; thence N88'40'18"E 100.00 feet to the Point of Beginning; thence N84'51'37"E 150.33 feet; thence N88'40'28"E 462.22 feet: thence S01'17' 51 "E 331.61 feet; thence WEST 100.00 feet; thence S0UTH 250.00 feet; thence WEST 500.00 feet; thence S0UTH 200.00 feet; thence S88'40'28"W 375.24 feet to a point on said West line of NE/4; thence N01'19'59"W along said West line 222.93 feet; thence N33'30'32"E 653.83 feet to the Point of Beginning, containing 11.73 acres, more or less.

TRACT 2

A tract of land that is part of the W/2 NE/4 of Section 8, Township 18 North, Range 15 East of the Indian Base and Meridian, Wagoner County, State of Oklahoma, being more particularly described as follows: Beginning at a point 50.00 feet South of the Northeast corner of said W/2 NE/4; thence S01'17'51"E along the East line of said W/2 NE/4 1600.13 feet; thence WEST 1011.89 feet; thence SOUTH 250.00 feet; thence S88'40'28"W 303.15 to a point on the West line of said W/2 NE/4; thence N01'19'8"E along said West line 948.59 feet; thence N88'40'28"E 375.24 feet; thence NORTH 200.00 feet; thence EAST 500.00 feet; thence NORTH 250.00 feet; thence EAST 100.00 feet: thence N01'17'51 "W 331.61 feet to a point on the south right of way line of E. Kenosha Ave. (E. 71 st St. So.); thence N88'40'28"E along said right of way 336.02 feet to the Point of Beginning, containing 32.16 acres, more or less.

TRACT 3

A tract of land that is part of the W/2 NE/4 of Section 8, Township 18 North, Range 15 East of the Indian Base and Meridian, Wagoner County, State of Oklahoma, being more particularly described as follows: Beginning at a point 1650.13 feet South of the Northeast corner of said W/2 NE/4; thence S01'17'51"E along the East line of said W/2 NE/4 1127.76 feet to the Southeast corner of said W/2 NE/4; thence S88'49'19"W along the south line of said W/2 NE/4 1320.16 feet to the Southwest corner of said W/2 NE/4; thence N01"19'58"E along the West line of said W/2 NE/4 874.39 feet; thence N88'40'28"E 303.15 feet; thence NORTH 250.00 feet; thence EAST 1011.89 feet to the Point of Beginning, containing 32.38 acres, more or less.

This Proposal addresses conditions only on Tract 1 and Tract 3.

4.1.3 Current Conditions/Historical Conditions

The Site consists of approximately 76 acres of undeveloped land with brush, grassland, and trees located throughout a majority of the Site. Denser woodland is situated in the southeast section of the Site and along the western border. A drainage feature associated with the final lift of the strip mine borders the Site's northwestern boundary.

The Site currently does not have any improvements (buildings, tanks, parking lots, etc.), except for an earthen access road and a fence with a lockable gate restricting access to the property. The Site can be accessed from the northern adjacent road (East 71st Street/Kenosha Street) via a concrete driveway that leads into an earthen/gravel access road. The access road extends along the eastern section of the Site for approximately 1,200 feet and turns to the southwest for approximately 650 feet. The road then extends to the west/southwest through the south central section of the Site.

A sanitary sewer easement is situated along the western boundary and several manholes are situated along the easement. In addition, a natural gas pipeline easement is situated throughout the center of the Site that extends from west to east.

The Topographic Map and the Site Layout are provided in Appendix A. The property and surrounding area are zoned as commercial by the City of Broken Arrow and reflect historic and current industrial and commercial use.

According to historical resources and the site inspection, the Site was formerly a coal strip mine that was eventually used as a landfill. Prior to being used for fill operations, the Site was coal strip mined in the 1920s and 1930s, with some additional mining in the 1960s. Mining activities occurred prior to the Surface Mining Control and Reclamation Act of 1977.

The landfill was first permitted for hazardous waste by the manufacturer of acetylene on February 15, 1973 through the Oklahoma State Department of Health (OSDH). OSDH stamped this first permit "invalid" with a remark of "Sold to Broken Arrow of S.L." OSDH reissued Permit No. 3573002 on June 15, 1973 to the City of Broken Arrow for a sanitary landfill. The same permit was closed on September 25, 1976. This permitting record indicates that the Site was utilized only for a maximum of 2.5 years by the City of Broken Arrow for disposing municipal waste.

A Phase I Environmental Site Assessment (ESA) was originally conducted in February 2008 and was updated in December 2008 and January 2009. Historically, the Site had been strip mined and later permitted as a municipal landfill for the City of Broken Arrow to accept sanitary waste. During the Phase I ESA, two (2) disposal areas were determined at the Site (Appendix A).

4.2 Environmental Setting

4.2.1 General

Broken Arrow is surrounded by gentle hills stretching toward the Ozark foothills and lies near the Arkansas River at a latitude providing a moderate climate. Winters are generally mild with light snowfall, and the high temperatures of mid- to late-summer are often moderated by low relative humidity and southerly breezes. Tornadoes and



windstorms characterize spring and early summer, but sunny days and cool nights prevail throughout the fall. Rainfall is heaviest in the spring.

The average temperature for winter months is 36.7° F and for summer months 82.0° F. Average rainfall is 38.77 inches. Winds across Wagoner County are predominantly from the south to southeast, averaging nearly 7 miles-per-hour. Relative humidity, on average, ranges from 47% to 92% during the day. Relative humidity is slightly lower from February – April, but increases dramatically with the spring rains. The percentage of possible sunshine ranges from an average of less than 50% in winter to nearly 80% in summer.

4.2.2 Topography

The northern portion of the site slopes to the west/northwest in the direction of a drainage feature associated with the former strip mine, and the remaining portions of the site generally slope to the southwest in the direction of a pond located on the south adjacent property. The topography of the site has changed over the last 80 years due to strip mine activities and then the mined areas being filled by the City of Broken Arrow Landfill. Currently, the Site is leveled and there is no visible effect of past mining and landfill activities. According to the Oneta Quadrangle 7.5- Minute Topographic Map, the elevation of the site ranges from 630 to 670 feet above mean sea level (MSL). The surrounding topography is best described as gently sloping to sloping. The Topographic Map is provided in Appendix A.

4.2.3 Geology

According to the Hydrologic Atlas 2 – Reconnaissance of the Water Resources of the Tulsa Quadrangle-Northeastern Oklahoma, underlying sediment consists of the Senora Group. The Senora Group consists of shale, sandstone, and coal beds with minor limestone beds. The Geology Map is provided in Appendix A.

According to the Oklahoma Water Resources Board (OWRB), there are no drinking water wells within a quarter mile of the Site. The yield of the uppermost aquifer at this site is very low, less than 1-2 gallons a minute.

4.2.4 Hydrology

4.2.4.1 Surface Water

A drainage feature associated with the final lift of the strip mine borders the northwest Site boundary and flows northward. Part of the Site drains into this feature and part of the Site drains to the south into a large impoundment adjacent to the south boundary of the Site.

The source of domestic water for the Site and the area is from Yahola Lake, with services provided by the City of Tulsa. Yahola Lake is over fifteen miles away from the site. It is not anticipated that the site could have impacts on Yahola Lake.

4.2.4.2 Flood Plains

According to the Federal Emergency Management Agency (FEMA), the site is situated outside the 100 year and 500 year flood plains (Zone X). No visual evidence of recent flooding or prolonged water retention was observed on-site

during the inspection. The Flood Map (Flood Insurance Rate Map) is provided in Appendix A.

4.2.5 Utilities

A sanitary sewer easement is situated along the western boundary and several manholes are situated along the easement. In addition, a natural gas pipeline easement is situated through the center of the Site and extends from west to east.

It is not anticipated that development of the property and installation of utilities will be complicated by conditions on Tract 1 or Tract 3.

4.2.6 Area Resources

The property to the east of the site is in use as pasture land. The site and the property to the west were intermittently used as strip mines from the 1920s to 1960s.

There is limited use of groundwater in the area. According to the Oklahoma Water Resources Board (OWRB) online data viewer, the closest groundwater well is domestic and is a half mile to the northeast of the site. Shallow groundwater and surface water flow appears to be to the west/northwest toward a drainage feature associated with the former strip mine. Sampling was performed in the drainage feature, and it does not appear to be impacted by conditions limited to the site. See Section 4.3 for more information on investigation activities.

4.2.7 Nearby Sensitive Environments

The closest school or day care center is Park Lane Elementary, which is just over a mile to the southeast. There are no known sensitive ecological environments in the area of the site. Areas around the site are predominantly pasture land, residential, or commercial/industrial.

4.3 Results of Environmental Investigation

Sampling events occurred in 2008, 2010, 2011, 2012 and 2014 and were conducted by A&M Engineering. Media sampled during these sampling events include surface and subsurface soil, surface and ground water, soil gas, and radiation surveys.

2008 Preliminary Sampling

In February 2008, three (3) surface soil samples were collected on-site and two (2) surface water samples were collected from a ponded area and the drainage feature located in the northwest corner of the Site. The landfill areas appeared to be covered with a mix of clay and silty loam soil with gravel and grass. The landfill surface areas appeared somewhat homogeneous. In some limited areas throughout the Site, trash was observed. No ponding or standing water was observed in the landfilled areas or anywhere onsite. The Previous Sample Locations With Updated Waste Area Map is provided in Appendix A.

The analytical parameters for the January 2008 preliminary sampling event included: Chloride, Specific Conductance, Metals (Barium, Iron, Magnesium, and Manganese), Nitrate, pH, Total Dissolved Solids (water only), and Sulfate. Concentrations of Metals and Sulfate were detected in all of the soil samples. In addition, the pH in soil samples S-1 and S-2 were relatively lower than the background sample (S-3). The TDS, Metals, and Sulfate were elevated in both water samples. Additionally, the Chloride level was elevated in the Creek Sample (C-1) and the pH was lower than



the surface water sample, which indicated impact from an off-site source. The Sample Location Map (Figure Previous Sample Locations With Updated Waste Area Map) is provided in Appendix A.

2010 Sampling

To characterize the site for DEQ's Brownfield Program, soil, sediment, surface water, and groundwater were sampled at the Site following the DEQ approved Brownfield Sampling & Analysis Plan. Four (4) piezometers were completed on August 3, 2010, and two gas probes were completed on August 4, 2010, both using a CME ATV drill rig.

Depths of the piezometers ranged from 15 feet to 20 feet at the Site. Groundwater was encountered in all four (4) piezometers and groundwater samples were collected from all of the piezometers on August 4, 2010. Additional water samples were collected from each piezometer on October 28, 2010.

Four (4) surface soil grab samples (0 to 6 inches deep) were collected on August 4, 2010, from the Site. In addition, two (2) sediment and two (2) water samples were collected from the drainage feature associated with the former strip mine on August 3, 2010.

All of the drilling and sampling activities were implemented according to the Sampling & Analysis Plan.

The Site is bordered along the northwest boundary by a drainage feature created by the last lift of the strip coal mine. Sediment at the bottom of the feature was sampled at its entry and exit point of the Site. The Sample Location Map (Figure Previous Sample Locations With Updated Waste Area Map) is provided in Appendix A. Two (2) sediment samples were collected from the drainage feature with CS-1 being the upgradient sample. The samples were dark gray and reddish fine to medium coarse and moist.

The water of the drainage feature was also sampled at the entry of the drainage feature to the Site (CW-1) and at the exit point of the drainage feature from the Site (CW-2). At each sampling location, a bottom sediment and surface water sample was collected.

Four (4) surface soil grab samples (0 to 6 inches deep) were collected on August 4, 2010 from the Site. The Site Characterization Sample Location Map is provided in Appendix A.

Approximately one (1) inch of grass and topsoil were encountered in each surface sample. In addition, five (5) to six (6) inches of loose (brown/grey) spoil, which is the turned over material remaining from mining activities, was encountered in each surface sample.

All surface samples and the split barrel samples from the piezometers were scanned using a photo ionization detector (PID). No elevated readings were detected in the surface samples. No elevated readings were detected in the split barrel samples; therefore, no soil samples were collected from the piezometers.

Field observations revealed that the Site is underlain by loose spoil from previous mining activities. No staining or visual impact was observed in the split barrel samples. In addition, no unusual odors were observed during sampling.

Four (4) piezometer wells were drilled at the Site. After the wells were developed and purged, groundwater samples were collected from each well. The groundwater samples were analyzed for pH, Conductivity, Arsenic, Cadmium, Chloride, Sodium, Sulphate, Phosphorus, Manganese, Iron, Lead, Chromium, Magnesium, Nitrate, Barium, Mercury, semi-volatiles (Method 8270), and volatiles (Method 8260). The Duplicate sample was collected from PZ-2.

In order to determine if the landfill was generating methane gas, two (2) gas probes were installed within the delineated waste areas to monitor the waste generated gas. The probes were sampled for methane.

The purpose of these two (2) gas probes was to determine gas generation within the waste areas to assist with the design phase for the site development.

The gas probe locations were initially proposed according to the delineated landfill area from previous data; however, after attempting to drill the gas probes in the proposed locations, no trash was encountered. It took three (3) attempts to locate trash for GP-1. GP-1a was drilled to a depth of 15 feet and GP-1b was drilled to a depth of 12 feet. Only mine spoil was encountered in GP-1a and GP-1b. GP-1c was drilled to a depth of 7.5 feet and trash was encountered at 4 to 6 feet. The trash consisted of paper, plastic sheeting, and plastic bags. The gas probe was installed at the GP-1c location, approximately 500 feet south/southwest of the proposed location. The Previous Sample Locations With Updated Waste Area is provided in Appendix A and shows all the GP locations.

GP-2 took five (5) attempts to locate trash. GP-2a through GP-2d were all drilled to a depth of 15 feet and only loose gray/brown mine spoil was encountered. GP-2e was drilled to a depth of 9 feet and trash was encountered at 5 to 6.5 feet. The trash consisted of paper, plastic sheeting, and fabric. The gas probe was installed at the GP-2e location, approximately 1,000 feet north/northwest of the proposed location. The Previous Sample Locations With Updated Waste Area Map is provided in Appendix A.

During gas probe drilling, all the penetrated spoil-soil sections and waste were scanned using the PID and no PID readings were detected in the spoil and waste samples.

Radiation Surveys

Preliminary radiation surveys were conducted in October 2010, June 2011, and September 2011. Based on these preliminary surveys it was determined that there was a radiation source present on the site. A more detailed survey made up of a 100ftx100ft grid was conducted in March of 2012. The survey was intended to determine whether there were impacts on the northern third of the property, but when the survey confirmed the radiation issues in the northern third of the property as well. Based on concerns raised by the confirmatory survey, DEQ offered assistance to JM Assets. DEQ staff pulled four soil samples from areas determined to have radiation issues and sent the samples to be analyzed. The result of the sampling indicated that thorium and uranium were present in a lens of soil approximately 6 inches below the surface. Based on concerns that more of the radioactive material might be on site, a full survey with a 50ftx50ft grid was conducted in December of 2013. A report produced in May of 2014 indicates that the impacted area is limited to the northeastern portion of the site, in what is now labeled Tract 2a. Tract 2a is not a part of this Proposal. It will be addressed separately.



4.3.1 Soil

4.3.1.1 Impacts onsite

A letter from Blackshare Environmental regarding investigations from 2007 and an A&M conducted investigation in 2010 indicate that there are metal levels onsite that are elevated above EPA industrial screening levels and published USGS background levels. Analytical results from the 2007 investigation were not available for review, but a letter from Blackshare Environmental to Western Capital Partners describing the sampling results indicates that metal levels in groundwater exceeded MCLs (See Appendix B). Sampling performed in 2010 by A&M Engineering indicates that the only metals to exceed screening levels for industrial use are arsenic and thallium. Arsenic is naturally occurring in Oklahoma soils and according to the United States Geological Survey (USGS), background levels for arsenic range from 1.007 to 8.982 mg/kg in Wagoner County. All samples collected onsite exceeded these arsenic background levels, ranging from 11.1 to 22.6 in soils, and 48.3 to 52.9 in sediment samples from the drainage feature. Thallium levels on site exceed protection of ground water levels and EPA residential screening levels, but not EPA industrial screening levels. Thallium levels in surface soils range from 0.297 mg/kg to 0.802 mg/kg. According to the United States Geological Survey, arsenic is associated with coal mines and according the Agency for Toxic Substances and Disease Registry (ATSDR), thallium is associated with mines in general, including coal mines. Since the area is part of a large coal strip mine, elevated levels may be attributed to former strip mining activities onsite. See Tables 1 and 3 in Appendix B for sample results.

Based on gas sampling results there seems to be limited methane gas generation in the area near the footprint of the old landfill. From sampling, it does not appear that the methane generation will impact Tract 1 or Tract 3. Boundaries of Tracts 1 and 3 are over 100 feet away from the suspected fill area of the landfill.

4.3.1.2 Delineation of Potential Off-Site Migration

The former strip mine covers a large area that goes beyond the boundaries of the site. Sediment samples collected in the drainage feature have elevated levels of arsenic, in the range of 50 mg/kg. The similarity in value between the upgradient sample (48.3 mg/kg) and the downgradient sample (52.9 mg/kg) indicates that the impacts to the drainage feature are consistent within the area of the strip mine. No sediment samples were collected offsite.

4.3.1.3 Impacts to Neighboring Properties

No sampling data has been collected offsite. There is impact from the former strip mine present in the sediment of the drainage feature to the northwest of the site. The strip mine extends beyond the site boundaries.

4.3.1.4 Closest Public Water Supplies

The closest water supply intake is Broken Arrow's water intake on the Verdigris River and is roughly 8.5 miles to the northeast of the site and potentially downgradient in the watershed. However, it is uncertain whether the drainage feature associated with the former strip mine is continuous at all times, or if it connects with the watershed at all. Map data from the DEQ ArcGIS Viewer and from the OWRB Map viewer indicates that it may not be connected.

4.3.1.5 Nearest domestic wells

The nearest domestic water well is 0.4 miles to the north of the site and is owned by J.T. Rader. It is situated at 138 ft. of depth. Based on data collected by A&M engineering in 2010, metals in soils are not affecting groundwater (see 4.3.1.6). Groundwater results can be found in Appendix B, Table 4.

4.3.1.6 Movement of COCs to groundwater

COCs have been detected in groundwater above MCLs according to the May 22, 2007 Blackshare letter (See Appendix C). Sampling performed by A&M Engineering in 2010 indicate detectable limits of RCRA metals in unfiltered groundwater samples (See Table 4, Appendix B), but there were no detectable limits in filtered samples indicating that there is likely no impact to groundwater from COCs onsite. When metals are detectable in unfiltered samples, but not in filtered samples this indicates that the metals that were detected in the unfiltered samples were the result of suspended particles that were dissolved during lab analysis, and not dissolved metals in the groundwater.

4.3.2 Groundwater

4.3.2.1 Impacts onsite

A letter report from Blackshare in 2007 indicates that metals were detected above screening levels (MCLs) in groundwater. Analytical data from 2010 indicates that metals were only detected in unfiltered samples, so metal levels in these samples are likely not representative of an issue with dissolved metals in groundwater. Any metal levels present are likely a result of impacts from the former strip mine, which extends beyond the boundaries of the site.

4.3.2.2 Delineation of Potential Off-Site Migration

No sampling occurred offsite, but any metal levels present are likely a result of impacts from the former strip mine, which extends beyond the boundaries of the site. Arsenic and thallium were found to be elevated onsite over the published USGS background levels. However, according to the USGS, arsenic is associated with coal mines and according the ATSDR, thallium is associated with mines in general, including coal mines. Since, the area is part of a large coal strip mine, elevated levels may be attributed to former strip mining activities.

4.3.2.3 Impacts to Neighboring Properties

No sampling has occurred offsite. The former strip mine extended to neighboring properties in all directions.

4.3.2.4 Closest Public Water Supplies

The closest water supply intake is Broken Arrow's water intake on the Verdigris River and is roughly 8.5 miles to the northeast of the site and potentially downgradient in the watershed. However, it is uncertain whether the drainage



feature associated with the former strip mine is continuous at all times, or if it connects with the watershed at all. Map data from the DEQ ArcGIS Viewer and from the OWRB Map viewer indicate that it may not be connected.

4.3.2.5 Nearest domestic wells

According to the OWRB data viewer, the nearest domestic water well is 0.4 miles to the north of the site and is owned by J.T. Rader. It is situated at 138 ft. of depth. Groundwater flow onsite likely flows to the west toward the drainage feature. This well is likely upgradient from the site.

4.3.3 Surface Water

Two (2) Surface water samples were collected during the 2010 sampling event for the property, metals did not exceed MCLs in either sample. Drainage feature sediment samples were collected and these results are discussed in Section 4.3.1.

4.3.4 Impacts to Indoor Air

The footprint of the landfill disposal area is contained within Tract 2. Soil gas readings indicated that while some methane is being generated by the landfill it is at low levels and is unlikely to impact areas outside of Tract 2b, because Tracts 1 and 3 are located over 100 feet away from the area where methane generation could occur. Issues with methane gas generation will be addressed during the cleanup of Tract 2.

5.0 Risk Evaluation

To meet the requirements of the Oklahoma Brownfield Program, a risk evaluation was performed to determine whether the contamination on the property poses a threat to human health and the environment in light of the proposed future use of the property. Therefore, an evaluation of the risks the site poses was performed using DEQ's guidance document, "Risk-Based Decision Making for Site Cleanup." DEQ defines risk-based decision making as "evaluating real and potential risk to both human health and the environment posed by a contaminated Site and making responsible and practical decisions to mitigate those risks in a timely fashion."

Actual and potential exposure pathways and receptors were evaluated. The risks are evaluated on the property in its current condition and for the impact it might have on the proposed future development of the property. If the site is deemed to pose a risk, remediation will occur. If the property's planned use is anything other than "unrestricted residential use," institutional controls must be put in place to ensure that the use category (e.g., industrial) does not change over time, without DEQ input.

Currently, there are no residents on the site. The site is unoccupied and is zoned for agricultural use, but will be developed for commercial use. A commercial occupant is currently considering development onsite in Tract 1. A deed notice will be placed in the County Land Records to prevent residential use of the property and restrict groundwater use. Development at this time will be limited to Tracts 1 and 3, which are only impacted by the former strip mine that is present throughout the site and extends across all neighboring properties. Separate plans will be developed for Tracts 2A and 2.

The entire site occurs within the remnants of a surface mining coal mine. The coal mine covers a large area around the site. The coal tailings affect the surface soils and general water quality in the area. The property was operated as a municipal landfill; however, landfill impacts are limited to Tract 2,



which is being addressed separately under the DEQ Brownfield Program. Sampling data indicates that Tracts 1 and 3 are over 100 feet from the former fill area of the landfill and unlikely to be affected by the former landfilling operations, and therefore, the participant is requesting that DEQ issue a determination that no action is necessary on these tracts for the proposed commercial reuse.

5.1 Residents

5.1.1 Surface Soil and Water

The land is currently vacant. No residences are currently onsite and the property is being developed for commercial use. The proposed future use of the property is commercial/industrial and a restriction on property use will be placed in the County deed records to help ensure the property is not converted to residential use in the future without additional investigation and cleanup. Residents will not be directly exposed to contaminated surface soils. This pathway is considered incomplete.

Surface water from the property flows into a discontinuous drainage feature. There seem to be some impacts to drainage feature sediment from the previous strip mining activities in the area. The strip mine extends far beyond the boundary of the site, impacts to the drainage feature from the surrounding mined area will continue. This pathway is considered complete.

5.1.2 Subsurface Soil and Groundwater

There are no residences or other developments on the Site. No large scale remediation efforts that could potentially expose neighboring residents to contaminated subsurface soils are planned for the site, but digging and grading could expose subsurface soils and create fugitive dust. Fugitive dust is discussed in section 5.1.3. The participant intends for the property to only be used for commercial or industrial purposes in the future. Therefore, a restriction (i.e., institutional control) will be placed on the property stating that the property shall not be used for residential purposes; therefore, potential exposure pathways for residents are incomplete.

Groundwater at the Site is not impacted above EPA risk-based screening levels (MCLs) for groundwater. The restriction placed on the property will limit future groundwater use other than for monitoring purposes only; therefore, this exposure pathway is considered incomplete.

5.1.3 Air

Currently, in Tracts 1 and 3 there are no sources of potential impacts to the air with the exception of fugitive dust. The landfill and any methane it may generate will be addressed through Tract 2b development and remediation efforts. Sampling data indicates that Tracts 1 and 3 are over 100 feet from the former fill area of the landfill; therefore vapor intrusion of methane gas is unlikely. This pathway is considered complete.

5.2 Indoor Industrial Workers

5.2.1 Surface Soil and Water

Currently, there are no industrial/commercial workers and no buildings or structures on the Site. If indoor industrial/commercial workers are present in the future, it would be unlikely that they would be exposed to contaminated surface soil, because redevelopment of the site, similar to other commercial development in the area (i.e. installation of roads, parking lots, foundations of buildings), would prevent exposure to surface soils. Indoor workers adjacent to the property could potentially come into contact with contaminated soils that are less than six inches below ground surface during construction onsite.



Surface water from the property flows into a discontinuous drainage feature associated with the former strip mine. There are elevated levels of arsenic that exceed EPA RSLs for industrial soil and exceed published USGS background levels in the sediment in the drainage feature from the previous use of the property as a strip mine. However, as the strip mine extends beyond the boundary of the site, impacts to the sediment from the surrounding area will continue. While it is not impossible for indoor industrial workers to access the surface water in the drainage feature, it is very unlikely that they would seek to do so. This pathway is considered complete.

5.2.2 Subsurface Soil and Groundwater

There are currently no indoor industrial/commercial workers present or immediately adjacent to the site. It is not anticipated that indoor industrial/commercial workers will come in contact with subsurface soils. Use of groundwater onsite will be restricted through a deed notice. Based on the non-volatile nature of the impacts present on these portions of the Site and the absence of contamination in the groundwater above MCLs, it is not anticipated that indoor industrial/commercial workers will be exposed to contamination onsite or offsite. This pathway is considered incomplete.

5.2.3 Air

Currently, there are no industrial/commercial workers and no buildings or structures present on or immediately adjacent to the Site. Fugitive dust may expose neighboring properties to contamination. This pathway is considered complete.

5.3 Outdoor Industrial Workers

5.3.1 Surface Soil and Water

Currently, there are no industrial workers on the site; however, the intended reuse of the site is commercial/industrial. Outdoor industrial/commercial workers could be exposed to contaminated surface soil. This pathway is considered complete for future outside industrial workers.

Surface water from the property flows into a discontinuous drainage feature. Arsenic in sediment in the drainage feature from the former strip mine exceeds EPA RSLs for industrial soil and exceeds published USGS background levels. However, as the strip mine extends beyond the boundary of the site, impacts to the drainage feature from the surrounding area will continue. This pathway is considered complete.

5.3.2 Subsurface Soil and Groundwater

Currently, there are no industrial workers on the site; however, the intended reuse of the site is commercial/industrial. Outdoor industrial/commercial workers could be exposed to contaminated subsurface soil if digging occurs onsite. This pathway is considered complete.

A restriction will be placed on the property disallowing the use of groundwater for any purpose beyond monitoring. Outdoor industrial/commercial workers may be exposed to groundwater if digging occurs onsite. However, based on the absence of groundwater contaminated above conservative cleanup levels, it is not anticipated that they will be exposed to contamination via the groundwater. This pathway is considered incomplete.

5.3.3 Air

Currently, there are no industrial workers on the site; however the intended reuse of the site is commercial/industrial. Due to the nature impacted soils onsite, it is not anticipated that there could be exposure to volatile vapors from Tracts 1 or 3. Fugitive dust from contaminated soil may be a source of exposure on and adjacent to the site. This pathway is considered complete.

5.4 Construction/Remediation/Utility Workers

5.4.1 Surface Soil and Water

There are currently no construction, remediation, or utility worker activities occurring at the Site. Future construction, remediation, and/or utility workers may potentially come in contact with metal contaminated surface soil during construction/remedial activities. This exposure pathway is considered complete.

Surface water from the property flows into a discontinuous drainage feature. Arsenic in sediment in the drainage feature from the former strip mine exceeds EPA RSLs for industrial soil and exceeds published USGS background levels. However, as the strip mine extends beyond the boundary of the site, impacts to the drainage feature from the surrounding area will continue. This pathway is considered complete.

5.4.2 Subsurface Soil and Groundwater

There are currently no construction, remediation, or utility worker activities occurring at the Site. Future construction, remediation, and/or utility workers may potentially come in periodic contact with metal contaminated subsurface soil during construction/remedial activities. This exposure pathway is complete.

A restriction will be placed on the property disallowing the use of groundwater for any purpose beyond monitoring. Construction, remediation, or utility workers may be exposed to groundwater if digging occurs onsite. However, based on the absence of groundwater contaminated above MCLs, it is not anticipated that they will be exposed to contamination via the groundwater. This pathway is considered incomplete.

5.4.3 Air

There are currently no construction, remediation, or utility worker activities occurring at the Site; however, there will be in the future. Due to the nature of the impacts to soils on these portions of the site, it is not anticipated that there could be exposure to volatile vapors from Tract 1 or 3. Fugitive dust may be a source of exposure on and offsite. This pathway is considered complete.

5.5 Ecological Receptors

During site characterization, no sensitive habitats, aquatic ecosystems, or endangered species were identified at the Site. The area will be zoned for commercial use and is developed residential to the north and east. The Site has been used for industrial purposes in the past and will be developed for industrial/commercial use in the future. The properties around the Site are developed commercial properties with major highways that serve the area industries. There is no evidence that migration from contamination onsite is impacting sensitive ecological environments. The ecological receptor pathway is considered incomplete.

Currently, there are no recreational-type activities or recreational receptors at the Site; therefore, the exposure pathways for all media are incomplete. Future land use/redevelopment of the site shall remain commercial/industrial.

5.7 Trespassers

5.7.1 Surface Soil and Water

Trespassers could be exposed to arsenic contaminated surface soil or water. The site is currently fenced with a locked gate. This pathway is considered complete.

5.7.2 Subsurface Soil and Groundwater

It is currently not anticipated that trespassers will come in contact with subsurface soils or groundwater. This pathway is considered incomplete.

5.7.3 Air

There are currently no structures onsite and due to the lack of volatile chemicals impacting the soil, it is not anticipated that trespassers will be affected by fumes or vapor intrusion. Fugitive dust may be a source of exposure on and offsite. This pathway is considered complete.

6.0 Proposal for No Action Necessary

Based on the limited impacts to soils in Tract 1 and Tract 3 and the proposed future use of the site, JM Assets is seeking a Certificate of No Action Necessary for Tract 1 and Tract 3 of the Former Broken Arrow Landfill. The impacts from the footprint of the former landfill and the area of elevated radiation will be addressed in Brownfield Proposals for Tract 2b and 2a respectively.

Levels of arsenic in surface soils are above levels for industrial property use, and exceed USGS background levels. Background levels of arsenic provided by USGS are in the range of 3 mg/kg to 4 mg/kg, but all representative samples reported by USGS were collected outside the footprint of the former strip mine. USGS does not provide background levels of thallium for Oklahoma. Levels of arsenic onsite range from 11.1 to 22.6 in soils, and 48.3 to 52.9 in sediment samples from the drainage feature. Thallium levels on site range from 0.297 mg/kg to 0.802 mg/kg, which exceed EPA residential screening levels of 0.78mg/kg, but not the industrial levels of 10mg/kg. According to USGS arsenic can be associated with coal and coal mines, and according to ATSDR thallium is associated with mining generally, including coal mines. The strip mine associated with the site extends beyond the boundaries of the site and there is no way for the current operators of the site to control contamination sources beyond the boundary of the property. The future use of the site will be commercial/industrial. Tenants of the property will likely develop retail stores with concrete slabs and solid surface parking. This will limit any exposure to surface or subsurface soils to any future occupants of the property. Potential construction workers may be exposed to soils with arsenic levels that exceed RSLs for industrial use.

Site characterization has been completed for this site and the site is appropriate for industrial/commercial redevelopment.

7.0 Proposed Engineering or Institutional Controls

7.1 Description of Institutional Controls

A deed notice will be placed in county land records. The deed notice will:

- Restrict use of groundwater onsite for any purpose other than monitoring.
- Restrict use of the site to commercial or industrial use only.

Brownfield Proposal for No Action Necessary Broken Arrow Landfill Pg. 19 of 21

7.2 Potential for Redevelopment to Impact Controls

Redevelopment will not impact the institutional controls. A notice will be placed on the deed. The current use of the site is agricultural. When the Brownfield Certificate is in place on the site, JM Assets will seek to have the zoning changed from agricultural use to commercial use.

7.3 **Proposed Plan for Financial Assurance for long term stewardship**

No long term stewardship is necessary for Tracts 1 and 3, since no long term engineering controls will be utilized.

8.0 Proposed After Action Monitoring

No After Action monitoring will be necessary for Tracts 1 and 3.

9.0 Public Review and Comment

The purpose of this document is to inform the public that the participant has performed site characterization, risk evaluation, has filed a Brownfield Proposal for a No Action Necessary Determination with the DEQ, and is ready for redevelopment. The DEQ reviewed the brownfield proposal for compliance with the Brownfield Voluntary Redevelopment Act [27A O.S. Section 2-15-101 et seq.] and the rules of the DEQ OAC 252:221. The participants have performed these actions to receive liability relief from the federal Comprehensive Environmental Response, Compensation, and Liability Act as provided by 27A O.S. Section 2-15-101 et seq.

Issuance of the Certificate will resolve JM Assets' civil and administrative liability to the DEQ for historical contamination on the surface of the Site (27A O.S. §2-15-108(A)), and this protection extends to future lenders, lessees, successors, or assigns (27A. O.S. §2-15-18(B)). The protection remains in effect as long as the property is in compliance with the Certificate of No Action Necessary and any post-certification conditions or requirements specified in the consent order, this Brownfield Proposal, and/or the Brownfield Certificate. The release of liability from administrative penalties and any civil actions authorized by the Oklahoma Brownfields Voluntary Redevelopment Act does not apply to pollution that occurs outside the scope of the consent order or the certificate, pollution caused or resulting from any subsequent redevelopment of the property, or existing pollution not addressed during the project.

The Site is an Eligible Response Site as defined by the 2002 Brownfield Amendments to the Comprehensive Environmental Response, Compensation and Liability Act of 1980 as documented in a March 24, 2009, Consent Order. Therefore, the issuance of the Certificate also bars the U.S. Environmental Protection Agency from pursuing actions at the Site under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. § 9628 (b)(10)).

Comments on this proposal will be accepted from the public for twenty working days after the issuance of the Proposal (OAC 252:221-3-5). DEQ will consider comments and concerns from the public in its final determination, and will prepare a response to comments in the final approval or denial of the plan. DEQ, at the request of concerned citizens, may hold a public forum to address relevant environmental concerns before final determination.

9.1 Time period for Comment

The time period for public Comment will be 20 working days from publication of a notice in a local newspaper.

Public notice was issued on _____

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Comments will be accepted in writing until _____

9.2 All comments on this proposal and any request for a public forum to discuss the project should be in writing and sent to:

Rachel Francks Oklahoma Department of Environmental Quality Land Protection - Brownfields Program 707 North Robinson P.O Box 1677 Oklahoma City, OK 73101 <u>rachel.francks@deq.ok.gov</u>

9.3 Questions about the proposed cleanup or the technical aspects of this proposal should be directed to:

Rachel Francks Oklahoma Department of Environmental Quality Land Protection - Brownfields Program 707 North Robinson P.O Box 1677 Oklahoma City, OK 73101 rachel.francks@deq.ok.gov

9.4 Repository

Broken Arrow Library/South Available at the front desk 3600 S. Chestnut Broken Arrow, OK



10.0 References

- 1.0 Kolker, A., Palmer, C., Bragg, L., & Bunnell, J. (2006, February 1). Arsenic in Coal. Retrieved October 13, 2014, from http://pubs.usgs.gov/fs/2005/3152/fs2005-3152.pdf
- 2.0 Thallium, CAS # 7440-28-0. (2013, June 1). Retrieved October 13, 2014, from http://www.atsdr.cdc.gov/toxfaqs/tfacts54.pdf
- 3.0 Oklahoma Water Resources Board. OWRB Custom Map Viewer-Data Driven Map Viewers. Last accessed September 30, 2014. <u>http://www.owrb.ok.gov/maps/server/wims.php</u>.
- 4.0 Oklahoma Department of Environmental Quality. ODEQ Online Data Viewer. Last accessed September 30, 2014. http://maps.scigis.com/deq_wq/
- 5.0 B.J. Allaway and John Wiley & Sons, Inc, Heavy Metals in Soils: Edited by New York. 1990.
- 6.0 ASTM OS 64 Table 11 (Background Concentrations of Elements in Soils) in the Cleanup Criteria for Contaminated Soil and Groundwater.
- 7.0 FEMA Flood Insurance Rate Map. Panel40143 C 0561 H. Dated September 22, 1999.
- 8.0 Oklahoma Geological Survey. Reconnaissance of the Water Resources of the Tulsa Quadrangle-Northeastern Oklahoma. Map HA-2, Sheet 2 of 4. Dated 1971, Second printing 1988.
- 9.0 Teklab, Inc. Analytical Reports dated August 17, 2010, November 3, 2010, and November 18, 2010.
- 10.0 Tulsa Geological Survey. Tulsa's Physical Environment. Tulsa Geological Society Digest, Vol. 31, Map 1. Dated 1972.
- 11.0 USGS Topographic Map. On eta Quadrangle- Wagoner County, Oklahoma. 1982.

Appendix A

Site Location Maps Identified Historical Uses Map Topographic Map Boring/Well/Sample Locations Map Property and Tract Survey

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March 13, 2017 BROKEN ARROW PLAN DEVELOPMENT



APPROVED BY: DRAWN BY: IT ALG

2028-001







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	A & M ENGINEERING AND	March 13, 2017 BROKEN ARROW		76-ACRE DEATHERAGE SITE W/2 NE/4 SEC. 8, T-18-N, R-15-E – WAGONER COUNTY, OK		
H	ENGINEERING • ENVIRONMENTAL • CONSTRUCTION		sc	ALE: AS SHOWN	DATE: 02/14/2008	FIGURE NO. FIGURE 3
			AP	PPROVED BY: IT	DRAWN BY: ALG	PROJECT NO. 2028-001



APPROVED BY: DRAWN BY: PROJECT NO.

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Partial Historical Extent of the Strip Mine in the area of the former Broken Arrow Landfill

Former Broken Arrow Landfill

Footprint of the former Strip Mine









Appendix B

- Table 1 Sediment Sample Analytical Results for the Unnamed Tributary of Adams
- Table 2 Surface Water from Adams Creek Sample Analytical Results for Detected

 Parameters
- Table 3 Soil Sample Analytical Results for Detected Parameters (Updated June 2011)
- Table 4 Groundwater Sample Analytical Results for Detected Parameters
TABLE 1 - SEDIMENT SAMPLE ANALYTICAL RESULTS FOR THE UNNAMED TRIBUTARY OF ADAMS CREEK (UPDATED JUNE 2011)

FORMER BROKEN ARROW LANDFILL - BROKEN ARROW, OKLAHOMA ODEQ-LPD CASE NO. 09-057

Parameter	CS-1	CS-1	CS-2	CS-2	Industrial Soil
Sample Depth	(08/04/10)	(11/10/10)	(08/04/10)	(11/10/10)	Screening Level
Antimony	2.8	N/A	< 5	N/A	410
Arsenic	52.9	N/A	48.3	N/A	1.6
Beryllium	5.66	N/A	5.45	N/A	2,000
Cadmium	4.39	N/A	3.16	N/A	800
Chromium	24.3	N/A	21.4	N/A	180,000*
Copper	29.2	N/A	21.3	N/A	41,000
Lead	66.8	N/A	37.1	N/A	800
Mercury	0.018	N/A	< 0.033	N/A	43
Nickel	439	N/A	401	N/A	2,000
Selenium	41	N/A	43	N/A	5,130
Silver	2.4	N/A	2.06	N/A	5,130
Thallium	< 0.192	0.099	< 0.2	0.099	1
Zinc	1130	N/A	906	N/A	310,000
рН (S.U.)	7.48	N/A	7.82	N/A	
Specific Conductance	1530 umhos/cm	N/A	958 umhos/cm	N/A	

SAMPLE DATES: AUGUST 4, 2010 & NOVEMBER 10, 2010

All values are in mg/Kg or ppm unless otherwise noted

MCL values are based on the Regional Screening Level Summary Table (May 2011)

* Protection of Groundwater SSL values (according to the Regional Screening Level Summary Table (May 2011)

** ODEQ Risk Based Cleanup Levels

Concentrations in $\ensuremath{\textbf{BOLD}}$ are above the Industrial Soil Screening Level N/A: Not Analyzed

RECEIVED March 13, 2017 BROKEN ARROW PLAN DEVELOPMENT TABLE 2 - SURFACE WATER FROM ADAMS CREEK SAMPLE ANALYTICAL RESULTS FOR DETECTED PARAMETERS FORMER BROKEN ARROW LANDFILL - BROKEN ARROW, WAGONER COUNTY, OKLAHOMA SAMPLE DATES: AUGUST 4, 2010 & OCTOBER 28, 2010 ODEQ-LPD CASE NO. 09-057

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MCL	2000	0.00		0.01	T0.0	2 co.o	0.0F	co-n	E C C	***	too o	200.0		700.0	ł		±0T		0.005	6.5-8.5*	
CW-2 Unfiltered (10/28/2010)	< 0.005																				
CW-2 Filtered (8/4/2010)	< 0.05	< 0.075	0,008	0.0017	< 0.01	< 0.01	0.015	0.813	0.031	0.0051	< 0.002	0.051	TC:D		V/N	V/N	V/N		N/A	N/A	N/A
CW-2 Unfiltered (8/4/2010)	<0.05	< 0.025	0.0039	0.0015	0.0069	< 0.01	0.015	0.85	0,046	0.0057	< 0.002	0.985	< 0.0002	0.051	0.01	0.038	< 0.024		2000	3.53	3420
CW-1 Unfiltered (10/28/2010)	< 0.005																				
CW-1 Filtered (8/4/2010)	< 0.05	< 0.025	0.0038	0.0016	0.0111	< 0.01	0.014	0.783	0.03	0.0081	< 0.002	0.914	< 0.0002	N/A	N/A	N/A	N/A	N/A	A1/A	A/N	N/A
CW-1 Unfiltered (8/4/2010)	< 0.05	0.011	0.004	0.0016	0.0052	< 0.01	0.0087	0.0836	0.045	0.0064	< 0.002	0.958	< 0.0002	0.045	< 0.01	0.054	< 0.023	< 0.002	5	70.0	3330
Parameter	Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Silver	Thallium	Zinc	Mercury	Phosphorus	Nitrogen/Nitrite	Nitrogen/Nitrate	2-Methylnaphthalene	Benzene	(II) Ha	1.0101	Specific Conductance

All values are in mg/L or ppm unless otherwise noted

*Based on EPA Primary and Secondary Drinking Water Standards or groundwater protection

N/A - Not Analyzed Concentrations in **BOLD** are above the MCL

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TABLE 3 - SOIL SAMPLE ANALYTICAL RESULTS FOR DETECTED PARAMETERS (UPDATED JUNE 2011) FORMER BROKEN ARROW LANDFILL - BROKEN ARROW, OKLAHOMA ODEQ-LPD CASE NO. 09-057 SAMPLE DATE: AUGUST 4, 2010

Parameter	SS-1	SS-2	SS-3	SS-4	DUP/SS-2	Industrial Soil
Sample Depth	(0-6")	(0-6")	(0-6")	(0-6")	(0-6")	Screening Level
Antimony	< 4.9	< 4.9	< 4.81	3.6	< 5	410
Arsenic	13.8	19.2	11.1	22.6	15.7	1.6
Beryllium	0.84	1.27	0.59	1.3	1.27	2,000
Cadmium	0.38	1.87	0.29	0.99	1.12	800
Chromium	22.8	59.4	30.2	48.4	34.9	180,000*
Copper	21.1	95.2	29.7	59.7	40.1	41,000
Lead	20.4	30	21.4	28.7	22.7	800
Mercury	0.03	0.12	0.051	0.1	0.055	43
Nickel	22.4	170	22.6	91.5	89.3	2,000
Selenium	< 3.77	< 3.85	< 3.92	< 3.7	< 4.81	5,130
Silver	< 0.52	0.87	< 0.54	< 0.51	< 0.53	5,130
Thallium	0.13	0.802	0.297	0.443	0.378	10
Zinc	65.4	341	87	204	189	310,000
рН (S.U.)	7.66	5.88	4.89	4.37	6.51	
Specific Conductance	409 umhos/cm	1510 umhos/cm	183 umhos/cm	677 umhos/cm	1530 umhos/cm	

All values are in mg/Kg or ppm unless otherwise noted

* Protection of Groundwater SSL values (according to the Regional Screening Level Summary Table (May 2011)

** ODEQ Risk Based Cleanup Levels

Concentrations in **BOLD** are above the Industrial Soil Screening Level

TABLE 4 - GROUNDWATER SAMPLE ANALYTICAL RESULTS FOR DETECTED PARAMETERS FORMER BROKEN ARROW LANDFILL - BROKEN ARROW, WAGONER COUNTY, OKLAHOMA ODEQ-LPD CASE NO. 09-057 SAMPLE DATES: AUGUST 4, 2010 & OCTOBER 28, 2010

Parameter	PZ-1	PZ-1	pz-2	PZ-2	PZ-3	PZ-3	PZ-4	PZ-4	DUP		
	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	MCL
Antimony (08/04/2010)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	10.05	10.01	LO O T		
Antimony (10/28/2010)	< 0.005	N/A	< 0.005	N/N				cu.u >	<0.0 >	< 0.05	0.006
Arsenic	0.069	< 0.02F	0000	10.01	con.o /	N/A	<00.0 ×	N/A	< 0.005	N/A	0.006
Bervllium	0.0038	1000	1000	520.0 V	8T.N.N	< 0.025	0.016	< 0.025	< 0.025	< 0.025	0.05 🖉
Cadmium			+T00.0	T00'0 >	u.uuu4	< 0.001	0.0036	0.0005	0.0007	< 0.001	0.004
	50000	0.0004	0.0042	0.0031	0.0017	0.0012	0.0183	0.0094	0.0028	0.0035	0.01
Curomium	0.174	0.0043	0.0506	< 0.01	0.0241	0.0066	0.0975	0.022	0.0234	0.009	10.0
Copper	0.142	< 0.01	0.0501	< 0.01	0.0116	< 0.01	0.0655	< 0.01	0.0187	000	0.0
Lead	0.0904	< 0.04	0.034	0.012	0.016	0.0094	0.0909	0.071	0.024	10.0	L L L
Nickel	0.244	0.0218	1.14	0.871	0.451	0.417	10	1 05	1 06	CTO:O	c0.0
Selenium	0.024	0.025	0.04	0.074		0.025	100	CO.T	00.1	0.383	
Silver	< 0.01	1001	0000	120.0	0.00	C50.0	<0.0 >	0.024	0.032	0.026	0.05
Theller	10.00	10.0	6000.0	9000	0.0057	0.0038	0.0103	0.0068	0.0063	0.005	0.11*
	/TNN'N	700'0 ×	0.0013	< 0.002	0.0006	< 0.002	0.001	< 0.002	< 0.002	< 0.00	000
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pH (S.U.)	6.69	N/A	6.08	N/A	5,93	N/A	5 88	V/N	2000		0000
Specific Conductance	3560	N / N						<u>c/r</u>	TO'D	N/A	+
	2000	W/M	U/C£	A/A	3230	N/A	3570	N/A	3520	N/A	

All values are in mg/L or ppm unless otherwise noted

*Based on EPA Primary and Secondary Drinking Water Standards or groundwater protection N/A - Not Analyzed

Concentrations in **BOLD** are above the MCL

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Appendix C

Previous Investigation Reports

Boring Logs

Lab reports

Field notes



May 22, 2007

RONMENTAL SOLUT

Mr. Brian J. Shloss Underwriting Associate Western Capital Partners, LLC Historic Alta Court Offices 1490 Lafayette Street, Suite 306 Denver, CO 80218

Subject: Limited Phase II Investigation of Undeveloped Property South side of 71st Street between S. 217th E. and S. 222nd E. Avenue Broken Arrow, OK CES Project #866-06

Dear Mr. Shloss:

Western Capital Partners, LLC, its successors, and/or assigns may rely on the referenced report dated February 10, 2006 which was prepared by our firm under our former company name - Cinnabar Environmental Services. To summarize the results from the report:

- The results of the soil gas survey revealed no measurable concentrations of methane in any of the borings.
- If the groundwater were pumped and discharged, a permit would have to be obtained from the Oklahoma Department of Environmental Quality (ODEQ). In addition, according to the ODEQ, as long as the water is not used for drinking water purposes, the levels of metals in the groundwater are not a threat to human health or the environment.

We trust that this letter provides you with the information you need to provide financing to Mr. Rusty Russell with Russell Capital Acquisitions. If you require any additional information, please don not hesitate to call our Tulsa office at (918) 388-0970.

Sincerely,

Blackshare Environmental Solutions

Unite 7. Blackshare

Derek T. Blackshare, P.E., CHMM CEO & President

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February 10, 2006

Mr. Bill Deatherage The Deatherage Companies 1805 North Sixteenth Street Broken Arrow, OK 74012-9339

Limited Phase II Investigation of Subject: **Undeveloped Property** South side of 71" Street between S. 217th E. and S. 222rd E. Avenue Broken Arrow, OK CES Project #866-06

Dear Mr. Deatherage:

The following summarizes the results of the referenced project conducted by Cinnabar Environmental Services (Cinnabar). This letter report is organized as follows:

- Description of Field Sampling Activities and Results

Background

At least parts of the property were formerly used as a municipal landfill. Cinnabar was contracted to investigate whether or not the past use of the property as a landfill had implications for the future development of the property. Specifically, the site was to be investigated for the presence of methane gas in the soil or elevated concentrations of metals in the groundwater. Representatives of Cinnabar met with the engineer for the developer and locations for soil borings/survey were chosen based on the anticipated development and the topography of the property in relation to the historic landfill operations. A topographic map of the subject property is included as Attachment A.

Description of Field Sampling Activities and Results

Soil Borings

Field activities were conducted on January 13, 2006 by Mr. Jon Boyd and Mr. Manuel Barrett of Cinnabar. A total of seventeen (17) soil borings were advanced by either a hand probe or geoprobe. The geoprobe was operated by Great Plains Probing Services, LLC. The purpose of the borings were to allow soil gas samples to be collected to conduct a methane survey. The borings were advanced to depths ranging from three to eight feet. A site aerial map, which indicates the approximate locations of the borings in relation to pertinent structures and general site boundaries, is attached to this report as Attachment B.

312) S. Wheeling Ave. + Tulso. OK 74105-6421 + TEL: 918.742.0082 + FAX: 915.742.0897 + cestulsat@cinnabov.ce

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Kenneth Leonard

Feb 08 10 05:34p

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GADA CONSTRUCTION

Mr. Bill Deatherage Febuary 10, 2006 Page 2 of 3



In addition, a total of five (5) soil borings were advanced by geoprobe to auger refusal or the presence of water for the purpose of collecting ground water samples.

Soil Gas Survey

Soil gas samples were collected from each of the borings referenced above and analyzed utilizing a Gas-Ranger™ detector for the presence of methane. The Gas-Ranger™ detector is capable of reading 0 to 100% by volume of methane, and is used frequently to conduct field screening of methane when a source is suspected and/or in instances of development. The results of the soil gas survey revealed no measurable concentrations of methane in any of the borings and are summarized in the table in Attachment C to this report.

In addition, the five (5) Geoprobe wells were also sampled for the presence of methane using the above referenced techniques. No measurable concentrations of methane were observed, as noted in the previously referenced table.

Ground Water Sampling

A total of five (5) temporary wells were installed to test for the presence of metals in the groundwater. A hollow core sampling unit was advanced using the Geoprobe unit to refusal or groundwater. The sampling equipment was decontaminated prior to commencement of the project and following the completion of each soil boring using an Alconox® detergent and of the five holes (one hole was advanced to a layer of coal and no groundwater was available well to prevent cross contamination of samples.

The collected samples were containerized in the proper sample bottles using Nitric acid as a preservative. Water samples were analyzed for the presence of eight (8) Resource Conservation and Recovery Act (RCRA) metals by Green Country Testing using EPA method 245.2 for Mercury in water and EPA method E200.7 for the remaining seven (7) RCRA metals.

The temporary wells were compliantly plugged after sampling was conducted by employing the use of bentonite clay in accordance with Oklahoma Water Resources Board (OWRB) protocol.

All soil cuttings were containerized and compliantly disposed of by Cinnabar. Water samples were taken in only the amounts required for laboratory analysis and therefore no excess water was collected

Boring logs are included in Attachment D to this report detailing the soil types encountered and the depths of the borings. The results from of analysis received from Green Country Testing are included in Attachment E. The results are above EPA primary drinking water maximum contaminant levels (MCLs). However, MCLs do not apply in this instance for the following reasons.

S.q

The water is not from a recognized or categorized aguiter but instead from a perched water equiler held within the former coal strip mining pit.



Feb 08 10 05:35p Kenneth Leonard

264-628-2090

GADA CONSTRUCTION

Mr. Bill Deatherage Febuary 10, 2006 Page 3 of 3

There are no groundwater wells in the area and the use of groundwater as a drinking water source is not necessary as the area is supplied with city water.

Cinnabar consulted with the Oklahoma Department of Mines regarding the metals in the groundwater. The Department of Mines referred us to the abandoned mines section of the Oklahoma Conservation Commission (OCC) as the agency that would establish action levels for cleanup, if any. Mr. Mike Kastl, Director with the Abandoned Mine Land Reclamation section of the OCC, stated that unless the groundwater is pumped for discharge, metals would cause no public health concerns with surface activities above it and that it has never been addressed in any of the projects the OCC has been involved with. He also stated that if the groundwater were pumped and discharged, a permit would have to be obtained from the Oklahoma Department of Environmental Quality (ODEQ). In addition, according to the ODEQ, as long as the water is not used for drinking water purposes, the levels of metals in the groundwater are

If there are any questions regarding this report or any of the associated findings, please feel free to call our Tulsa office at (918) 742-0082.

Sincerely,

Cinnabar Environmental Services

Jon Boyd Environmental Specialist

Attachments:

- A Topographic Map
- B Site Aerial Map
- C Soil Gas Survey Results Table
- D Boring Logs
- E Laboratory Analytical Results



RECEIVED March 13, 2017 BROKEN ARROW PLAN DEVELOPMENT

554-628-2090 p.3

Feb 08 10 05:35p Kenneth Leonard

July 5, 2007

Mr. Rusty Russell Russell Capital Acquisitions 25695 E. 71st Street, Suite B Broken Arrow, OK 74014

Subject: Environmental Review of Property South of 71st Street and between 217th E. and 222nd E. Avenue Broken Arrow, OK

Dear Mr. Russell:

Following our conference call with Western Capital Partners, I was tasked with reviewing all known reports for the subject property and issuing an opinion on what, if any, further environmental investigation should be completed since the various reports covered different portions of the property. I have completed my review and this letter contains a summary of my findings and recommendations.

The reports that were reviewed for this analysis include:

- Hemphill Report of Test Borings dated September 13, 1972
- Enercon Preliminary Investigation & Report dated January 28, 1997
- Kleinfelder Phase I ESA Report dated July 16, 2004
- Cinnabar Limited Phase II Investigation Report dated February 10, 2006
- Terracon Preliminary Geotechnical Engineering Report dated June 15, 2007

The first comment is to note that the reports were commissioned by various entities for various purposes and covered different portions of the property. Therefore, items that were a concern in one report were not covered by another report and this fact confuses the issue(s).

The fact that part of the property was used as a municipal landfill is well documented and has been analyzed in most of the reports for various purposes and concerns. Conditions related to this activity seem to be adequately characterized and, at least from an environmental perspective, appear to have minimal consequence on future development of the property.

The fact that most of the property was also used for strip mining of coal is also well documented. And similar to the municipal landfill concern, from an environmental perspective, this issue also appears to have minimal consequence on the future development of the property.

It appears, however, that the permitting of a hazardous waste disposal facility in the far southwest corner of the property, identified in the Kleinfelder Phase I report, has not been investigated in the same depth of other concerns. The remainder of this letter will focus on that activity.

In summary, we do not believe the fact that the property was permitted as a hazardous waste facility requires any further action for the following reasons:

- The small piece of property (400' x 800') is not on the subject property being considered for development or included in this loan.
- Knowledge of the property does not indicate that any facility was ever built or that any
 activities were actually conducted on the property by the entity that obtained the permit
 (USPCI).
- Groundwater results from other portions of the property do not indicate any influence by
 possible contaminants that would have resulted from the hazardous waste operations.

Since the loan from Western Capital Partners involves only the front (north) 40 or 50 acres of the 80-acre tract, we believe that all issues have been adequately addressed and that no further action is necessary from an environmental perspective.

Note that this opinion does not have any affect on the geotechnical and/or engineering aspects of development.

If you have any questions or would like to discuss this matter in more detail, please do not hesitate to call our Tulsa office at (918) 388-0970.

Sincerely,

Blackshare Environmental Solutions

Derek T. Blackshare, P.E., CHMM CEO & President

> RECEIVED March 13, 2017 BROKEN ARROW PLAN DEVELOPMENT

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A				,	DRILLING METHO	D:	0717	()) 5 7 5		BORIN	IG NO.
TEN			L SERVICES, INC		CME . CO	ATV – R DNTINU	OTARY OUS C	7 AUGER ORE		SH	EET
					SAMPLING METH	DD:					F∣
BRO	FORMER KEN ARROW	BROKEN ARF	ROW LANDFILL COUNTY, OKLAHOMA	₄ [DRIL	LING
	A∉M	JOB NO. 20	028-001						1		FINISH
EATH	IER: SUNNY	/ TE	EMP: 85°							950	1005
		G.L. E	LEV:		DATE:					DATE	DATE
ATUN	1:	TOC E	LEV:		CASING DEPTH:					8/4/10	8/4/10
RILL	RIG:	CME ATV	V	TYP	E OF GRAVEL:			CASING [DIA:	SCREEN	DIA:
	E HAMMED	AL BEA	RING:	TYP	E OF BENTONITE:	SO	DIUM			SLOT SI	ZE
		TORQUE:	FI-LB3								
Ш	DING	oL							4 C- DI III		
Z ⊥	REA	YMB	DESC	RIPTI	ON OF MATERIAL			'	& DES	CRIPTION	•
EP1	DIA	Ś									
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DATE: 4 AUGUST 2010 CHECKED BY: IT

SOIL BORING AND WELL COMPLETION LOG **DRILLING METHOD:** BORING NO. **A&MENGINEERING AND** A ENVIRONMENTAL SERVICES, INC. GP-2c CME ATV - ROTARY AUGER CONTINUOUS CORE SITE NAME AND LOCATION SHEET SAMPLING METHOD: I OF I FORMER BROKEN ARROW LANDFILL DRILLING BROKEN ARROW, WAGONER COUNTY, OKLAHOMA FINISH START A∉M JOB NO. 2028-001 TIME TIME WATER LEVEL: INC. WEATHER: SUNNY 1015 1025 TEMP: 86° TIME: G.L. ELEV: DATE: DATE DATE MOHAWK DRILLING, 8/4/10 DATUM: TOC ELEV: CASING DEPTH: 8/4/10 DRILL RIG: CME ATV **TYPE OF GRAVEL:** CASING DIA: SCREEN DIA: ANGLE: VERTICAL **BEARING:** TYPE OF BENTONITE: SODIUM SLOT SIZE SAMPLE HAMMER TORQUE: FT-LBS IN FEET READING SYMBOI AS-BUILT DRAWING DRILLING CONTRACTOR: **DESCRIPTION OF MATERIAL** & DESCRIPTION DEPTH B O ppm O' - I': TOPSOIL, BROWN - NO ODOR O ppm O ppm О ррт 5 O ppm O ppm O ppm O ppm NO WELL SET. NO TRASH ENCOUNTERED I' - I 5': BROWN, BLACK LOOSE SPOIL - NO ODOR O ppm 0 ррт 10 О ррт O ppm E O ppm O ppm 15 O ppm TOTAL DEPTH: 15 ABBY LAZAR 20 -OGGED BY: 25 DATE: RECEIVED March 13, 2017 **BROKEN ARROW** PLAN DEVELOPMENT 30

ERIK CHRISTIAN DRILLER:

CHECKED BY:

4 AUGUST 2010

					DRILLING METHO	DD:				BORIN	IG NO.
			L SERVICES, INC.	•	CME	ATV – ONTINU	ROTARY JOUS C	Y AUGER ORE		GP SH	-2a EET
					SAMPLING METH	OD:)F
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	A∉M	JOB NO. 20	028-001	`						START	FINISH
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		G.L. E	LEV:		DATE:					DATE	DATE
ATUN	1:	TOC E	LEV:	С	ASING DEPTH:					8/4/10	8/4/10
RILL	RIG:	CME AT	V	TYPE	E OF GRAVEL:			CASING	DIA:	SCREEN	DIA:
NGLE	VERTIC	AL BEA	RING:	TYPE	E OF BENTONITE	: 50	DIUM			SLOT SI	ZE
			FI-LBS								
	DING	5									
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EPTI	ID R	SY									
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DATE: 4 AUGUST 2010 CHECKED BY: IT



ERIK CHRISTIAN DRILLER:

> CHECKED BY: AUGUST 2010 4

ENVIRONMENTAL TESTING LABORATORY

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

> TEL: 618-344-1004 FAX: 618-344-1005

August 17, 2010

Abby Lazar A&M Engineering 10010 E. 16th St. Tulsa, OK 74128 TEL: (918) 665-6575 FAX: (918) 665-6576

RE: BA Landfill 2028-004



NELAP Accredited #100226

WorkOrder: 10080226

Dear Abby Lazar:

TEKLAB, INC received 16 samples on 8/5/2010 11:00:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. IL ELAP and NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Rection In any

Richard H. Mannz Project Manager (618)344-1004 ex 38

RECEIVED March 13, 2017 BROKEN ARROW PLAN DEVELOPMENT

5445 HORSESHOE LAKE ROAD COLLINSVILLE. ILLINOIS 62234

CASE NARRATIVE

Cooler Receipt Temp: 5.8 °C

TEL: 618-344-1004 FAX: 618-344-1005

ENVIRONMENTAL TESTING LABORATORY

Client: A&M Engineering Project: BA Landfill 2028-004 LabOrder: 10080226 Report Date: 17-Aug-10

State accreditations:

KS: NELAP #E-10347 | KY: UST #0073 | MO: DNR #00930 | AR: ADEQ #70-028-0

Qualifiers DF - Dilution Factor B - Analyte detected in the associated Method Blank ${\bf C}$ - Client requested RL below PQL RL - Reporting Limit J - Analyte detected below reporting limits D - Diluted out of sample ND - Not Detected at the Reporting Limit R - RPD outside accepted recovery limits E - Value above quantitation range Surr - Surrogate Standard added by lab ${\bf S}\,$ - Spike Recovery outside accepted recovery limits H - Holding time exceeded TNTC - Too numerous to count (> 200 CFU) X - Value exceeds Maximum Contaminant Level MI - Matrix interference Q - QC criteria failed or noncompliant CCV # - Unknown hydrocarbon DNI - Did not ignite NELAP - IL ELAP and NELAP Accredited Field of Testing IDPH - IL Dept. of Public Health

RECEIVED

March 13, 2017 BROKEN ARROW PLAN DEVELOPMENT

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client:	A&M Engineerir	ng			Client P	roject: BA	Landfil	2028-004	
WorkOrder:	10080226	-			Client Sam	ole ID: P7	-1		
Lab ID:	10080226-001				Collection	Date: 8//	 1/2010 1		
Report Date:	17-Aug-10				λ	latrix: GB			
					14	atrix, G			
Analyses	5	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
EPA 600 365.4 (TOT	AL)								
Phosphorus, Total (as	s P)	NELAP	0.300		8.99	mg/L	4	8/6/2010 2:18:49 PM	RCE
STANDARD METH	ODS 18TH ED. 45	00-NO2 B (TO	FAL)						
Nitrogen, Nitrite (as N)	NELAP	0.01		0.01	mg/L	1	8/5/2010 1:05:00 PM	MK
STANDARD METH	ODS 18TH ED. 45	00-NO3 F (TO)	<u>(AL)</u>						
Nitrogen, Nitrate (as N	N)	NELAP	0.050		0.061	mg/L	1	8/5/2010 1:35:00 PM	DLW
<u>SW-846 3005A, 6010</u>	<u>B, METALS BY IC</u>	CP (DISSOLVE	<u>(D)</u>						
Antimony		NELAP	0.0500		< 0.0500	mg/L	1	8/10/2010 12:41;16 PM	LAL
Arsenic		NELAP	0.0250		< 0.0250	mg/L	1	8/9/2010 4:32:12 PM	LAL
Beryllium		NELAP	0.0010		< 0.0010	mg/L	1	8/10/2010 12:41:16 PM	LAL
Cadmium		NELAP	0.0020	J	0.0004	mg/L	1	8/9/2010 4:32:12 PM	LAL
Chromium		NELAP	0.0100	J	0.0043	mg/L	1	8/10/2010 12:41:16 PM	LAL
Copper		NELAP	0.0100		< 0.0100	mg/L	1	8/10/2010 12:41:16 PM	LAL
Lead		NELAP	0.0400		< 0.0400	mg/L	1	8/7/2010 2:06:46 AM	LAL
Nickel		NELAP	0.0100		0.0218	mg/L	1	8/9/2010 4:32:12 PM	LAL
Selenium		NELAP	0.0500	J	0.025	mg/L	1	8/9/2010 4:32:12 PM	LAL
Silver		NELAP	0.0100		< 0.0100	mg/L	1	8/11/2010 9:49:26 AM	JMW
Zinc		NELAP	0.0100	J	0.0096	mg/L	1	8/9/2010 4:32:12 PM	LAL
SW-846 3005A, 6010	<u>B, METALS BY IC</u>	<u>P (TOTAL)</u>							
Antimony		NELAP	0.0500		< 0.0500	mg/L	1	8/9/2010 2:56:54 PM	LAL
Arsenic		NELAP	0.0250		0.0690	mg/L	1	8/9/2010 2:56:54 PM	LAL
Beryllium		NELAP	0.0010		0.0038	mg/L	1	8/9/2010 2:56:54 PM	LAL
Cadmium		NELAP	0.0020		0.0030	mg/L	1	8/9/2010 2:56:54 PM	LAL
Chromium		NELAP	0.0100		0.174	ˈmg/L	1	8/9/2010 2:56:54 PM	LAL
Copper		NELAP	0.0100		0.142	mg/L	1	8/9/2010 2:56:54 PM	LAL
Lead		NELAP	0.0400		0.0904	mg/L	1	8/7/2010 3:46:52 AM	LAL
Nickel		NELAP	0.0100		0.244	mg/L	1	8/9/2010 2:56:54 PM	LAL
Selenium		NELAP	0.0500	J	0.024	mg/L	1	8/9/2010 2:56:54 PM	LAL
Silver		NELAP	0.0100		< 0.0100	mg/L	1	8/9/2010 2:56:54 PM	LAL
Zinc		NELAP	0.0100		0.600	mg/L	1	8/9/2010 2:56:54 PM	LAL
SW-846 3005A, META	ALS BY GFAA (DI	ISSOLVED)							
Thallium 784	1	NELAP	0.0020		< 0.0020	mg/L	1	8/12/2010 4:37:24 PM	MEK
SW-846 3020A, META	ALS BY GFAA (TO	<u>DTAL)</u>							
Thallium 784	1	NELAP	0.0020	30	0.0017	mg/L	1	8/12/2010 5:42:40 PM	MEK
SW-846 3510C, 8081A	, CHLORINATED	PESTICIDES	BY GC/I	ECD					
4,4'-DDD		NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
4,4'-DDE		NELAP	0.05		ND	μg/L	1	8/8/2010 8:02:00 PM	HE
4,4'-DDT		NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Alachlor		NELAP	0.05		ND	μg/L	1	8/8/2010 8:02:00 PM	HE



Page 3 of 115

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-001

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: PZ-1 Collection Date: 8/4/2010 1:00:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 3510C, 8081A, CHLORINA	ATED PESTICIDES	BY GC	/ECD					_
Aldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
alpha-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
beta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Chlordane	NELAP	0.50		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
delta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Dieldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Endosulfan I	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Endosulfan II	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Endosulfan sulfate	NELAP	0.05		ND	μg/L	1	8/8/2010 8:02:00 PM	HE
Endrin	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	ΗË
Endrin aldehyde	NELAP	0.05		ND	μg/L	1	8/8/2010 8:02:00 PM	HE
Endrin ketone	NELAP	0.05		ND	μg/L	1	8/8/2010 8:02:00 PM	HE
gamma-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Heptachlor	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Heptachlor epoxide	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Methoxychlor	NELAP	0.05		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Toxaphene	NELAP	0.50		ND	µg/L	1	8/8/2010 8:02:00 PM	HE
Surr: Decachlorobiphenyl	5.5	i 4-150		103.0	%REC	1	8/8/2010 8:02:00 PM	HE
Surr: Tetrachloro-m-xylene	1	3-129		65.8	%REC	1	8/8/2010 8:02:00 PM	HE
SW-846 3510C, 8082, POLYCHLOR	RINATED BIPHEN	<u>/LS (PC</u>	BS) BY GC	/ECD				
Aroclor 1016	NELAP	1.00		ND	μg/L	1	8/9/2010 12:59:00 AM	HE
Aroclor 1221	NELAP	1.00		ND	µg/L	1	8/9/2010 12:59:00 AM	HE
Aroclor 1232	NELAP	1.00		ND	µg/L	1	8/9/2010 12:59:00 AM	HE
Aroclor 1242	NELAP	1.00		ND	µg/L	1	8/9/2010 12:59:00 AM	HE
Aroclor 1248	NELAP	1.00		ND	µg/L	1	8/9/2010 12:59:00 AM	HE
Aroclor 1254	NELAP	1.00		ND	µg/L	1	8/9/2010 12:59:00 AM	HE
Aroclor 1260	NELAP	1.00		ND	µg/L	1	8/9/2010 12:59:00 AM	HE
Surr: Decachlorobiphenyl		5-174		87.7	%REC	1	8/9/2010 12:59:00 AM	HE
Surr: Tetrachloro-meta-xylene	22.	2-139		65.2	%REC	1	8/9/2010 12:59:00 AM	HE
SW-846 3510C, 8270C, SEMI-VOLA	TILE ORGANIC C	<u>OMPOL</u>	J <u>NDS BY G</u>	C/MS				
1,2,4-Trichlorobenzene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
1,2-Dichlorobenzene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
1,3-Dichlorobenzene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
1,4-Dichlorobenzene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
2,4,5-Trichlorophenol	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
2,4,6-Trichlorophenol	NELAP (0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
2,4-Dichlorophenol	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
2,4-Dimethylphenol	NELAP (0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH



ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-001

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: PZ-1 Collection Date: 8/4/2010 1:00:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	Analyst
SW-846 3510C, 8270C, SEMI-VO	LATILE ORGANIC	сомро	UNDS BY	GC/MS				
2,4-Dinitrophenol	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 AI	и омн
2,4-Dinitrotoluene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AI	M DMH
2,6-Dinitrotoluene	NELAP	0.029		ND	mg/L	31	8/10/2010 1:29:00 AI	M DMH
2-Chloronaphthalene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AI	M DMH
2-Chlorophenol	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	M DMH
2-Methoxy-4-methylphenol		0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	M DMH
2-Methylnaphthalene	NELAP	0.029	J	0.003	mg/L	1	8/10/2010 1:29:00 AM	A DMH
2-Nitroaniline	NELAP	0.118		ND	mg/L	1	8/10/2010 1:29:00 AM	A DMH
2-Nitrophenol	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 AM	
3,3 ⁻ Dichlorobenzidine	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	A DMH
3-Nitroaniline	NELAP	0.118		ND	mg/L	1	8/10/2010 1:29:00 AM	A DMH
4,6-Dinitro-2-methylphenol	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 AM	1 DMH
4-Bromophenyl phenyl ether	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AN	DMH
4-Chloro-3-methylphenol	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 AN	1 DMH
4-Chloroaniline	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 AM	1 DMH
4-Chlorophenyl phenyl ether	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	1 DMH
4-Nitroaniline	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
4-Nitrophenol	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Acenaphthene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Acenaphthylene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Aniline	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 AM	I DMH
Anthracene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Azobenzene		0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Benzidine	NELAP	0.118		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Benzo(a)anthracene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Benzo(a)pyrene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Benzo(b)fluoranthene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Benzo(g,h,i)perylene	NELAP	0.029		ND	mg/L	- 3	8/10/2010 1:29:00 AM	DMH
Benzo(k)fluoranthene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Benzoic acid	NELAP	0.147		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Benzyl alcohol	NELAP	0.059		NÐ	mg/L	1	8/10/2010 1:29:00 AM	DMH
Bis(2-chloroethoxy)methane	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Bis(2-chloroethyl)ether	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Bis(2-chloroisopropyl)ether	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.018		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Butyl benzyl phthalate	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Carbazole	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
Chrysene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 AM	DMH
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RECEIVED March 13, 2017

BROKEN ARROW PLAN DEVELOPMENT

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-001

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: PZ-1 Collection Date: 8/4/2010 1:00:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOL	ATTLE ORGANIC	COMPC	UNDS BY	GC/MS				
Dibenzo(a,h)anthracene	NELAP	0.029		ND	<pre>f mg/L</pre>	1	8/10/2010 1:29:00 /	
Dibenzofuran	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 /	
Diethyl phthalate	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 /	
Dimethyl phthalate	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 /	
Di-n-butyl phthalate	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 A	AM DMH
Di-n-octyl phthalate	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 A	
Fluoranthene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 A	
Fluorene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 A	
Hexachlorobenzene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 A	
Hexachlorobutadiene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 A	
Hexachlorocyclopentadiene	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 A	
Hexachloroethane	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 A	M DMH
Indeno(1,2,3-cd)pyrene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 A	M DMH
Isophorone	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 A	
m,p-Cresol	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 A	M DMH
Naphthalene	NELAP	0.029		ND	mg/L	(1)	8/10/2010 1:29:00 A	M DMH
Nitrobenzene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 A	M DMH
N-Nitrosodimethylamine	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 A	M DMH
N-Nitroso-di-n-propylamine	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 A	M DMH
N-Nitrosodiphenylamine	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 A	M DMH
o-Cresol	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 A	M DMH
Pentachlorophenol	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 A	M DMH
Phenanthrene	NELAP	0.029		ND	mg/L	1	8/10/2010 1:29:00 A	M DMH
Phenol	NELAP	0.015		ND	mg/L	1	8/10/2010 1:29:00 A	M DMH
Pyrene	NELAP	0.029		ND	ma/L	1	8/10/2010 1:29:00 A	M DMH
Pyridine	NELAP	0.059		ND	mg/L	1	8/10/2010 1:29:00 A	M DMH
Quinoline		0.015		ND	ma/L	1	8/10/2010 1:29:00 A	M DMH
Surr: 2,4,6-Tribromophenol	27	.7-149		81.4	%REC	1	8/10/2010 1:29:00 A	M DMH
Surr: 2-Fluorobipheny!	44	.9-116		58.4	%REC	1	8/10/2010 1:29:00 AI	M DMH
Surr: 2-Fluorophenol	10.	6-78.7		30.0	%REC	1	8/10/2010 1:29:00 AI	M DMH
Surr: Nitrobenzene-d5	41	.4-104		62.5	%REC	1	8/10/2010 1:29:00 AI	M DMH
Surr: Phenol-d5	9.0	4-52.9		20.2	%REC	1	8/10/2010 1:29:00 AI	
Surr: p-Terphenyl-d14	23	5-114		49.2	%REC	1	8/10/2010 1:29:00 A	M DMH
SW-846 5030, 8260B, VOLATILE OI	RGANIC COMPOU	UNDS BY	GC/MS					
1,1,1,2-Tetrachloroethane	NELAP	5.0		ND	µa/L	1	8/5/2010 5:17:00 PM	1 CCF
1,1,1-Trichloroethane	NELAP	5.0		ND	µa/L	1	8/5/2010 5:17:00 PM	
1,1,2,2-Tetrachloroethane	NELAP	5.0		ND	ua/L	1	8/5/2010 5:17:00 PM	
1,1,2-Trichloro-1,2,2-trifluoroethane		20.0		ND	ua/L	1	8/5/2010 5:17:00 PM	
					F-3	-		

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BROKEN ARROW PLAN DEVELOPMENT

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

A - almas		C	DI	.	T		
Report Date:	17-Aug-10				Matrix:	GROUNDWATER	
Lab ID:	10080226-001				Collection Date:	8/4/2010 1:00:00 PM	
WorkOrder:	10080226				Client Sample ID:	PZ-1	
Client:	A&M Engineerin	g			Client Project:	BA Landfill 2028-004	

Analyses	Certification	RL	Qual	Kesult	Units	DF	Date Analyzed A	nalyst
SW-846 5030, 8260B, VOLATILE	ORGANIC COMPO	UNDS B	Y GC/MS					
1,1,2-Trichloroethane	NELAP	5.0		ND	μg/L	1	8/5/2010 5:17:00 PM	CCF
1,1-Dichloro-2-propanone		50.0		NÐ	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,1-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,1-Dichloroethene	NELAP	5.0		ND	μg/L	1	8/5/2010 5:17:00 PM	CCF
1,1-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,2,3-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,2,3-Trichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,2,3-Trimethylbenzene		5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,2,4-Trichlorobenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 5:17:00 PM	CCF
1,2,4-Trimethylbenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 5:17:00 PM	CCF
1,2-Dibromo-3-chloropropane	NELAP	5.0		ND	μg/L	1	8/5/2010 5:17:00 PM	CCF
1,2-Dibromoethane	NELAP	5.0		ND	μg/L	1	8/5/2010 5:17:00 PM	CCF
1,2-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,2-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,3,5-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,3-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1,3-Dichloropropane	NELAP	5.0		ND	μg/L	1	8/5/2010 5:17:00 PM	CCF
1,4-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
1-Chlorobutane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
2,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
2-Butanone	NELAP	25.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
2-Chloroethyl vinyl ether	NELAP	20.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
2-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
2-Hexanone	NELAP	25.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
2-Nitropropane	NELAP	50.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
4-Chlorotoluene	NELAP	5.0		ND	μg/L	1	8/5/2010 5:17:00 PM	CCF
4-Methyl-2-pentanone	NELAP	25.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Acetone	NELAP	25.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Acetonitrile	NELAP	50. 0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Acrolein	NELAP	100		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Acrylonitrile	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Allyl chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Benzene	NELAP	2.0	J	0.9	µg/L	1	8/5/2010 5:17:00 PM	CCF
Bromobenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 5:17:00 PM	CCF
Bromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Bromodichloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Bromoform	NELAP	5.0		ND	µg/L	ii i	8/5/2010 5:17:00 PM	CCF

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Page 7 of 115

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-001

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: PZ-1 Collection Date: 8/4/2010 1:00:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 5030, 8260B, VOLATE	LE ORGANIC COMPO	UNDS E	BY GC/MS					
Bromomethane	NELAP	10.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Butyl acetate		25.0		ND	μg/L	1	8/5/2010 5:17:00 PM	CCF
Carbon disulfide	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Carbon tetrachloride	NELAP	5.0		ND	μg/L	1	8/5/2010 5:17:00 PM	CCF
Chlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Chloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Chloroform	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Chloromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Chloroprene	NELAP	20.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
cis-1,2-Dichloroethene	NELAP	5.0		ND	μg/L	1	8/5/2010 5:17:00 PM	CCF
cis-1,3-Dichloropropene	NELAP	5.0		ND	μg/L	1	8/5/2010 5:17:00 PM	CCF
cis-1,4-Dichloro-2-butene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Cyclohexanone		50.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Dibromochloromethane	NELAP	5.0		ND	μg/L	1	8/5/2010 5:17:00 PM	CCF
Dibromomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Dichlorodifluoromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Ethyl acetate	NELAP	10.0		ND	μg/L	1	8/5/2010 5:17:00 PM	CCF
Ethyl ether	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Ethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Heptane		20.0		ND	μg/L	1	8/5/2010 5:17:00 PM	CCF
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Hexachloroethane	NELAP	10.0		ND	ug/L	1	8/5/2010 5:17:00 PM	CCF
lodomethane	NELAP	5.0		ND	μα/L	1	8/5/2010 5:17:00 PM	CCE
Isopropylbenzene	NELAP	5.0		ND	ua/L	1	8/5/2010 5:17:00 PM	CCF
m,p-Xylenes	NELAP	5.0		ND	ua/L	1	8/5/2010 5:17:00 PM	CCF
Methacrylonitrile	NELAP	10.0		ND	ua/L	1	8/5/2010 5:17:00 PM	CCF
Methyl Methacrylate	NELAP	5.0		ND	ua/L	1	8/5/2010 5:17:00 PM	CCE
Methyl tert-butyl ether	NELAP	2.0		ND	ua/L	1	8/5/2010 5:17:00 PM	CCE
Methylacrylate		10.0		ND	ua/L	1	8/5/2010 5:17:00 PM	CCF
Methylene chloride	NELAP	5.0		ND	ua/L	1	8/5/2010 5:17:00 PM	CCE
Naphthalene	NELAP	10.0		ND	ua/L	1	8/5/2010 5:17:00 PM	CCE
n-Butylbenzene	NELAP	5.0		ND	гэ- ца/I	1	8/5/2010 5:17:00 PM	COF
n-Hexane		20.0		ND	ua/l	1	8/5/2010 5:17:00 PM	CCE
Nitrobenzene	NELAP	50.0		ND	ug/l	1	8/5/2010 5:17:00 PM	CCE
n-Propylbenzene	NELAP	5.0		ND	ua/l	1	8/5/2010 5:17:00 PM	COP
o-Xvlene	NELAP	5.0		ND	P9/⊏ ug/l	1	8/5/2010 5:17:00 PM	COF
Pentachloroethane	NELAP	20.0		ND	µg/L		0/0/2010 0.17.00 PM	
		20.0			н Эк г	1	0/0/2010 5:17:00 PM	UUF

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Report Date:	17-Aug-10	Matrix:	GROUNDWATER
Lab ID:	10080226-001	Collection Date:	8/4/2010 1:00:00 PM
WorkOrder:	10080226	Client Sample ID:	PZ-1
Client:	A&M Engineering	Client Project:	BA Landfill 2028-004

Analyses	Cermication	1 KL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 5030, 8260B, VOLATILE O	RGANIC COMP	OUNDS E	BY GC/MS					
p-Isopropyltoluene	NELAP	5.0		ND	μg/L	1	8/5/2010 5:17:00 PM	CCF
Propionitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
sec-Butylbenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 5:17:00 PM	CCF
Styrene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
tert-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Tetrachloroethene	NELAP	5.0		ND	µg/∟	1	8/5/2010 5:17:00 PM	CCF
Tetrahydrofuran	NELAP	20.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Toluene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
trans-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
trans-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
trans-1,4-Dichloro-2-butene	NELAP	10.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Trichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Trichlorofluoromethane	NELAP	5.0		ND	μg/L	1	8/5/2010 5:17:00 PM	CCF
Vinyl acetate	NELAP	10.0		ND	μg/L	1	8/5/2010 5:17:00 PM	CCF
Vinyl chloride	NELAP	2.0		ND	µg/L	1	8/5/2010 5:17:00 PM	CCF
Surr: 1,2-Dichloroethane-d4	7	74.7-129		102.4	%REC	1	8/5/2010 5:17:00 PM	CCF
Surr: 4-Bromofluorobenzene		86-119		100.7	%REC	1	8/5/2010 5:17:00 PM	CCF
Surr: Dibromofluoromethane	8	31.7- 1 23		100.0	%REC	1	8/5/2010 5:17:00 PM	COF
Surr: Toluene-d8	8	34.3-114		96.1	%REC	1	8/5/2010 5:17:00 PM	CCF
<u>SW-846 7470A (DISSOLVED)</u>								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	8/10/2010	MEK
<u>SW-846 7470A (TOTAL)</u>								
Mercury	NELAP	0.00020		0.00043	mg/L	1	8/10/2010	MEK
SW-846 9040B, LABORATORY ANA	LYZED							
Lab pH	NELAP	0		6.69		1	8/5/2010 2:16:00 PM	CS
<u>SW-846 9050A</u>								
Conductivity	NELAP	1		3560	µmhos/cm	1	8/6/2010	KNS

Sample Narrative

SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS

Laboratory control sample duplicate was outside of lower recovery limits. Batch verified on MS recovery.

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226 Lab ID: 10080226-002 Report Date: 17-Aug-10				Client Project: BA Landfill 2028-004 Client Sample ID: PZ-2 Collection Date: 8/4/2010 1:10:00 PM Matrix: GROUNDWATER					
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed An	ıalyst	
EPA 600 365.4 (TOTAL) Phosphorus, Total (as P)	NELAP	0.300		4.95	, mg/L	4	8/6/2010 2:18:49 PM	RCE	
STANDARD METHODS 18TH ED. 4 Nitrogen, Nitrite (as N)	<u>500-NO2 B (TO'</u> NELAP	<u>FAL)</u> 0.01		0.01	mg/L	1	8/5/2010 1:05:00 PM	МК	
STANDARD METHODS 18TH ED. 4 Nitrogen, Nitrate (as N)	<u>500-NO3 F (TO)</u> NELAP	<u>[AL)</u> 0.050		0.079	mg/L	1	8/5/2010 1:35:00 PM	DLW	
SW-846 3005A, 6010B, METALS BY	ICP (DISSOLVE NELAP	<u>2D)</u> 0.0500		< 0.0500	mg/L	1	8/10/2010 12:47:56 PM	LAL	
Arsenic Beryllium	NELAP NELAP	0.0250 0.0010		< 0.0250 < 0.0010	mg/L mg/L	1 1	8/9/2010 5:03:59 PM 8/10/2010 12:47:56 PM	LAL LAL	
Cadmium Chromium	NELAP NELAP	0.0020 0.0100		0.0031 < 0.0100	mg/L mg/L	1 1	8/11/2010 10:17:19 AM 8/10/2010 12:47:56 PM	JMW LAL	
Copper Lead	NELAP NELAP	0.0100 0.0400	J	< 0.0100 0.012	mg/L mg/L	1	8/10/2010 12:47:56 PM 8/7/2010 2:13:28 AM	LAL LAL	
Nickel Selenium	NELAP NELAP	0.0100 0.0500	J	0.871 0.024	mg/L mg/L	1 1	8/9/2010 5:03:59 PM 8/10/2010 12:47:56 PM	LAL LAL	
Silver Zinc	NELAP NELAP	0.0100 0.0100	J	0.0060 0.256	mg/L mg/L	1 1	8/11/2010 9:52:55 AM 8/9/2010 5:03:59 PM	JMW LAL	
SW-846 3005A, 6010B, METALS BY I Antimony	<u>CP (TOTAL)</u> NELAP	0.0500		< 0.0500	ma/L	1	8/9/2010 3:03:31 PM	A	
Arsenic Beryllium	NELAP NELAP	0.0500 0.0010	J	0.038	mg/L	2	8/10/2010 3:37:25 PM 8/9/2010 3:03:31 PM		
Cadmium		0.0020	в	0.0042	mg/L	1	8/11/2010 11:21:19 AM	JMW	
Copper		0.0100		0.0501	mg/L mg/L	1	8/9/2010 3:03:31 PM 8/9/2010 3:03:31 PM		
Nickel	NELAP	0.0400		1.14	mg/∟ mg/L	1	8/7/2010 3:53:30 AM 8/9/2010 3:03:31 PM	LAL LAL	
Silver	NELAP	0.0500 0.0100	J BJ	0.040 0.0069	mg/L mg/L	1 1	8/10/2010 2:16:15 PM 8/9/2010 3:03:31 PM	LAL LAL	
Zinc SW-846 3005A, METALS BY GFAA (I	NELAP DISSOLVED)	0.0100		0.537	mg/L	1	8/9/2010 3:03:31 PM	LAL	
Thallium 7841 <u>SW-846 3020A, METALS BY GFAA (T</u>	NELAP <u>COTAL)</u>	0.0020		< 0.0020	mg/L	1	8/12/2010 4:47:44 PM	MEK	
Thallium 7841 SW-846 3510C, 8081A, CHLORINATE	NELAP D PESTICIDES	0.0020 BY GC/	J ECD	0.0013	mg/L	1	8/12/2010 5:32:16 PM	MEK	
4,4'-DDD 4,4'-DDE	NELAP	0.05		ND	µg/L ug/l	1 1	8/8/2010 8:27:00 PM 8/8/2010 8:27:00 PM	HE	
4,4 ⁻ -DDT Alachlor	NELAP	0.05		ND	μg/L	1	8/8/2010 8:27:00 PM	HE	

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Page 10 of 115

ENVIRONMENTAL TESTING LABORATORY

Report Date: 17-Aug-10

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client:	A&M Engineering
WorkOrder:	10080226
Lab ID:	10080226-002

Client Project: BA Landfill 2028-004 Client Sample ID: PZ-2 Collection Date: 8/4/2010 1:10:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 3510C, 8081A, CHLORINA	TED PESTICIDES	BY GC	/ECD					
Aldrin	NELAP	0.05		ND	μg/L	1	8/8/2010 8:27:00 PM	HE
alpha-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
beta-BHC	NELAP	0.05		ND	μg/L	1	8/8/2010 8:27:00 PM	HE
Chiordane	NELAP	0.50		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
delta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
Dieldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
Endosulfan i	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
Endosulfan II	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
Endosulfan sulfate	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
Endrin	NELAP	0.05		ND	μg/L	1	8/8/2010 8:27:00 PM	HĘ
Endrin aldehyde	NELAP	0.05		ND	μg/L	1	8/8/2010 8:27:00 PM	HE
Endrin ketone	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
gamma-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
Heptachlor	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
Heptachlor epoxide	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
Methoxychlor	NELAP	0.05		ND	µg/L	1	8/8/2010 8:27:00 PM	HE
Toxaphene	NELAP	0.50		ND	μ g /L	1	8/8/2010 8:27:00 PM	HE
Surr: Decachlorobiphenyl	5.5	4-150		73.1	%REC	1	8/8/2010 8:27:00 PM	HE
Surr: Tetrachloro-m-xylene	1	3-129		74.7	%REC	1	8/8/2010 8:27:00 PM	HE
SW-846 3510C, 8082, POLYCHLOR	<u>INATED BIPHENY</u>	LS (PC	BS) BY GC	/ECD				
Aroclor 1016	NELAP	1.00		ND	µg/L	1	8/9/2010 1:16:00 AM	HE
Aroclor 1221	NELAP	1.00		ND	µg/L	1	8/9/2010 1:16:00 AM	HE
Aroclor 1232	NELAP	1.00		ND	µg/L	1	8/9/2010 1:16:00 AM	HE
Aroclor 1242	NELAP	1.00		ND	µg/L	1	8/9/2010 1:16:00 AM	HE
Aroclor 1248	NELAP	1.00		ND	µg/L	1	8/9/2010 1:16:00 AM	HE
Aroclor 1254	NELAP	1.00		ND	µg/L	1	8/9/2010 1:16:00 AM	HE
Aroclor 1260	NELAP	1.00		ND	µg/L	1	8/9/2010 1:16:00 AM	HE
Surr: Decachlorobiphenyl		5-174		65.5	%REC	1	8/9/2010 1:16:00 AM	HE
Surr: Tetrachloro-meta-xylene	22.:	2-139		71.2	%REC	1	8/9/2010 1:16:00 AM	HE
SW-846 3510C, 8270C, SEMI-VOLA	<u>FILE ORGANIC C</u>	<u>OMPOL</u>	<u>INDS BY G</u>	<u>C/MS</u>				
1,2,4-Trichlorobenzene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
1,2-Dichlorobenzene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
1,3-Dichlorobenzene	NELAP (0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
1,4-Dichlorobenzene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
2,4,5-Trichlorophenol	NELAP ().022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
2,4,6-Trichlorophenol	NELAP (0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
2,4-Dichlorophenol	NELAP ().022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
2,4-Dimethylphenol	NELAP ().022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH



ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-002

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: PZ-2 Collection Date: 8/4/2010 1:10:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VC	DLATILE ORGANIC	СОМРС	UNDS BY	GC/MS				-
2,4-Dinitrophenol	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AI	M DMH
2,4-Dinitrotoluene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AI	M DMH
2,6-Dinitrotoluene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AI	M DMH
2-Chloronaphthalene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AI	M DMH
2-Chlorophenol	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AI	M DMH
2-Methoxy-4-methylphenol		0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	M DMH
2-Methylnaphthalene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	M DMH
2-Nitroaniline	NELAP	0.087		ND	mg/L	1	8/10/2010 2:01:00 AM	I DMH
2-Nitrophenol	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AM	I DMH
3,3'-Dichlorobenzidine	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	/ DMH
3-Nitroaniline	NELAP	0.087		ND	mg/L	1	8/10/2010 2:01:00 AM	A DMH
4,6-Dinitro-2-methylphenol	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AN	1 DMH
4-Bromophenyl phenyl ether	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	A DMH
4-Chloro-3-methylphenol	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AM	1 DMH
4-Chloroaniline	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AM	1 DMH
4-Chlorophenyl phenyl ether	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	1 DMH
4-Nitroaniline	NELAP	0.043		ND	ma/L	1	8/10/2010 2:01:00 AM	DMH
4-Nitrophenol	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Acenaphthene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	
Acenaphthylene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Aniline	NELAP	0.043		ND	ma/L	1	8/10/2010 2:01:00 AM	
Anthracene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	
Azobenzene		0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Benzidine	NELAP	0.087		ND	ma/L	1	8/10/2010 2:01:00 AM	
Benzo(a)anthracene	NELAP	0.022		ND	mg/L	15	8/10/2010 2:01:00 AM	DMH
Benzo(a)pyrene	NELAP	0.022		ND	ma/L	1	8/10/2010 2:01:00 AM	DMH
Benzo(b)fluoranthene	NELAP	0.022		ND	ma/L	1	8/10/2010 2:01:00 AM	DMH
Benzo(g,h,i)perylene	NELAP	0.022		ND	ma/L	1	8/10/2010 2:01:00 AM	DMH
Benzo(k)fluoranthene	NELAP	0.022		ND	ma/L	1	8/10/2010 2:01:00 AM	DMH
Benzoic acid	NELAP	0.109		ND	ma/L	1	8/10/2010 2:01:00 AM	DMH
Benzyl alcohol	NELAP	0.043		ND	ma/L	1	8/10/2010 2:01:00 AM	DMH
Bis(2-chloroethoxy)methane	NELAP	0.022		ND	ma/L	1	8/10/2010 2:01:00 AM	DMH
Bis(2-chloroethyl)ether	NELAP	0.022		ND	ma/l	1	8/10/2010 2:01:00 AM	DMH
Bis(2-chloroisopropyl)ether	NELAP	0.022		ND	ma/L	1	8/10/2010 2:01:00 AM	
Bis(2-ethylhexyl)phthalate	NELAP	0.013		ND	ma/l	1	8/10/2010 2:01:00 AM	
Butyl benzyl phthalate	NELAP	0.022		ND	ma/l	1	8/10/2010 2:01:00 AM	
Carbazole	NELAP	0.043		ND	ma/!	- 1	8/10/2010 2:01:00 AM	
Chrvsene	NEL AP	0.022		ND	ma/l	1	8/10/2010 2:01:00 AW	
		o. Viala		nu	ing/L		0/10/2010 2.01.00 AM	

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March 13, 2017 **BROKEN ARROW** PLAN DEVELOPMENT

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-002

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: PZ-2 Collection Date: 8/4/2010 1:10:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 3510C, 8270C, SEMI-VOL	ATILE ORGANIC	СОМРО	UNDS BY	GC/MS				
Dibenzo(a,h)anthracene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Dibenzofuran	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Diethyl phthalate	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Dimethyl phthalate	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Di-n-butyl phthalate	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Di-n-octyl phthalate	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Fluoranthene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Fluorene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Hexachlorobenzene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Hexachlorobutadiene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Hexachlorocyclopentadiene	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Hexachloroethane	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Indeno(1,2,3-cd)pyrene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Isophorone	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
m,p-Cresol	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Naphthalene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Nitrobenzene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
N-Nitrosodimethylamine	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
N-Nitroso-di-n-propylamine	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
N-Nitrosodiphenylamine	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
o-Cresol	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Pentachlorophenol	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Phenanthrene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Phenol	NELAP	0.011		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Pyrene	NELAP	0.022		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Pyridine	NELAP	0.043		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Quinoline		0.011		ND	mg/L	1	8/10/2010 2:01:00 AM	DMH
Surr: 2,4,6-Tribromophenol	27	.7-149		79.8	%REC	1	8/10/2010 2:01:00 AM	DMH
Surr: 2-Fluorobiphenyl	44	.9-116		51.2	%REC	1	8/10/2010 2:01:00 AM	DMH
Surr: 2-Fluorophenol	10.	6-78.7		28.6	%REC	1	8/10/2010 2:01:00 AM	DMH
Surr: Nitrobenzene-d5	41.4-104			48.0	%REC	1	8/10/2010 2:01:00 AM	DMH
Surr: Phenol-d5	9.04	4-52.9		18.5	%REC	1	8/10/2010 2:01:00 AM	DMH
Surr: p-Terphenyl-d14	23.	5-114		59.3	%REC	1	8/10/2010 2:01:00 AM	DMH
SW-846 5030, 8260B, VOLATILE OI	RGANIC COMPOL	JNDS BY	<u>GC/MS</u>					
1,1,1,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,1,1-Trichloroethane	NELAP	5.0		ND	μg/L	1	8/5/2010 5:47:00 PM	CCF
1,1,2,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,1,2-Trichloro-1,2,2-trifluoroethane		20.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF

RECEIVED March 13, 2017 BROKEN ARROW

PLAN DEVELOPMENT
5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-002

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: PZ-2 Collection Date: 8/4/2010 1:10:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 5030, 8260B, VOLATILE	ORGANIC COMPO	UNDS B	Y GC/MS					
1,1,2-Trichloroethane	NELAP	5.0		ND	µ g/ ≿	1	8/5/2010 5:47:00 PM	CCF
1,1-Dichloro-2-propanone		50.0		ND	μg/L	1	8/5/2010 5:47:00 PM	CCF
1,1-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,1-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,1-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,2,3-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,2,3-Trichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,2,3-Trimethylbenzene		5.0		ND	μg/L	1	8/5/2010 5:47:00 PM	CCF
1,2,4-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,2,4-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	COF
1,2-Dibromo-3-chloropropane	NELAP	5.0		ND	μg/L	1	8/5/2010 5:47:00 PM	CCF
1,2-Dibromoethane	NELAP	5.0		ND	μg/L	1	8/5/2010 5:47:00 PM	CCF
1,2-Dichlorobenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 5:47:00 PM	CCF
1,2-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,3,5-Trimethylbenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 5:47:00 PM	CCF
1,3-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,3-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1,4-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
1-Chlorobutane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
2,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
2-Butanone	NELAP	25.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
2-Chloroethyl vinyl ether	NELAP	20.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
2-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
2-Hexanone	NELAP	25.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
2-Nitropropane	NELAP	50.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
4-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
4-Methyl-2-pentanone	NELAP	25.0		ND	μg/L	1	8/5/2010 5:47:00 PM	CCF
Acetone	NELAP	25.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Acetonitrile	NELAP	50.0		ND	μg/L	1	8/5/2010 5:47:00 PM	CCF
Acrolein	NELAP	100		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Acrylonitrile	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Allyl chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Benzene	NELAP	2.0		ND	µa/L	1	8/5/2010 5:47:00 PM	CCF
Bromobenzene	NELAP	5.0		ND	ua/L	1	8/5/2010 5:47:00 PM	CCF
Bromochloromethane	NELAP	5.0		ND	μg/L	1	8/5/2010 5:47:00 PM	CCF
Bromodichloromethane	NELAP	5.0		ND	μα/L	1	8/5/2010 5:47:00 PM	CCF
Bromoform	NELAP	5.0		ND	μg/L	1	8/5/2010 5:47:00 PM	CCF



Page 14 of 115

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client:	A&M Engineering	Client Project:	BA Landfill 2028-004
WorkOrder:	10080226	Client Sample ID:	PZ-2
Lab ID:	10080226-002	Collection Date:	8/4/2010 1:10:00 PM
Report Date:	17-Aug-10	Matrix:	GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATII	E ORGANIC COMPO	UNDS H	BY GC/MS					
Bromomethane	NELAP	10.0		ND	μg/L	1	8/5/2010 5:47:00 PM	A CCF
Butyl acetate		25.0		ND	µg/L	1	8/5/2010 5:47:00 PM	A CCF
Carbon disulfide	NELAP	5.0		ND	μg/L	1	8/5/2010 5:47:00 PM	A CCF
Carbon tetrachloride	NELAP	5.0		ND	μg/L	1	8/5/2010 5:47:00 PM	A CCF
Chlorobenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 5:47:00 PM	A CCF
Chloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 5:47:00 PM	A CCF
Chloroform	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	A CCF
Chloromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 5:47:00 PM	1 CCF
Chloroprene	NELAP	20.0		ND	µg/L	1	8/5/2010 5:47:00 PM	I CCF
cis-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PN	1 CCF
cis-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	I CCF
cis-1,4-Dichloro-2-butene	NELAP	5.0		ND	μg/L	1	8/5/2010 5:47:00 PM	CCF
Cyclohexanone		50.0		ND	µg/L	1	8/5/2010 5:47:00 PM	I CCF
Dibromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	I CCF
Dibromomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Dichlorodifluoromethane	NELAP	10.0		ND	μg/L	1	8/5/2010 5:47:00 PM	CCF
Ethyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Ethyl ether	NELAP	5.0		ND	μg/L	1	8/5/2010 5:47:00 PM	CCF
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Ethylbenzene	NËLAP	5.0		ND	μg/L	1	8/5/2010 5:47:00 PM	CCF
Heptane		20.0		ND	μg/L	1	8/5/2010 5:47:00 PM	CCF
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Hexachloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
lodomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Isopropylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
m,p-Xylenes	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Methacrylonitrile	NELAP	10.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Methyl Methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Methyl tert-butyl ether	NELAP	2.0		ND	μg/L	1	8/5/2010 5:47:00 PM	CCF
Methylacrylate		10.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Methylene chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Naphthalene	NELAP	10.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
n-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
n-Hexane		20.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Nitrobenzene	NELAP	50.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
n-Propylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
o-Xylene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Pentachioroethane	NELAP	20.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF



ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-002

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: PZ-2 Collection Date: 8/4/2010 1:10:00 PM Matrix: GROUNDWATER

Analyses	Certificati	ion RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 5030, 8260B, VOLATILE O	RGANIC CON	APOUNDS B	Y GC/MS					
P-Isopropyltoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Propionitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
sec-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Styrene	NELAP	5.0		ND	µg/∟	1	8/5/2010 5:47:00 PM	CCF
tert-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Tetrachloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Tetrahydrofuran	NELAP	20.0		ND	μg/L	1	8/5/2010 5:47:00 PM	CCF
Toluene	NELAP	5.0		ND	μg/L	1	8/5/2010 5:47:00 PM	CCF
trans-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
trans-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
trans-1,4-Dichloro-2-butene	NELAP	10.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Trichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 5:47:00 PM	CCF
Vinyl acetate	NELAP	10.0		ND	μg/L	1	8/5/2010 5:47:00 PM	CCF
Vinyl chloride	NELAP	2.0		ND	μg/L	1	8/5/2010 5:47:00 PM	CCF
Surr: 1,2-Dichloroethane-d4		74.7-129		102.2	%REC	1	8/5/2010 5:47:00 PM	CCF
Surr: 4-Bromofluorobenzene		86-119		101.9	%REC	1	8/5/2010 5:47:00 PM	CCF
Surr: Dibromofluoromethane		81.7-123		99.8	%REC	1	8/5/2010 5:47:00 PM	CCF
Surr: Toluene-d8		84.3-114		94.7	%REC	1	8/5/2010 5:47:00 PM	CCF
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	8/10/2010	MEK
SW-846 7470A (TOTAL)					_			
Mercury	NELAP	0.00020		0.00022	mg/L	1	8/10/2010	MEK
SW-846 9040B, LABORATORY ANA	LYZED				-			
Lab pH	NELAP	0		6.08		1	8/5/2010 2:16:00 PM	CS
<u>SW-846 9050A</u>								
Conductivity	NELAP	1		3570	µmhos/cm	1	8/6/2010	KNS

Sample Narrative

SW-846 3005A, 6010B, Metals by ICP (Total)

As - Elevated reporting limit due to high levels of target and/or non-target analytes.

SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS

Laboratory control sample duplicate was outside of lower recovery limits. Batch verified on MS recovery.

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Analyses Certification RL Qual Result Units DF Date Analyzed Analyst EPA 600 365.4 (TOTAL) Prosphones, Total (as P) NELAP 0.300 2.63 mg/L 4 8/6/2010 2:18:49 PM RCE STANDARD METHODS ISTH ED. 4500-NO2 B (TOTAL) Nitrogen, Nitrate (as N) NELAP 0.01 mg/L 1 8/5/2010 1:05:00 PM MK STANDARD METHODS ISTH ED. 4500-NO2 B (TOTAL) mg/L 1 8/5/2010 1:35:00 PM DLW SW 865 3005A, 6010B, METALS BY ICP (DISSOLYED) 0.041 mg/L 1 8/6/2010 1:35:00 PM DLW Amenic NELAP 0.0500 < 0.0250 mg/L 1 8/6/2010 1:35:01 PM LAL Ansenic NELAP 0.0250 < 0.0220 mg/L 1 8/9/2010 5:11:03 PM LAL Cadmium NELAP 0.0100 < 0.0010 mg/L 1 8/9/2010 5:11:03 PM LAL Cadmium NELAP 0.0100 < 0.0025 mg/L 1 8/9/2010 5:11:03 PM LAL Cadmium NELAP 0.04	Client: WorkOrder: Lab ID: Report Date:		Client Project: BA Landfill 2028-004 Client Sample ID: PZ-3 Collection Date: 8/4/2010 1:20:00 PM Matrix: GROUNDWATER							
EPA 600 365.4 (TOTAL) NELAP 0.300 2.63 mg/L 4 8/6/2010 2:18:49 PM RCE STANDARD METHODS ISTH ED. 4500-NO2 B (TOTAL) Nitrogen, Nitrie (as N) NELAP 0.01 0.01 mg/L 1 8/5/2010 1:05:00 PM MK STANDARD METHODS ISTH ED. 4500-NO2 B (TOTAL) Nitrogen, Nitrie (as N) NELAP 0.050 0.041 mg/L 1 8/5/2010 1:35:00 PM DLW STANDARD METHODS ISTH ED. 4500-NO2 B (TOTAL) Nitrogen, Nitrite (as N) NELAP 0.0500 < 0.0500 mg/L 1 8/5/2010 1:35:00 PM LAL Amenic NELAP 0.0500 < 0.0250 mg/L 1 8/6/2010 1:35:01 PM LAL Beryllium NELAP 0.0010 < 0.0250 mg/L 1 8/6/2010 1:35:01 PM LAL Corpor NELAP 0.0100 < 0.0021 mg/L 1 8/6/2010 1:35:01 PM LAL Corpor NELAP 0.0100 < 0.0010 mg/L 1 8/6/2010 1:35:01 PM LAL Corpor NELAP 0.0100	Analyse	S	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
Phosphone, Total (as P) NELAP 0.300 2.83 mg/L 4 8/6/2010 2:16:49 PM RGE STANDARD METHODS ISTH ED. 4500-NO2 B (TOTAL) NItrogen, Nitrite (as N) NELAP 0.01 0.01 mg/L 1 8/5/2010 1:05:00 PM MK STANDARD METHODS ISTH ED. 500-NO3 F (TOTAL) NItrogen, Nitrite (as N) NELAP 0.050 0.041 mg/L 1 8/5/2010 1:05:00 PM LAL STANDARD METHODS ISTH ED. 500-NO3 F (TOTAL) NItrogen, Nitrite (as N) NELAP 0.050 -0.041 mg/L 1 8/5/2010 1:25:01 PM LAL Ansenic NELAP 0.0500 < 0.0250	EPA 600 365.4 (TO)	<u>ral)</u>								
STADARD METHODS ISTHED. 4500-NO2 E (TOTAL) Nitrogen, Nitrele (as N) NELAP 0.01 0.01 mg/L 1 8/5/2010 1:05:00 PM MK STANDARD METHODS ISTH ED. 4500-NO3 F (TOTAL) Nitrogen, Nitrele (as N) NELAP 0.0550 J 0.041 mg/L 1 8/5/2010 1:05:00 PM DLW Mitrogen, Nitrele (as N) NELAP 0.0550 <	Phosphorus, Total (a	sP)	NELAP	0.300		2.63	mg/L	4	8/6/2010 2:18:49 PM	RCE
NITCOGEN, NUMPE (as N) NELAP 0.01 mg/L 1 BES/2010 1:05:00 PM MKK STANDARD METHODS ISTHED, 4500-N03 F (TQTTAL) NELAP 0.050 J 0.041 mg/L 1 BES/2010 1:05:00 PM DLW STM-NDARD METHODS ISTHED, 4500-N03 F (TQTTAL) NELAP 0.0500 < 0.0500	STANDARD METH	IODS 18TH ED. 45	<u>00-NO2 B (TO</u>	<u>TAL)</u>						
STADDARD METHODS 18TH EQ. 4300-NO3 PT(T0TAL) NELAP 0.050 J 0.041 mg/L 1 8/5/2010 1:35:00 PM DLW SW-846 3005A. 6010B. METALS BY ICP (DISSOLVED) Antimony NELAP 0.0500 < 0.0500	Nitrogen, Nitrite (as N	I)	NELAP	0.01		0.01	mg/L	1	8/5/2010 1:05:00 PM	MK
Nintaeti (a) Nintaeti	STANDARD METH	<u>IODS 18TH ED. 45</u>	00-NO3 F (TO	<u>FAL)</u>						
SW-860 5005A, 6010B, METALS BY ICP (DISSOLVED) Antimony NELAP 0.0550 < 0.0550	Nitrogen, Nitrate (as I			0.050	J	0.041	mg/L	1	8/5/2010 1:35:00 PM	DLW
Altimizing NELAP 0.03500 < 0.03500 < 0.03500 mg/L 1 8/10/2010 12:55:01 PM LAL Arsenic NELAP 0.0010 < 0.0010	<u>SW-846 3005A, 6010</u>	<u>B, METALS BY IC</u>	<u>CP (DISSOLVI</u>	<u>(D)</u>						
Abstitut NELAP 0.0220 < 0.0250 < 0.0250 mg/L 1 8/9/2010 5:11:03 PM LAL Gadmium NELAP 0.0010 J 0.0012 mg/L 1 8/9/2010 5:11:03 PM LAL Cadmium NELAP 0.0100 J 0.0066 mg/L 1 8/9/2010 5:11:03 PM LAL Copper NELAP 0.0100 < 0.0100	Anumony		NELAP	0.0500		< 0.0500	mg/L	1	8/10/2010 12:55:01 PN	I LAL
Designation NELAP 0.0010 < 0.0010 mg/L 1 8/10/2010 12:55:01 PM LAL Cadmium NELAP 0.0100 J 0.0066 mg/L 1 8/9/2010 5:11:03 PM LAL Chromium NELAP 0.0100 < 0.0100	Regulium		NELAP	0.0250		< 0.0250	mg/L	1	8/9/2010 5:11:03 PM	LAL
Cadminum NELAP 0.0020 J 0.0012 mg/L 1 8/9/2010 5:11:03 PM LAL Copper NELAP 0.0100 <	Codmium		NELAP	0.0010		< 0.0010	mg/∟	5310	8/10/2010 12:55:01 PN	LAL
Ontoining NELAP 0.0100 J 0.0066 mg/L 1 8/9/2010 5:11:03 PM LAL Lead NELAP 0.0400 J 0.0094 mg/L 1 8/10/2010 12:25:01 PM LAL Nickel NELAP 0.0100 0.417 mg/L 1 8/10/2010 5:11:03 PM LAL Selenium NELAP 0.0100 0.417 mg/L 1 8/9/2010 5:11:03 PM LAL Silver NELAP 0.0100 0.3311 mg/L 1 8/9/2010 5:11:03 PM LAL SW-846 3005A. 6010B. METALS BY ICP (TOTAL) Zinc NELAP 0.0500 <0.0500	Chromium		NELAP	0.0020	J	0.0012	mg/L	18	8/9/2010 5:11:03 PM	LAL
Cutper NELAP 0.0100 < 0.0100 mg/L 1 8/10/2010 12:55:01 PM LAL Lead NELAP 0.0100 0.0094 mg/L 1 8/7/2010 2:20:31 AM LAL Nickel NELAP 0.0500 J 0.035 mg/L 1 8/9/2010 5:11:03 PM LAL Selenium NELAP 0.0500 J 0.038 mg/L 1 8/9/2010 5:11:03 PM LAL Silver NELAP 0.0100 J 0.038 mg/L 1 8/9/2010 5:11:03 PM LAL SW-846 3005A, 6010B, METALS BY ICP (TOTAL) NELAP 0.0100 0.0311 mg/L 1 8/9/2010 5:11:03 PM LAL Antimony NELAP 0.0250 J 0.018 mg/L 1 8/9/2010 3:10:33 PM LAL Gadmium NELAP 0.0020 J 0.0017 mg/L 1 8/9/2010 3:10:33 PM LAL Cabrium NELAP 0.0100 0.0241 mg/L 1 8/9/2010 3:10:33 PM	Connor			0.0100	J	0.0066	mg/L	1	8/9/2010 5:11:03 PM	LAL
Lead NELAP 0.0400 J 0.0400 J 0.0404 mg/L 1 8/7/2010 2:20:31 AM LAL Nickel NELAP 0.0100 0.035 mg/L 1 8/7/2010 5:11:03 PM LAL Silver NELAP 0.0100 J 0.0038 mg/L 1 8/7/2010 5:11:03 PM LAL Silver NELAP 0.0100 J 0.0038 mg/L 1 8/7/2010 5:11:03 PM LAL SW-846 3005A, 6010B, METALS BY ICP (TOTAL) NELAP 0.0500 < 0.0500	Copper			0.0100		< 0.0100	mg/L	1	8/10/2010 12:55:01 PM	LAL
NACAD NELAP 0.0100 0.417 mg/L 1 89/2010 5:11:03 PM LAL Silenium NELAP 0.0500 J 0.035 mg/L 1 8/9/2010 5:11:03 PM LAL Silver NELAP 0.0100 J 0.0038 mg/L 1 8/9/2010 5:11:03 PM LAL SW-346 3005A, 6010B, METALS BY ICP (TOTAL) 8/9/2010 3:10:33 PM LAL SW-346 3005A, 6010B, METALS BY ICP (TOTAL) 8/9/2010 3:10:33 PM LAL Antimony NELAP 0.0250 J 0.018 mg/L 1 8/9/2010 3:10:33 PM LAL Beryllium NELAP 0.0226 J 0.0017 mg/L 1 8/9/2010 3:10:33 PM LAL Cadmium NELAP 0.0100 J 0.00017 mg/L 1 8/9/2010 3:10:33 PM LAL Copper NELAP 0.0100 0.02241 mg/L 1 8/9/2010 3:10:33 PM LAL Lead NELAP 0.0100 J <t< td=""><td>Nickol</td><td></td><td>NELAP</td><td>0.0400</td><td>J</td><td>0.0094</td><td>mg/L</td><td>1</td><td>8/7/2010 2:20:31 AM</td><td>LAL</td></t<>	Nickol		NELAP	0.0400	J	0.0094	mg/L	1	8/7/2010 2:20:31 AM	LAL
Silver NELAP 0.030 J 0.035 mg/L 1 8/9/2010 5:11:03 PM LAL Silver NELAP 0.0100 J 0.0038 mg/L 1 8/11/2010 9:56:26 AM JMW Zinc NELAP 0.0100 0.311 mg/L 1 8/9/2010 5:11:03 PM LAL SW-846 3005A, 6010B, METALS BY ICP (TOTAL) Antimony NELAP 0.0250 J 0.018 mg/L 1 8/9/2010 3:10:33 PM LAL Beryllium NELAP 0.0200 J 0.0004 mg/L 1 8/9/2010 3:10:33 PM LAL Cadmium NELAP 0.0202 J 0.0017 mg/L 1 8/9/2010 3:10:33 PM LAL Copper NELAP 0.0100 0.02241 mg/L 1 8/9/2010 3:10:33 PM LAL Lead NELAP 0.0100 0.0241 mg/L 1 8/9/2010 3:10:33 PM LAL Selenium NELAP 0.0100 0.016 mg/L 1 8/10/2010 2:23:13 PM	Solonium			0.0100		0.417	mg/L	1	8/9/2010 5:11:03 PM	LAL
Jines NELAP 0.0100 0.033 mg/L 1 8//1/2010 9:95:26 AM JMW Zine NELAP 0.0100 0.311 mg/L 1 8//2010 5:11:03 PM LAL SW-846 3005A, 6010B, METALS BY ICP (TOTAL). Animony NELAP 0.0500 < 0.0500	Selement			0.0500	J	0.035	mg/L	1	8/9/2010 5:11:03 PM	LAL
Line NELAP 0.0100 0.311 mg/L 1 89/2010 5:11:03 PM LAL SW-846 3005A. 6010B. METALS BY ICP (TOTAL) Antimony NELAP 0.0500 < 0.0500	Zino			0.0100	J	0.0038	mg/L	1	8/11/2010 9:56:26 AM	JMW
SMT 240 3005A, WELAPIS BY ICLY (ICOTAL) Antimony NELAP 0.0500 < 0.0500 mg/L 1 8/9/2010 3:10:33 PM LAL Arsenic NELAP 0.0250 J 0.018 mg/L 1 8/9/2010 3:10:33 PM LAL Beryllium NELAP 0.0010 J 0.0014 mg/L 1 8/9/2010 3:10:33 PM LAL Cadmium NELAP 0.0020 J 0.0017 mg/L 1 8/9/2010 3:10:33 PM LAL Chromium NELAP 0.0100 0.0241 mg/L 1 8/9/2010 3:10:33 PM LAL Copper NELAP 0.0100 0.016 mg/L 1 8/9/2010 3:10:33 PM LAL Lead NELAP 0.0100 0.016 mg/L 1 8/9/2010 3:10:33 PM LAL Selenium NELAP 0.0100 0.451 mg/L 1 8/9/2010 3:10:33 PM LAL Silver NELAP 0.0100 J 0.0357 mg/L 1 8/12/2010 3:10:33 PM <td>CHIC CHIC 2005 & CO10</td> <td></td> <td></td> <td>0.0100</td> <td></td> <td>0.311</td> <td>mg/L</td> <td></td> <td>8/9/2010 5:11:03 PM</td> <td>LAL</td>	CHIC CHIC 2005 & CO10			0.0100		0.311	mg/L		8/9/2010 5:11:03 PM	LAL
Animoting NELAP 0.0300 C0.0300 mg/L 1 8/9/2010 3:10:33 PM LAL Arsenic NELAP 0.0250 J 0.018 mg/L 1 8/9/2010 3:10:33 PM LAL Beryllium NELAP 0.0020 J 0.0004 mg/L 1 8/9/2010 3:10:33 PM LAL Cadmium NELAP 0.0020 J 0.0017 mg/L 1 8/9/2010 3:10:33 PM LAL Cadmium NELAP 0.0100 0.0241 mg/L 1 8/9/2010 3:10:33 PM LAL Chromium NELAP 0.0100 0.0241 mg/L 1 8/9/2010 3:10:33 PM LAL Lead NELAP 0.0100 0.016 mg/L 1 8/9/2010 3:10:33 PM LAL Lead NELAP 0.0100 J 0.016 mg/L 1 8/9/2010 3:10:33 PM LAL Selenium NELAP 0.0100 J 0.0030 mg/L 1 8/10/2010 2:23:13 PM LAL Sil	<u>Antimony</u>	B, METALS BY IC	NELAD	0.0500		. 0 0200		4		
Instantic NELAR 0.0250 J 0.018 mg/L 1 8/9/2010 3:10:33 PM LAL Beryllium NELAP 0.0010 J 0.0004 mg/L 1 8/9/2010 3:10:33 PM LAL Gadmium NELAP 0.0020 J 0.0017 mg/L 1 8/9/2010 3:10:33 PM LAL Chromium NELAP 0.0100 0.0116 mg/L 1 8/9/2010 3:10:33 PM LAL Copper NELAP 0.0100 0.0116 mg/L 1 8/9/2010 3:10:33 PM LAL Lead NELAP 0.0100 0.016 mg/L 1 8/9/2010 3:10:33 PM LAL Nickel NELAP 0.0100 0.451 mg/L 1 8/9/2010 3:10:33 PM LAL Selenium NELAP 0.0100 J 0.030 mg/L 1 8/10/2010 2:23:13 PM LAL Silver NELAP 0.0100 J 0.0057 mg/L 1 8/11/2010 11:04:21 AM JMW Zinc NELAP 0.0100 J 0.0020 mg/L 1 8/12/2010	Areonio			0.0000	,	< 0.0500	mg/∟		8/9/2010 3:10:33 PM	LAL
Cadmium NELAP 0.0000 J 0.0004 mg/L 1 6/9/2010 3:10:33 PM LAL Cadmium NELAP 0.0020 J 0.0017 mg/L 1 8/9/2010 3:10:33 PM LAL Chromium NELAP 0.0100 0.0241 mg/L 1 8/9/2010 3:10:33 PM LAL Copper NELAP 0.0100 0.0241 mg/L 1 8/9/2010 3:10:33 PM LAL Lead NELAP 0.0100 0.0116 mg/L 1 8/9/2010 3:10:33 PM LAL Lead NELAP 0.0400 J 0.016 mg/L 1 8/9/2010 3:10:33 PM LAL Lead NELAP 0.0100 J 0.016 mg/L 1 8/9/2010 3:10:33 PM LAL Silver NELAP 0.0100 J 0.0030 mg/L 1 8/10/2010 2:23:13 PM LAL Silver NELAP 0.0100 J 0.0057 mg/L 1 8/12/2010 1:0:33 PM LAL SW-846 3005A, METALS BY GFAA (DISSOLVED) T 8/12/2010 3:10:33 PM LAL	Bendlium			0.0250	J	0.018	mg/∟ mg/	1	8/9/2010 3:10:33 PM	LAL
Chromium NELAP 0.0020 3 0.0017 mg/L 1 8/9/2010 3:10:33 PM LAL Chromium NELAP 0.0100 0.0241 mg/L 1 8/9/2010 3:10:33 PM LAL Copper NELAP 0.0100 0.0116 mg/L 1 8/9/2010 2:23:13 PM LAL Lead NELAP 0.0400 J 0.016 mg/L 1 8/10/2010 2:23:13 PM LAL Lead NELAP 0.0100 0.451 mg/L 1 8/9/2010 3:10:33 PM LAL Selenium NELAP 0.0100 0.451 mg/L 1 8/9/2010 2:23:13 PM LAL Silver NELAP 0.0100 J 0.030 mg/L 1 8/11/2010 11:04:21 AM JMW Zinc NELAP 0.0100 J 0.0057 mg/L 1 8/12/2010 4:51:08 PM MEK SW-846 3005A, METALS BY GFAA (DISSOLVED) Thallium 7841 NELAP 0.0020 <0.0020	Cadmium			0.0010		0.0004	mg/L	। न	8/9/2010 3:10:33 PM	LAL
MELAF 0.0100 0.0241 mg/L 1 8/9/2010 3:10:33 PM LAL Copper NELAP 0.0100 0.0116 mg/L 1 8/10/2010 2:23:13 PM LAL Lead NELAP 0.0400 J 0.016 mg/L 1 8/10/2010 2:23:13 PM LAL Nickel NELAP 0.0100 0.451 mg/L 1 8/10/2010 2:23:13 PM LAL Selenium NELAP 0.0500 J 0.030 mg/L 1 8/10/2010 2:23:13 PM LAL Silver NELAP 0.0500 J 0.030 mg/L 1 8/10/2010 2:23:13 PM LAL Silver NELAP 0.0100 J 0.0057 mg/L 1 8/10/2010 2:23:13 PM LAL SWest NELAP 0.0100 J 0.0057 mg/L 1 8/11/2010 11:04:21 AM JMW Zinc NELAP 0.0100 0.328 mg/L 1 8/12/2010 4:51:08 PM MEK SW-846 3005A, METALS BY GFAA (DTSL	Chromium			0.0020	J	0.0017	mg/L	1	8/9/2010 3:10:33 PM	LAL
Output NELAP 0.0100 0.0116 mg/L 1 8/10/2010 2/23:13 PM LAL Lead NELAP 0.0400 J 0.016 mg/L 1 8/10/2010 2/23:13 PM LAL Nickel NELAP 0.0100 0.451 mg/L 1 8/10/2010 2/23:13 PM LAL Selenium NELAP 0.0500 J 0.030 mg/L 1 8/10/2010 2/23:13 PM LAL Silver NELAP 0.0500 J 0.030 mg/L 1 8/10/2010 2/23:13 PM LAL Silver NELAP 0.0500 J 0.030 mg/L 1 8/10/2010 2/23:13 PM LAL Silver NELAP 0.0100 J 0.0057 mg/L 1 8/10/2010 1:04:21 AM JMW Zinc NELAP 0.0100 0.328 mg/L 1 8/12/2010 3:10:33 PM LAL SW-846 3005A, METALS BY GFAA (DISSOLVED) Imalian 7841 NELAP 0.0020 <0.0020	Copper			0.0100		0.0241	mg/L	4	8/9/2010 3:10:33 PM	LAL
LAL NLLAI 0.0400 0 0.016 Ing/L 1 8///2010 4:00:34 AM LAL Nickel NELAP 0.0100 0.451 mg/L 1 8/9/2010 3:10:33 PM LAL Selenium NELAP 0.0500 J 0.030 mg/L 1 8/9/2010 2:23:13 PM LAL Silver NELAP 0.0100 J 0.0057 mg/L 1 8/11/2010 11:04:21 AM JMW Zinc NELAP 0.0100 J 0.0057 mg/L 1 8/9/2010 3:10:33 PM LAL SW-846 3005A, METALS BY GFAA (DISSOLVED) NELAP 0.0100 0.328 mg/L 1 8/9/2010 3:10:33 PM LAL SW-846 3005A, METALS BY GFAA (DISSOLVED) Thallium 7841 NELAP 0.0020 rg/L 1 8/12/2010 4:51:08 PM MEK SW-846 3510C, 8081A, CHLORINATED PESTICIDES BY GC/ECD Image: State Sta	Lead			0.0100		0.0110	mg/L	1	6/10/2010 2:23:13 PM	LAL
Nicket NELAR 0.0100 0.4451 Nig/L 1 6/9/2010 3:10:33 PM LAL Selenium NELAP 0.0500 J 0.030 mg/L 1 8/10/2010 2:23:13 PM LAL Silver NELAP 0.0100 J 0.0057 mg/L 1 8/10/2010 2:23:13 PM LAL Silver NELAP 0.0100 J 0.0057 mg/L 1 8/11/2010 11:04:21 AM JMW Zinc NELAP 0.0100 0.328 mg/L 1 8/9/2010 3:10:33 PM LAL <u>SW-846 3005A, METALS BY GFAA (DISSOLVED)</u> T NELAP 0.0020 rmg/L 1 8/12/2010 4:51:08 PM MEK <u>SW-846 3020A, METALS BY GFAA (TOTAL)</u> Thallium 7841 NELAP 0.0020 J 0.0006 mg/L 1 8/12/2010 5:35:44 PM MEK <u>SW-846 3510C, 8081A, CHLORINATED PESTICIDES BY GC/ECD</u> - -	Nickel			0.0400	3	0.016	mg/L	4	8/7/2010 4:00:34 AM	
Silver NELAR 0.0000 J 0.0007 mg/L 1 8/10/2010 2:23:13 PM LAL Silver NELAP 0.0100 J 0.0057 mg/L 1 8/11/2010 11:04:21 AM JMW Zinc NELAP 0.0100 0.328 mg/L 1 8/11/2010 11:04:21 AM JMW SW-846 3005A, METALS BY GFAA (DISSOLVED) Thallium 7841 NELAP 0.0020 <0.0020 mg/L 1 8/12/2010 4:51:08 PM MEK SW-846 3020A, METALS BY GFAA (TOTAL) Thallium 7841 NELAP 0.0020 J 0.0006 mg/L 1 8/12/2010 5:35:44 PM MEK SW-846 3510C, 8081A, CHLORINATED PESTICIDES BY GC/ECD	Selenium			0.0100		0.401	mg/L	4	8/9/2010 3:10:33 PM	LAL
NELAR 0.0100 0 0.0037 mg/L 1 8/1/2010 1/24/21 AM JMW Zinc NELAP 0.0100 0.328 mg/L 1 8/9/2010 3:10:33 PM LAL <u>SW-846 3005A, METALS BY GFAA (DISSOLVED)</u> Thallium 7841 NELAP 0.0020 rmg/L 1 8/12/2010 4:51:08 PM MEK <u>SW-846 3020A, METALS BY GFAA (TOTAL)</u> Thallium 7841 NELAP 0.0020 J 0.0006 mg/L 1 8/12/2010 5:35:44 PM MEK <u>SW-846 3510C, 8081A, CHLORINATED PESTICIDES BY GC/ECD</u> 4/4'-DDD NELAP 0.05 ND µg/L 1 8/8/2010 8:51:00 PM HE 4,4'-DDD NELAP 0.05 ND µg/L 1 8/8/2010 8:51:00 PM HE 4,4'-DDT NELAP 0.05 ND µg/L 1 8/8/2010 8:51:00 PM HE 4/4'-DDT NELAP 0.05 ND µg/L 1 8/8/2010 8:51:00 PM HE Alachlor NELAP 0.05 ND µg/L 1 8/	Silver			0.0000	1	0.050	mg/⊑		0/10/2010 2:23:13 PM	
SW-846 3005A. METALS BY GFAA (DISSOLVED) Thallium 7841 NELAP 0.0020 < 0.0020 mg/L 1 8/12/2010 4:51:08 PM MEK SW-846 3020A. METALS BY GFAA (TOTAL) Thallium 7841 NELAP 0.0020 J 0.0006 mg/L 1 8/12/2010 4:51:08 PM MEK SW-846 3020A. METALS BY GFAA (TOTAL) Thallium 7841 NELAP 0.0020 J 0.0006 mg/L 1 8/12/2010 5:35:44 PM MEK SW-846 3510C. \$081A. CHLORINATED PESTICIDES BY GC/ECD 4,4'-DDD NELAP 0.05 ND µg/L 1 8/8/2010 8:51:00 PM HE 4,4'-DDE NELAP 0.05 ND µg/L 1 8/8/2010 8:51:00 PM HE 4,4'-DDT NELAP 0.05 ND µg/L 1 8/8/2010 8:51:00 PM HE Alachlor NELAP 0.05 ND µg/L 1 8/8/2010 8:51:00 PM HE	Zinc			0.0100	U	0.0037	mg/L	1	0/11/2010 11:04:21 AM	
Site of sousan frage frage sousan frage sousan frage frage sousan frage frage sousan frage sousan frage frage sousan frage	SW-846 3005 A MET	ALS BV CEAA (D)		0.0100		0.320	mg/c	r	0/8/2010 3:10:33 PM	LAL
SW-846 3020A. METALS BY GFAA (TOTAL) Thallium 7841 NELAP 0.0020 J 0.0006 mg/L 1 8/12/2010 4:51:08 PM MEK SW-846 3510C. 8081A. CHLORINATED PESTICIDES BY GC/ECD 4,4'-DDD NELAP 0.05 ND µg/L 1 8/12/2010 8:51:00 PM HE 4,4'-DDE NELAP 0.05 ND µg/L 1 8/8/2010 8:51:00 PM HE 4,4'-DDE NELAP 0.05 ND µg/L 1 8/8/2010 8:51:00 PM HE 4,4'-DDT NELAP 0.05 ND µg/L 1 8/8/2010 8:51:00 PM HE Alachlor NELAP 0.05 ND µg/L 1 8/8/2010 8:51:00 PM HE	Thallium 784	ALS DI GFAA (DI	NELAP	0 0020		< 0.0020	ma/l	ч	9/12/2010 4-51-00 DM	
The second solution in the frame of the frame	SW-846 3026A MET	'' AISBV ('EAA (T(0.0020		< 0.0020	mg/L	'	0/12/2010 4:51:00 PW	NER
SW-846 3510C. 8081A, CHLORINATED PESTICIDES BY GC/ECD 4,4'-DDD NELAP 0.05 ND µg/L 1 8/8/2010 8:51:00 PM HE 4,4'-DDE NELAP 0.05 ND µg/L 1 8/8/2010 8:51:00 PM HE 4,4'-DDE NELAP 0.05 ND µg/L 1 8/8/2010 8:51:00 PM HE 4,4'-DDT NELAP 0.05 ND µg/L 1 8/8/2010 8:51:00 PM HE Alachlor NELAP 0.05 ND µg/L 1 8/8/2010 8:51:00 PM HE	Thallium 784	ALS DI GFAA (IC		0 0020	.1	0.0006	mall	4	P/10/0010 5-05-44 DM	MER
4,4'-DDD NELAP 0.05 ND μg/L 1 8/8/2010 8:51:00 PM HE 4,4'-DDE NELAP 0.05 ND μg/L 1 8/8/2010 8:51:00 PM HE 4,4'-DDE NELAP 0.05 ND μg/L 1 8/8/2010 8:51:00 PM HE 4,4'-DDT NELAP 0.05 ND μg/L 1 8/8/2010 8:51:00 PM HE Alachlor NELAP 0.05 ND μg/L 1 8/8/2010 8:51:00 PM HE	SW-846 3510C 8081 A	CHI ORINATED	PESTICIDES	RV CC/	r CD	0.0000	ing/c	I.	0/12/2010 0:30:44 PM	NEK
4,4'-DDE NELAP 0.05 ND µg/L 1 8/8/2010 8:51:00 PM HE 4,4'-DDT NELAP 0.05 ND µg/L 1 8/8/2010 8:51:00 PM HE Alachlor NELAP 0.05 ND µg/L 1 8/8/2010 8:51:00 PM HE	4.4'-DDD	<u>, UIDUMINATED</u>	NFI AP	0.05	<u></u>	ND	ua/l	1	8/8/2010 8-51-00 DM	UE
4,4'-DDT NELAP 0.05 ND µg/L 1 8/8/2010 8:51:00 PM HE Alachlor NELAP 0.05 ND µg/L 1 8/8/2010 8:51:00 PM HE	4.4'-DDE		NELAP	0.05			µy/⊏ ⊔o/l	1	9/9/2010 9:51:00 PM	
	4.4 -DDT		NELAP	0.05		ND	49/5 10/1	1	9/9/2010 0.3 LUU PM	
	Alachlor		NELAP	0.05			µg/⊏ ⊔n/l	1 2	8/8/2010 0.01.00 PM	HE

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PLAN DEVELOPMENT Page 17 of 115

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-003

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: PZ-3 Collection Date: 8/4/2010 1:20:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 3510C, 8081A, CHLORIN	ATED PESTICIDES	BY GC	/ECD		<u> </u>			
Aldrin	NELAP	0.05		ND	μg/L 🖌	1	8/8/2010 8:51:00 PM	HE
alpha-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
beta-BHC	NELAP	0.05		ND	μg/L	1	8/8/2010 8:51:00 PM	HE
Chlordane	NELAP	0.50		ND	μg/L	1	8/8/2010 8:51:00 PM	HE
delta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
Dieldrin	NELAP	0.05		ND	μg/L	1	8/8/2010 8:51:00 PM	HE
Endosulfan	NELAP	0.05		ND	μg/L	1	8/8/2010 8:51:00 PM	HE
Endosulfan II	NELAP	0.05		ND	μg/L	1	8/8/2010 8:51:00 PM	HE
Endosulfan sulfate	NELAP	0.05		ND	μg/L	1	8/8/2010 8:51:00 PM	HE
Endrin	NELAP	0.05		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
Endrin aldehyde	NELAP	0.05		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
Endrin ketone	NELAP	0.05		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
gamma-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
Heptachlor	NELAP	0.05		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
Heptachlor epoxide	NELAP	0.05		ND	µg/L	1	8/8/2010 8:51:00 PM	HE
Methoxychlor	NELAP	0.05		ND	μg/L	1	8/8/2010 8:51:00 PM	HE
Toxaphene	NELAP	0.50		ND	μg/L	1	8/8/2010 8:51:00 PM	HE
Surr: Decachlorobiphenyl	5.5	4-150		83.0	%REC	1	8/8/2010 8:51:00 PM	HE
Surr: Tetrachloro-m-xylene	1	3-129		63.2	%REC	1	8/8/2010 8:51:00 PM	HE
SW-846 3510C, 8082, POLYCHLO)	RINATED BIPHENY	<u>/LS (PC</u>	BS) BY GO	C/ECD				
Aroclor 1016	NELAP	1.00		ND	µg/L	1	8/9/2010 1:33:00 AM	HE
Aroclor 1221	NELAP	1.00		ND	µg/L	1	8/9/2010 1:33:00 AM	HE
Aroclor 1232	NELAP	1.00		ND	µg/L	1	8/9/2010 1:33:00 AM	HE
Aroclor 1242	NELAP	1.00		ND	μg/L	1	8/9/2010 1:33:00 AM	HE
Aroclor 1248	NELAP	1.00		ND	µg/L	1	8/9/2010 1:33:00 AM	HE
Aroclor 1254	NELAP	1.00		ND	µg/L	1	8/9/2010 1:33:00 AM	HE
Aroclor 1260	NELAP	1.00		ND	µg/L	1	8/9/2010 1:33:00 AM	HE
Surr: Decachlorobiphenyl	:	5-174		73.0	%REC	1	8/9/2010 1:33:00 AM	HE
Surr: Tetrachloro-meta-xylene	22.3	2-139		61.0	%REC	1	8/9/2010 1:33:00 AM	HE
SW-846 3510C, 8270C, SEMI-VOLA	ATILE ORGANIC C	ΟΜΡΟΙ	UNDS BY C	C/MS				
1,2,4-Trichlorobenzene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
1,2-Dichlorobenzene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
1,3-Dichlorobenzene	NELAP	0.023		NÐ	mg/L	1	8/10/2010 2:33:00 AM	DMH
1,4-Dichlorobenzene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
2,4,5-Trichlorophenol	NELAP (0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
2,4,6-Trichlorophenol	NELAP (0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
2,4-Dichlorophenol	NELAP (0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
2,4-Dimethylphenol	NELAP ().023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
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Page 18 of 115

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-003

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: PZ-3 Collection Date: 8/4/2010 1:20:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 3510C, 8270C, SEMI-VC	LATILE ORGANIC	COMPO	UNDS BY	GC/MS				
2,4-Dinitrophenol	NELAP"	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	1 DMH
2,4-Dinitrotoluene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AN	I DMH
2,6-Dinitrotoluene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AN	
2-Chioronaphthalene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AN	DMH
2-Chlorophenol	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	1 DMH
2-Methoxy-4-methylphenol		0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	1 DMH
2-Methylnaphthalene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	1 DMH
2-Nitroaniline	NELAP	0.091		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
2-Nitrophenol	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	I DMH
3,3'-Dichlorobenzidine	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
3-Nitroaniline	NELAP	0.091		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
4,6-Dinitro-2-methylphenol	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
4-Bromophenyl phenyl ether	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
4-Chloro-3-methylphenol	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
4-Chloroaniline	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
4-Chlorophenyl phenyl ether	NELAP	0.023		ND	ma/L	1	8/10/2010 2:33:00 AM	DMH
4-Nitroaniline	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
4-Nitrophenol	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Acenaphthene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Acenaphthylene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Aniline	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Anthracene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Azobenzene		0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Benzidine	NELAP	0.091		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Benzo(a)anthracene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Benzo(a)pyrene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Benzo(b)fluoranthene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Benzo(g,h,i)perylene	NELAP	0.023		NÐ	mg/L	1	8/10/2010 2:33:00 AM	DMH
Benzo(k)fluoranthene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Benzoic acid	NELAP	0.114		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Benzyl alcohol	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Bis(2-chloroethoxy)methane	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Bis(2-chloroethyl)ether	NELAP	0.023		ND	ma/L	1	8/10/2010 2:33:00 AM	DMH
Bis(2-chloroisopropyl)ether	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.014		ND	ma/L	1	8/10/2010 2:33:00 AM	DMH
Butyl benzyl phthalate	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Carbazole	NELAP	0.045		ND	ma/L	1	8/10/2010 2:33:00 AM	DMH
Chrysene	NELAP	0.023		ND	ma/L	1	8/10/2010 2:33:00 AM	DMH
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Page 19 of 115

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226 Lab ID: 10080226-003

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: PZ-3 Collection Date: 8/4/2010 1:20:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOL	ATILE ORGANIC	СОМРС	DUNDS BY	GC/MS				
Dibenzo(a,h)anthracene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AI	M DMH
Dibenzofuran	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AI	M DMH
Diethyl phthalate	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AI	M DMH
Dimethyl phthalate	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 Al	V DMH
Di-n-butyl phthalate	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AI	V DMH
Di-n-octyl phthalate	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	V DMH
Fluoranthene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	V DMH
Fluorene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	M DMH
Hexachlorobenzene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	M DMH
Hexachlorobutadiene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	N DMH
Hexachlorocyclopentadiene	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	A DMH
Hexachloroethane	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	A DMH
Indeno(1,2,3-cd)pyrene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	/ DMH
Isophorone	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	A DMH
m,p-Cresol	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	/ DMH
Naphthalene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	A DMH
Nitrobenzene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
N-Nitrosodimethylamine	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
N-Nitroso-di-n-propylamine	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	1 DMH
N-Nitrosodiphenylamine	NELAP	0.023		ND	mg/L	1 0	8/10/2010 2:33:00 AM	1 DMH
o-Cresol	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AN	1 DMH
Pentachlorophenol	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	1 DMH
Phenanthrene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	I DMH
Phenol	NELAP	0.011		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Pyrene	NELAP	0.023		ND	mg/L	1	8/10/2010 2:33:00 AM	I DMH
Pyridine	NELAP	0.045		ND	mg/L	1	8/10/2010 2:33:00 AM	I DMH
Quinoline		0.011		ND	mg/L	1	8/10/2010 2:33:00 AM	DMH
Surr: 2,4,6-Tribromophenol	27	.7-149		72.8	%REC	1	8/10/2010 2:33:00 AM	DMH
Surr: 2-Fluorobiphenyl	44	.9-116		47.9	%REC	1	8/10/2010 2:33:00 AM	DMH
Surr: 2-Fluorophenol	10.	6-7 8 .7		25.1	%REC	1	8/10/2010 2:33:00 AM	DMH
Surr: Nitrobenzene-d5	41	.4-104		47.9	%REC	1	8/10/2010 2:33:00 AM	DMH
Surr: Phenol-d5	9.0	4-52.9		16.6	%REC	1	8/10/2010 2:33:00 AM	DMH
Surr: p-Terphenyl-d14	23.	.5-114		46.7	%REC	1	8/10/2010 2:33:00 AM	DMH
SW-846 5030, 8260B, VOLATILE OF	RGANIC COMPO	JNDS BY	GC/MS					Billi
1,1,1,2-Tetrachloroethane	NELAP	5.0		ND	µ a/L	1	8/5/2010 6:16:00 PM	CCF
1,1,1-Trichloroethane	NELAP	5.0		ND	µq/L	1	8/5/2010 6:16:00 PM	CCF
1,1,2,2-Tetrachloroethane	NELAP	5.0		ND	ua/L	÷	8/5/2010 6:16:00 PM	CCF
1,1,2-Trichloro-1,2,2-trifluoroethane		20.0		ND	μg/L	1	8/5/2010 6:16:00 PM	CCF

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BROKEN ARROW PLAN DEVELOPMENT

Page 20 of 115

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client:	A&M Engineering	Client Project:	BA Landfill 2028-004
WorkOrder:	10080226	Client Sample ID:	PZ-3
Lab ID:	10080226-003	Collection Date:	8/4/2010 1:20:00 PM
Report Date:	17-Aug-10	Matrix:	GROUNDWATER

Analyses	Certification		Qual	Result	Units	DF	Date Analyzed A	Analyst
SW-846 5030, 8260B, VOLATILE OF	RGANIC COMPO	UNDS F	Y GC/MS					
1,1,2-Trichloroethane	NELAP	5.0		ND	μg/L	1	8/5/2010 6:16:00 PM	I CCF
1,1-Dichloro-2-propanone		50.0		ND	µg/L	1	8/5/2010 6:16:00 PM	1 CCF
1,1-Dichloroethane	NELAP	5.0		ND	μg/L	1	8/5/2010 6:16:00 PM	1 CCF
1,1-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	1 CCF
1,1-Dichloropropene	NELAP	5.0		ND	μg/L	1	8/5/2010 6:16:00 PN	1 CCF
1,2,3-Trichlorobenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 6:16:00 PM	t CCF
1,2,3-Trichloropropane	NELAP	5.0		ND	μg/L	1	8/5/2010 6:16:00 PM	CCF
1,2,3-Trimethylbenzene		5.0		ND	µg/L	1	8/5/2010 6:16:00 PN	I CCF
1,2,4-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,2,4-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	I CCF
1,2-Dibromo-3-chloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,2-Dibromoethane	NELAP	5.0		ND	μg/L	1	8/5/2010 6:16:00 PM	CCF
1,2-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,2-Dichloroethane	NELAP	5.0		ND	μg/L	1	8/5/2010 6:16:00 PM	CCF
1,2-Dichloropropane	NELAP	5.0		ND	μg/L	1	8/5/2010 6:16:00 PM	CCF
1,3,5-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,3-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,3-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1,4-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
1-Chlorobutane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
2,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
2-Butanone	NELAP	25.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
2-Chloroethyl vinyl ether	NELAP	20.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
2-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
2-Hexanone	NELAP	25.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
2-Nitropropane	NELAP	50.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
4-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
4-Methyl-2-pentanone	NELAP	25.0		ND	μg/L	1	8/5/2010 6:16:00 PM	CCF
Acetone	NELAP	25.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Acetonitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Acrolein	NELAP	100		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Acrylonitrile	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Allyl chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Benzene	NELAP	2.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Bromobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Bromochloromethane	NELAP	5.0		ND	μg/L	1	8/5/2010 6:16:00 PM	CCF
Bromodichloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Bromoform	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF

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5445 HORSESHOE LAKE ROAD COLLINSVILLE. ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-003

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: PZ-3 Collection Date: 8/4/2010 1:20:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 5030, 8260B, VOLATILE	ORGANIC COMPO	UNDS B	Y GC/MS					4
Bromomethane	NELAP	10.0		ND	µg/L	- 1	8/5/2010 6:16:00 PM	CCF
Butyl acetate		25.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Carbon disulfide	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Carbon tetrachloride	NELAP	5.0		ND	μg/L	1	8/5/2010 6:16:00 PM	CCF
Chlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Chloroethane	NELAP	10.0		ND	μg/L	1	8/5/2010 6:16:00 PM	CCF
Chloroform	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Chloromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Chloroprene	NELAP	20.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
cis-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
cis-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
cis-1,4-Dichloro-2-butene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Cyclohexanone		50.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Dibromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Dibromomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Dichlorodifluoromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Ethyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Ethyl ether	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Ethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Heptane		20.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Hexachlorobutadiene	NELAP	5.0		ND	μg/L	1	8/5/2010 6:16:00 PM	CCF
Hexachloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
lodomethane	NELAP	5.0		ND	μg/L	1	8/5/2010 6:16:00 PM	CCF
Isopropylbenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 6:16:00 PM	CCF
m,p-Xylenes	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Methacrylonitrile	NELAP	10.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Methyl Methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Methylacrylate		10.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Methylene chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Naphthalene	NELAP	10.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
n-Butylbenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 6:16:00 PM	CCF
n-Hexane		20.0		ND	μg/L	1	8/5/2010 6:16:00 PM	CCF
Nitrobenzene	NELAP	50.0		ND	μg/L	1	8/5/2010 6:16:00 PM	CCF
n-Propylbenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 6:16:00 PM	CCF
o-Xylene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Pentachloroethane	NELAP	20.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF

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Page 22 of 115

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226 Lab ID: 10080226-003

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: PZ-3 Collection Date: 8/4/2010 1:20:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	alyst
SW-846 5030, 8260B, VOLATILE	ORGANIC COMPO	UNDS E	Y GC/MS	3				
p-Isopropyltoluene	NELAP 1	5.0		ND	μg/L	1	8/5/2010 6:16:00 PM	1 CCF
Propionitrile	NELAP	50. 0		ND	µg/L	1	8/5/2010 6:16:00 PM	1 CCF
sec-Butylbenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 6:16:00 PM	1 CCF
Styrene	NELAP	5.0		ND	µg/∟	1	8/5/2010 6:16:00 PM	I CCF
tert-Butylbenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 6:16:00 PM	CCF
Tetrachloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	I CCF
Tetrahydrofuran	NELAP	20.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Toluene	NELAP	5.0		ND	μg/L	1	8/5/2010 6:16:00 PM	CCF
trans-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
trans-1,3-Dichloropropene	NELAP	5.0		ND	μg/L	1	8/5/2010 6:16:00 PM	CCF
trans-1,4-Dichloro-2-butene	NELAP	10.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Trichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Vinyl acetate	NELAP	10.0		ND	μg/L	1	8/5/2010 6:16:00 PM	CCF
Vinyl chloride	NELAP	2.0		ND	µg/L	1	8/5/2010 6:16:00 PM	CCF
Surr: 1,2-Dichloroethane-d4	74	.7-129		102.4	%REC	1	8/5/2010 6:16:00 PM	CCF
Surr: 4-Bromofluorobenzene		86-119		101.7	%REC	1	8/5/2010 6:16:00 PM	CCF
Surr: Dibromofluoromethane	81	.7-123		99.8	%REC	1	8/5/2010 6:16:00 PM	CCF
Surr: Toluene-d8	84	.3-114		96.6	%REC	1	8/5/2010 6:16:00 PM	CCF
SW-846 7470A (DISSOLVED)	R							
Mercury	NELAP 0.	.00020		< 0.00020	mg/L	1	8/10/2010	MEK
<u>SW-846 7470A (TOTAL)</u>					-			
Mercury	NELAP 0.	00020	J	0.00009	mg/L	1	8/10/2010	MEK
SW-846 9040B, LABORATORY A	NALYZED				-			
Lab pH	NELAP	0		5.93		1	8/5/2010 2:43:00 PM	CS
<u>SW-846 9050A</u>								
Conductivity	NELAP	1		3230	µmhos/cm	1	8/6/2010	KNS

Sample Narrative

SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS

Laboratory control sample duplicate was outside of lower recovery limits. Batch verified on MS recovery.

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client:	A&M Engineerir	ng			Client P	roject: BA	Landfi	I 2028-004				
WorkOrder:	10080226	-			Client Sam	ole ID: P7	-4					
Lab ID:	10080226-004				Collection	Date: 8//	 1/2010 ·	1-35-00 PM				
Report Date:	17-Aug-10											
Report Date.	17-Adg-10				10.		IOUNDY					
Analyse	5	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst			
<u>EPA, 600 365.4 (TOT</u>	AL)											
Phosphorus, Total (as	s P)	NELAP	0.300		4.82	mg/L	4	8/6/2010 2:18:49 PM	RCE			
STANDARD METH	ODS 18TH ED. 45	00-NO2 B (TO)	Г <u>АL)</u>									
Nitrogen, Nitrite (as N)	NELAP	0.01		0.02	mg/L	1	8/5/2010 1:05:00 PM	MK			
STANDARD METH	ODS 18TH ED. 45	<u>00-NO3 F (TOT</u>	<u>[AL]</u>									
Nitrogen, Nitrate (as N	4)	NELAP	0.050		0.093	mg/L	1	8/5/2010 1:35:00 PM	DLW			
<u>SW-846 3005A, 6010</u>	<u>B, METALS BY IC</u>	<u>CP (DISSOLVE</u>	<u>D)</u>									
Antimony		NELAP	0.0500		< 0.0500	mg/L	1	8/10/2010 1:02:00 PM	LAL			
Arsenic		NELAP	0.0250		< 0.0250	mg/L	1	8/9/2010 5:18:00 PM	LAL			
Beryllium		NELAP	0.0010	J	0.0005	mg/L	1	8/10/2010 1:02:00 PM	LAL			
Cadmium		NELAP	0.0020		0.0094	mg/L	1	8/11/2010 9:59:56 AM	JMW			
Chromium		NELAP	0.0100		0.0220	mg/L	1	8/9/2010 5:18:00 PM	LAL			
Copper		NELAP	0.0100		< 0.0100	mg/L	1	8/10/2010 1:02:00 PM	LAL			
Lead		NELAP	0.0400	J	0.021	mg/L	1	8/7/2010 2:27:32 AM	LAL			
Nickel		NELAP	0.0100		1.05	mg/L	1	8/10/2010 1:02:00 PM	LAL			
Selenium		NELAP	0.0500	J	0.024	mg/L	1	8/10/2010 1:02:00 PM	LAL			
Silver		NELAP	0.0100	J	0.0068	mg/L	1	8/11/2010 9:59:56 AM	JMW			
Zinc		NELAP	0.0100		0.556	mg/L	1	8/9/2010 5:18:00 PM	LAL			
<u>SW-846 3005A, 6010</u>	B, METALS BY IC	<u>(TOTAL)</u>										
Antimony		NELAP	0.0500		< 0.0500	mg/L	1	8/9/2010 3:17:34 PM	LAL			
Arsenic		NELAP	0.0250	J	0.016	mg/L	1	8/9/2010 3:17:34 PM	LAL			
Beryllium		NELAP	0.0010		0.0036	mg/L	1	8/9/2010 3:17:34 PM	LAL			
Cadmium		NELAP	0.0020		0.0183	mg/L	1	8/11/2010 11:07:51 AM	JMW			
Chromium		NELAP	0.0100		0.0975	mg/L	1	8/9/2010 3:17:34 PM	LAL			
Copper		NELAP	0.0100		0.0655	mg/L	1	8/9/2010 3:17:34 PM	LAL			
Lead		NELAP	0.0400		0.0909	mg/L	1	8/9/2010 3:17:34 PM	LAL			
Nickel		NELAP	0.0100		1.20	mg/L	1	8/9/2010 3:17:34 PM	LAL			
Selenium		NELAP	0.0500		< 0.0500	mg/L	1	8/9/2010 3:17:34 PM	LAL			
Silver		NELAP	0.0100		0.0103	mg/L	1	8/11/2010 11:07:51 AM	JMW			
Zinc		NELAP	0.0100		0.898	mg/L	1	8/9/2010 3:17:34 PM	LAL			
SW-846 3005A, META	ALS BY GFAA (DI	(SSOLVED)				•						
Thallium 784	1	NELAP	0.0020		< 0.0020	mg/L	1	8/12/2010 4:54:32 PM	MEK			
SW-846 3020A, META	ALS BY GFAA (TO	DTAL)				•						
Thallium 784	1	NELAP (0.0020	J	0.0010	ma/L	1	8/12/2010 5:39:12 PM	MFK			
SW-846 3510C, 8081A	. CHLORINATED	PESTICIDES	BY GC/I	ECD								
4,4'-DDD		NELAP	0.05		ND	ua/L	1	8/8/2010 9:16:00 PM	HE			
4,4´-DDE		NELAP	0.05		ND	ua/L	1	8/8/2010 9-16-00 PM	HE			
4,4'-DDT		NELAP	0.05		ND	ι <u>σ</u> -	1	8/8/2010 9:16:00 PM	HE			
Alachlor		NELAP	0.05		ND	ua/l	1	8/8/2010 9·16·00 PM	HE			
						P975		50/2010 3.10.00 FW	1 IL			

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226 Lab ID: 10080226-004

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: PZ-4 Collection Date: 8/4/2010 1:35:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8081A, CHLORIN	ATED PESTICIDES	BY GC	/ECD		·			
Aldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	и не
alpha-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	и не
beta-BHC	NELAP	0.05		ND	µg/L	S1	8/8/2010 9:16:00 PM	/ HE
Chlordane	NELAP	0.50		ND	μg/L	1	8/8/2010 9:16:00 PM	/ HE
delta-BHC	NELAP	0.05		ND	μg/L	1	8/8/2010 9:16:00 PM	/ HE
Dieldrin	NELAP	0.05		ND	μg/L	1	8/8/2010 9:16:00 PM	A HE
Endosulfan I	NELAP	0.05		ND	μg/L	1	8/8/2010 9:16:00 PM	I HE
Endosulfan II	NELAP	0.05		ND	μg/L	1	8/8/2010 9:16:00 PM	1 HE
Endosulfan sulfate	NELAP	0.05		ND	μg/L	1	8/8/2010 9:16:00 PN	1 HE
Endrin	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	1 HE
Endrin aldehyde	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	I HE
Endrin ketone	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	1 HE
gamma-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	I HE
Heptachlor	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	HE
Heptachlor epoxide	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	I HE
Methoxychlor	NELAP	0.05		ND	µg/L	1	8/8/2010 9:16:00 PM	HE
Toxaphene	NELAP	0.50		ND	μg/L	1	8/8/2010 9:16:00 PM	HE
Surr: Decachlorobiphenyl	5.5	64-150		48.1	%REC	1	8/8/2010 9:16:00 PM	HE
Surr: Tetrachloro-m-xylene	1	3-129		49.7	%REC	1	8/8/2010 9:16:00 PM	HE
SW-846 3510C, 8082, POLYCHLOI	RINATED BIPHENY	LS (PC	BS) BY GC	/ECD				
Aroclor 1016	NELAP	1.00		ND	μg/L	1	8/9/2010 1:50:00 AM	HE
Aroclor 1221	NELAP	1.00		ND	µg/L	1	8/9/2010 1:50:00 AM	HE
Aroclor 1232	NELAP	1.00		ND	μg/L	1	8/9/2010 1:50:00 AM	HE
Aroclor 1242	NELAP	1.00		ND	µg/L	1	8/9/2010 1:50:00 AM	HE
Aroclor 1248	NELAP	1.00		ND	μg/L	1	8/9/2010 1:50:00 AM	HE
Aroclor 1254	NELAP	1.00		ND	µg/L	1	8/9/2010 1:50:00 AM	НE
Aroclor 1260	NELAP	1.00		ND	µg/L	1	8/9/2010 1:50:00 AM	HE
Surr: Decachlorobiphenyl		5-174		40.9	%REC	1	8/9/2010 1:50:00 AM	HĘ
Surr: Tetrachloro-meta-xylene	22.	2-139		47.0	%REC	1	8/9/2010 1:50:00 AM	HE
SW-846 3510C, 8270C, SEMI-VOLA	TILE ORGANIC C	OMPOL	JNDS BY G	C/MS				
1,2,4-Trichlorobenzene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
1,2-Dichlorobenzene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
1,3-Dichlorobenzene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
1,4-Dichlorobenzene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
2,4,5-Trichlorophenol	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
2,4,6-Trichlorophenol	NELAP (0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
2,4-Dichlorophenol	NELAP (0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH
2,4-Dimethylphenol	NELAP (0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	DMH



ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-004

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: PZ-4 Collection Date: 8/4/2010 1:35:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VC	DLATILE ORGANIC	СОМРО	UNDS BY	GC/MS				
2,4-Dinitrophenol	NELAP	0.062		ND	mg/L	-1	8/10/2010 3:05:00 /	AM DMH
2,4-Dinitrotoluene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 /	
2,6-Dinitrotoluene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 /	
2-Chloronaphthalene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 /	AM DMH
2-Chlorophenol	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 /	AM DMH
2-Methoxy-4-methyiphenoi		0.031		ND	mg/L	1	8/10/2010 3:05:00 /	AM DMH
2-Methylnaphthalene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 /	AM DMH
2-Nitroaniline	NELAP	0.125		ND	mg/L	1	8/10/2010 3:05:00 /	M DMH
2-Nitrophenol	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 A	AM DMH
3,3'-Dichlorobenzidine	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 /	M DMH
3-Nitroaniline	NELAP	0.125		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
4,6-Dinitro-2-methylphenol	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
4-Bromophenyl phenyl ether	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
4-Chloro-3-methylphenol	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
4-Chloroaniline	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
4-Chlorophenyl phenyl ether	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
4-Nitroaniline	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
4-Nitrophenol	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Acenaphthene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Acenaphthylene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Aniline	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 A	м рмн
Anthracene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Azobenzene		0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Benzidíne	NELAP	0.125		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Benzo(a)anthracene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Benzo(a)pyrene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Benzo(b)fluoranthene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Benzo(g,h,i)perylene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Benzo(k)fluoranthene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Benzoic acid	NELAP	0.156		ND	mg/L	1	8/10/2010 3:05:00 Al	M DMH
Benzyl alcohol	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 Al	M DMH
Bis(2-chloroethoxy)methane	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AI	M DMH
Bis(2-chloroethyl)ether	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AI	M DMH
Bis(2-chloroisopropyl)ether	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AI	M DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.019		ND	mg/L	1	8/10/2010 3:05:00 AI	M DMH
Butyl benzyl phthalate	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 At	M DMH
Carbazole	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 AM	M DMH
Chrysene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 AM	M DMH
					-			



ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client:	A&M Engineering	Client Project:	BA Landfill 2028-004
WorkOrder:	10080226	Client Sample ID:	PZ-4
Lab ID:	10080226-004	Collection Date:	8/4/2010 1:35:00 PM
Report Date:	17-Aug-10	Matrix:	GROUNDWATER

Analyses	Certification	KL	Qual	Kesult	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOI	ATILE ORGANIC	СОМРС	UNDS BY	GC/MS				
Dibenzo(a,h)anthracene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 /	AM DMH
Dibenzofuran	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 /	AM DMH
Diethyl phthalate	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 /	AM DMH
Dimethyl phthalate	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 /	AM DMH
Di-n-butyl phthalate	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 /	AM DMH
Di-n-octyl phthalate	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 /	AM DMH
Fluoranthene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 /	M DMH
Fluorene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	
Hexachlorobenzene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Hexachlorobutadiene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Hexachlorocyclopentadiene	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Hexachloroethane	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Indeno(1,2,3-cd)pyrene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Isophorone	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
m,p-Cresol	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Naphthalene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Nitrobenzene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
N-Nitrosodimethylamine	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
N-Nitroso-di-n-propylamine	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
N-Nitrosodiphenylamine	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
o-Cresol	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Pentachlorophenol	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Phenanthrene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Phenol	NELAP	0.016		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Pyrene	NELAP	0.031		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Pyridine	NELAP	0.062		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Quinoline		0.016		ND	mg/L	1	8/10/2010 3:05:00 A	M DMH
Surr: 2,4,6-Tribromophenol	27	.7-149		86.0	%REC	1	8/10/2010 3:05:00 A	M DMH
Surr: 2-Fluorobiphenyl	44	.9-116		57.0	%REC	1	8/10/2010 3:05:00 A	M DMH
Surr: 2-Fluorophenol	10.	6-78.7		35.5	%REC	1	8/10/2010 3:05:00 Al	M DMH
Surr: Nitrobenzene-d5	41	.4-104		63.6	%REC	1	8/10/2010 3:05:00 AI	M DMH
Surr: Phenol-d5	9.0	4-52.9		21.0	%REC	1	8/10/2010 3:05:00 AI	M DMH
Surr: p-Terphenyl-d14	23	.5-114		64.4	%REC	1	8/10/2010 3:05:00 AI	M DMH
SW-846 5030, 8260B, VOLATILE O	RGANIC COMPOU	UNDS BY	GC/MS					
1,1,1,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	
1,1,1-Trichloroethane	NELAP	5.0		ND	μg/L	1	8/5/2010 6:46:00 PM	I CCF
1,1,2,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,1,2-Trichloro-1,2,2-trifluoroethane		20.0		ND	μα/L	1	8/5/2010 6:46:00 PM	I CCF
						-		



Page 27 of 115

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client:	A&M Engineering
WorkOrder:	10080226
Lab ID:	10080226-004

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: PZ-4 Collection Date: 8/4/2010 1:35:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 5030, 8260B, VOLATILE	ORGANIC COMPO	UNDS F	BY GC/MS					
1,1,2-Trichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,1-Dichloro-2-propanone		50.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,1-Dichloroethane	NELAP	5.0		ND	μg/L	1	8/5/2010 6:46:00 PM	CCF
1,1-Dichloroethene	NELAP	5.0		ND	μg/L	1	8/5/2010 6:46:00 PM	CCF
1,1-Dichloropropene	NELAP	5.0		ND	μg/L	1	8/5/2010 6:46:00 PM	CCF
1,2,3-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,2,3-Trichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,2,3-Trimethylbenzene		5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,2,4-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,2,4-Trimethylbenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 6:46:00 PM	CCF
1,2-Dibromo-3-chloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,2-Dibromoethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,2-Dichlorobenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 6:46:00 PM	CCF
1,2-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,3,5-Trimethylbenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 6:46:00 PM	CCF
1,3-Dichlorobenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 6:46:00 PM	CCF
1,3-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
1,4-Dichlorobenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 6:46:00 PM	CCF
1-Chlorobutane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
2,2-Dichloropropane	NELAP	5.0		ND	μg/L	1	8/5/2010 6:46:00 PM	CCF
2-Butanone	NELAP	25.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
2-Chloroethyl vinyl ether	NELAP	20.0		ND	μg/L	1	8/5/2010 6:46:00 PM	CCF
2-Chlorotoluene	NELAP	5.0		ND	μg/L	1	8/5/2010 6:46:00 PM	CCF
2-Hexanone	NELAP	25.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
2-Nitropropane	NELAP	50. 0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
4-Chlorotoluene	NELAP	5.0		ND	μg/L	1	8/5/2010 6:46:00 PM	CCF
4-Methyl-2-pentanone	NELAP	25.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Acetone	NELAP	25.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Acetonitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Acrolein	NELAP	100		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Acrylonitrile	NELAP	5.0		ND	μg/L	1	8/5/2010 6:46:00 PM	CCF
Allyl chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Benzene	NELAP	2.0		ND	μg/L	1	8/5/2010 6:46:00 PM	CCF
Bromobenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 6:46:00 PM	CCF
Bromochloromethane	NELAP	5.0		ND	μg/L	1	8/5/2010 6:46:00 PM	CCF
Bromodichloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Bromoform	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF



Page 28 of 115

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client:	A&M Engineering	Client Project:	BA Landfill 2028-004
WorkOrder:	10080226	Client Sample ID:	PZ-4
Lab ID:	10080226-004	Collection Date:	8/4/2010 1:35:00 PM
Report Date:	17-Aug-10	Matrix:	GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATIL	E ORGANIC COMPO	UNDS H	BY GC/MS					
Bromomethane	NELAP	10.0		ND	µg/L	1	8/5/2010 6:46:00 PM	M CCF
Butyl acetate		25.0		ND	μg/L	1	8/5/2010 6:46:00 PM	M CCF
Carbon disulfide	NELAP	5.0		ND	μg/L	1	8/5/2010 6:46:00 PM	A CCF
Carbon tetrachloride	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	A CCF
Chlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	/ CCF
Chloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 6:46:00 PM	/ CCF
Chloroform	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PN	/ CCF
Chloromethane	NELAP	10.0		ND	μg/L	1	8/5/2010 6:46:00 PM	A CCF
Chloroprene	NELAP	20.0		ND	μg/L	1	8/5/2010 6:46:00 PM	I CCF
cis-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	A CCF
cis-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	A CCF
cis-1,4-Dichloro-2-butene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	1 CCF
Cyclohexanone		50.0		ND	µg/L	1	8/5/2010 6:46:00 PM	1 CCF
Dibromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	1 CCF
Dibromomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Dichlorodifluoromethane	NELAP	10.0		ND	μg/L	1	8/5/2010 6:46:00 PM	t CCF
Ethyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Ethyl ether	NÉLAP	5.0		ND	μg/L	1	8/5/2010 6:46:00 PM	CCF
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Ethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Heptane		20.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Hexachloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
lodomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Isopropylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
m,p-Xylenes	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Methacrylonitrile	NELAP	10.0		ND	μg/L	1	8/5/2010 6:46:00 PM	CCF
Methyl Methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Methylacrylate		10.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Methylene chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Naphthalene	NELAP	10.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
n-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
n-Hexane		20.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Nitrobenzene	NELAP	50.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
n-Propylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
o-Xylene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Pentachloroethane	NELAP	20.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-004

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: PZ-4 Collection Date: 8/4/2010 1:35:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 5030, 8260B, VOLATILE	ORGANIC COMPO	UNDS B	Y GC/MS					
p-Isopropyltoluene	NELAP	5.0		ND	µg/L	1 -	8/5/2010 6:46:00 PM	CCF
Propionitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
sec-Butylbenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 6:46:00 PM	CCF
Styrene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
tert-Butylbenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 6:46:00 PM	CCF
Tetrachloroethene	NELAP	5.0		ND	μg/L	1	8/5/2010 6:46:00 PM	CCF
Tetrahydrofuran	NELAP	20.0		ND	μg/L	1	8/5/2010 6:46:00 PM	CCF
Toluene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
trans-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
trans-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
trans-1,4-Dichloro-2-butene	NELAP	10.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Trichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Vinyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Vinyl chloride	NELAP	2.0		ND	µg/L	1	8/5/2010 6:46:00 PM	CCF
Surr: 1,2-Dichloroethane-d4	74	4.7-129		102.6	%REC	1	8/5/2010 6:46:00 PM	CCF
Surr: 4-Bromofluorobenzene		86-119		100.6	%REC	1	8/5/2010 6:46:00 PM	CCF
Surr: Dibromofluoromethane	81	.7-123		98.3	%REC	1	8/5/2010 6:46:00 PM	CCF
Surr: Toluene-d8	84	l.3-114		95.7	%REC	1	8/5/2010 6:46:00 PM	CCF
SW-846 7470A (DISSOLVED)								
Mercury	NELAP 0	.00020		< 0.00020	mg/L	1	8/10/2010	MEK
<u>SW-846 7470A (TOTAL)</u>					-			
Mercury	NELAP 0	.00020		0.00034	mg/L	1	8/10/2010	MEK
SW-846 9040B, LABORATORY AM	VALYZED				-			
Lab pH	NELAP	0		5.88		11	8/5/2010 2:43:00 PM	CS
<u>SW-846 9050A</u>								
Conductivity	NELAP	1		3570	µmhos/cm	1	8/6/2010	KNS

Sample Narrative

SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS

Laboratory control sample duplicate was outside of lower recovery limits. Batch verified on MS recovery.

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Enginee	ering			Client P	roject: BA	Landfi	2028-004				
WorkOrder: 10080226	-			Client Sample ID: CS-1							
Lab ID: 10080226-00	5			Collection Date: 8/4/2010 12:35:00 PM							
Report Date: 17-Aug-10	-			Matrix: GROUNDWATER							
Analyses	Certification	RL	Oual	Result	Units	DF	Date Analyzed A	nalvst			
-											
EPA 600 365.4 (TOTAL)											
Phosphorus, Total (as P)	NELAP	0.075	Ĵ	0.045	mg/L	1	8/6/2010 2:18:49 PM	RCE			
STANDARD METHODS 18TH ED.	4500-NO2 B (TO	<u>FAL)</u>									
Nitrogen, Nitrite (as N)	NELAP	0.01		< 0.01	mg/L	1	8/5/2010 1:05:00 PM	MK			
STANDARD METHODS 18TH ED.	4500-NO3 F (TO)	<u>[AL)</u>									
Nitrogen, Nitrate (as N)	NELAP	0.050		0.054	mg/L	1	8/5/2010 1:35:00 PM	DLW			
SW-846 3005A, 6010B, METALS BY	ICP (DISSOLVE	<u>2D)</u>									
Antimony	NELAP	0.0500		< 0.0500	mg/L	1	8/10/2010 1:08:58 PM	LAL			
Arsenic	NELAP	0.0250		< 0.0250	mg/L	1	8/9/2010 5:24:59 PM	LAL			
Beryllium	NELAP	0.0010		0.0038	mg/L	1	8/10/2010 1:08:58 PM	LAL.			
Cadmium	NELAP	0.0020	J	0.0016	mg/L	1	8/9/2010 5:24:59 PM	LAL			
Chromium	NELAP	0.0100		0.0111	mg/L	1	8/9/2010 5:24:59 PM	LAL			
Copper	NELAP	0.0100		< 0.0100	mg/L	1	8/10/2010 1:08:58 PM	LAL			
Lead	NELAP	0.0400	J	0.014	mg/L	1	8/7/2010 2:34:31 AM	LAL			
Nickel	NELAP	0.0100		0.783	mg/L	1	8/9/2010 5:24:59 PM	LAL			
Selenium	NELAP	0.0500	J	0.030	mg/L	1	8/10/2010 1:08:58 PM	LAL			
Silver	NELAP	0.0100	J	0.0081	mg/L	1	8/10/2010 1:08:58 PM	LAL			
Zinç	NELAP	0.0100		0.914	mg/L	1	8/9/2010 5:24:59 PM	LAL			
SW-846 3005A, 6010B, METALS BY	ICP (TOTAL)										
Antimony	NELAP	0.0500		< 0.0500	mg/L	1	8/10/2010 2:37:23 PM	LAL			
Arsenic	NELAP	0.0250	J	0.011	mg/L	1	8/9/2010 3:57:30 PM	LAL			
Beryllium	NELAP	0.0010		0.0040	mg/L	1	8/10/2010 2:37:23 PM	LAL			
Cadmium	NELAP	0.0020	J	0.0016	mg/L	1	8/9/2010 3:57:30 PM	LAL			
Chromium	NELAP	0.0100	J	0.0052	mg/L	1	8/9/2010 3:57:30 PM	LAL			
Copper	NELAP	0.0100		< 0.0100	mg/L	1	8/10/2010 2:37:23 PM	LAL			
Lead	NELAP	0.0400	J	0.0087	mg/L	1	8/7/2010 4:14:37 AM	LAL			
Nickel	NELAP	0.0100		0.836	mg/L	1	8/9/2010 3:57:30 PM	LAL			
Selenium	NELAP	0.0500	J	0.045	mg/L	1	8/9/2010 3:57:30 PM	LAL			
Silver	NELAP	0.0100	J	0.0064	mg/L	1	8/11/2010 11:11:21 AM	JMW			
Zinc	NELAP	0.0100		0.958	mg/L	1	8/9/2010 3:57:30 PM	LAL			
SW-846 3005A, METALS BY GFAA	(DISSOLVED)										
Thallium 7841	NELAP	0.0020		< 0.0020	mg/L	1	8/12/2010 4:57:56 PM	MEK			
SW-846 3020A, METALS BY GFAA	(TOTAL)										
Thallium 7841	NELAP	0.0020	S	< 0.0020	mg/L	1	8/12/2010 5:56:24 PM	MEK			
SW-846 3510C, 8081A, CHLORINAT	ED PESTICIDES	BY GC/	ECD								
4,4'-DDD	NELAP	0.05		ND	μg/L	1	8/8/2010 9:40:00 PM	HE			
4,4´-DDE	NELAP	0.05		NÐ	µg/L	1	8/8/2010 9:40:00 PM	HE			
4,4'-DDT	NELAP	0.05		ND	µg/L	1	8/8/2010 9:40:00 PM	HE			
Alachior	NELAP	0.05		ND	μg/L	1	8/8/2010 9:40:00 PM	HE			
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Page 31 of 115

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-005 Report Date: 17-Aug-10 Client Project: BA Landfill 2028-004 Client Sample ID: CS-1 Collection Date: 8/4/2010 12:35:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 3510C, 8081A, CHLORIN	ATED PESTICIDES	S BY GC	/ECD					
Aldrin 1	NELAP	0.05		ND	μg/L	1	8/8/2010 9:40:00 PM	HE
alpha-BHC	NELAP	0.05		ND	μg/L	1	8/8/2010 9:40:00 PM	HE
beta-BHC	NELAP	0.05		ND	μg/L	1	8/8/2010 9:40:00 PM	HE
Chlordane	NELAP	0.50		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
delta-BHC	NELAP	0.05		ND	μg/L	1	8/8/2010 9:40:00 PM	HE
Dieldrin	NELAP	0.05		ND	μg/L	1	8/8/2010 9:40:00 PM	HE
Endosulfan	NELAP	0.05		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
Endosulfan II	NELAP	0.05		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
Endosulfan sulfate	NELAP	0.05		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
Endrin	NELAP	0.05		ND	μg/L	1	8/8/2010 9:40:00 PM	HE
Endrin aldehyde	NELAP	0.05		ND	μg/L	1	8/8/2010 9:40:00 PM	HE
Endrin ketone	NELAP	0.05		ND	μg/L	1	8/8/2010 9:40:00 PM	HE
gamma-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
Heptachlor	NELAP	0.05		ND	μg/L	1	8/8/2010 9:40:00 PM	HE
Heptachlor epoxide	NELAP	0.05		ND	µg/L	Ť	8/8/2010 9:40:00 PM	HE
Methoxychlor	NELAP	0.05		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
Toxaphene	NELAP	0.50		ND	µg/L	1	8/8/2010 9:40:00 PM	HE
Surr: Decachlorobiphenyl	5.5	54-150		55.8	%REC	1	8/8/2010 9:40:00 PM	HE
Surr: Tetrachloro-m-xylene		13-129		56.6	%REC	1	8/8/2010 9:40:00 PM	HE
SW-846 3510C, 8082, POLYCHLOI	RINATED BIPHEN	YLS (PC	BS) BY GO	/ECD				
Aroclor 1016	NELAP	1.00	_	ND	μg/L	1	8/9/2010 2:07:00 AM	HE
Aroclor 1221	NELAP	1.00		ND	μg/L	1	8/9/2010 2:07:00 AM	HE
Aroclor 1232	NELAP	1.00		ND	μg/L	1	8/9/2010 2:07:00 AM	HE
Aroclor 1242	NELAP	1.00		ND	µg/L	1	8/9/2010 2:07:00 AM	HE
Aroclor 1248	NELAP	1.00		ND	μg/L	1	8/9/2010 2:07:00 AM	HE
Aroclor 1254	NELAP	1.00		ND	µg/L	1	8/9/2010 2:07:00 AM	HE
Aroclor 1260	NELAP	1.00		ND	µg/L	1	8/9/2010 2:07:00 AM	HE
Surr: Decachlorobiphenyl		5-174		47.5	%REC	1	8/9/2010 2:07:00 AM	HÉ
Surr: Tetrachloro-meta-xylene	22.	2-139		53.0	%REC	1	8/9/2010 2:07:00 AM	HE
SW-846 3510C, 8270C, SEMI-VOLA	TILE ORGANIC C	OMPO	UNDS BY (C/MS				
1,2,4-Trichlorobenzene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
1,2-Dichlorobenzene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
1,3-Dichlorobenzene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
1,4-Dichlorobenzene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
2,4,5-Trichlorophenol	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
2,4,6-Trichlorophenol	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
2,4-Dichlorophenol	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
2,4-Dimethylphenol	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
					-			

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client:	A&M Engineering	Client Project:	BA Landfill 2028-004
WorkOrder:	10080226	Client Sample ID:	CS-1
Lab ID:	10080226-005	Collection Date:	8/4/2010 12:35:00 PM
Report Date:	17-Aug-10	Matrix:	GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOLA	TILE ORGANIC	COMPO	OUNDS BY	GC/MS				
2,4-Dinitrophenol	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
2,4-Dinitrotoluene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
2,6-Dinitrotoluene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
2-Chloronaphthalene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
2-Chlorophenol	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
2-Methoxy-4-methylphenol		0.023		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
2-Methylnaphthalene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
2-Nitroaniline	NELAP	0.091		ND	mg/L	1	8/10/2010 3:37:00 A	м омн
2-Nitrophenol	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
3,3'-Dichlorobenzidine	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
3-Nitroaniline	NELAP	0.091		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
4,6-Dinitro-2-methylphenol	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 AI	M DMH
4-Bromophenyl phenyl ether	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AI	M DMH
4-Chloro-3-methylphenol	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 AI	M DMH
4-Chloroaniline	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 AI	M DMH
4-Chlorophenyl phenyl ether	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 Ai	M DMH
4-Nitroaniline	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 AI	M DMH
4-Nitrophenol	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 AM	M DMH
Acenaphthene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
Acenaphthylene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	M DMH
Aniline	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 AM	M DMH
Anthracene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	M DMH
Azobenzene		0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	M DMH
Benzidine	NELAP	0.091		ND	mg/L	1	8/10/2010 3:37:00 AM	M DMH
Benzo(a)anthracene	NELAP	0.023		NÐ	mg/L	1	8/10/2010 3:37:00 AM	/ DMH
Benzo(a)pyrene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	/ DMH
Benzo(b)fluoranthene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AN	
Benzo(g,h,i)perylene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	A DMH
Benzo(k)fluoranthene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	I DMH
Benzoic acid	NELAP	0.114		ND	mg/L	1	8/10/2010 3:37:00 AM	1 DMH
Benzyl alcohol	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Bis(2-chloroethoxy)methane	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	1 DMH
Bis(2-chloroethyl)ether	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	1 DMH
Bis(2-chloroisopropyl)ether	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	1 DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.014		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Butyl benzyl phthalate	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Carbazole	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH
Chrysene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AM	DMH

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-005 Report Date: 17-Aug-10 Client Project: BA Landfill 2028-004 Client Sample ID: CS-1 Collection Date: 8/4/2010 12:35:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOL	ATILE ORGANIC	СОМРО	DUNDS BY	GC/MS			·	
Dibenzo(a,h)anthracene	NELAP	0.023		ND	mg/L	1	-8/10/2010 3:37:00 A	
Dibenzofuran	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	AM DMH
Diethyl phthalate	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	
Dimethyl phthalate	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	
Di-n-butyl phthalate	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	
Di-n-octyl phthalate	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	
Fluoranthene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
Fluorene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
Hexachlorobenzene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
Hexachlorobutadiene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
Hexachlorocyclopentadiene	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
Hexachloroethane	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
Indeno(1,2,3-cd)pyrene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
Isophorone	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
m,p-Cresol	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
Naphthalene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
Nitrobenzene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
N-Nitrosodimethylamine	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
N-Nitroso-di-n-propylamine	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
N-Nitrosodiphenylamine	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	M DMH
o-Cresol	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	м омн
Pentachlorophenol	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 A	м омн
Phenanthrene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 A	м омн
Phenol	NELAP	0.011		ND	mg/L	1	8/10/2010 3:37:00 AI	M DMH
Pyrene	NELAP	0.023		ND	mg/L	1	8/10/2010 3:37:00 AI	M DMH
Pyridine	NELAP	0.045		ND	mg/L	1	8/10/2010 3:37:00 AI	M DMH
Quinoline		0.011		ND	mg/L	1	8/10/2010 3:37:00 AI	M DMH
Surr: 2,4,6-Tribromophenol	27	.7-149		59.8	%REC	1	8/10/2010 3:37:00 Al	M DMH
Surr: 2-Fluorobiphenyl	44	.9-116		51.8	%REC	1	8/10/2010 3:37:00 AM	M DMH
Surr: 2-Fluorophenol	10.	6-78.7		29.8	%REC	1	8/10/2010 3:37:00 AM	M DMH
Surr: Nitrobenzene-d5	41	.4-104		60.2	%REC	1	8/10/2010 3:37:00 AM	M DMH
Surr: Phenol-d5	9.0	4-52.9		21.1	%REC	1	8/10/2010 3:37:00 AM	M DMH
Surr: p-Terphenyl-d14	23.	.5-114		44. 9	%REC	1	8/10/2010 3:37:00 AM	M DMH
SW-846 5030, 8260B, VOLATILE OI	RGANIC COMPOU	JNDS BY	GC/MS					
1,1,1,2-Tetrachloroethane	NELAP	5.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
1,1,1-Trichloroethane	NELAP	5.0		ND	μg/L	1	8/5/2010 7:15:00 PM	I CCF
1,1,2,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,1,2-Trichloro-1,2,2-trifluoroethane		20.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Analyse	2	Certification	RT.	Qual	Decult	Unite	DF	Data Analyzad
Report Date:	17-Aug-10				Μ	atrix: GR	OUNDW	ATER
Lab ID:	10080226-005				Collection	Date: 8/4	1/2010 1	2:35:00 PM
WorkOrder:	10080226				Client Samp	le ID: CS	i-1	
Client:	A&M Engineerin	ng			Client Pr	oject: BA	Landfill	2028-004

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	Analyst
SW-846 5030, 8260B, VOLATILE	CORGANIC COMPO	UNDS I	BY GC/MS					
1,1,2-Trichloroethane	NELAP	5.0	•	ND	μg/L	1	8/5/2010 7:15:00 PM	I CCF
1,1-Dichloro-2-propanone		50.0		ND	µg/L	1	8/5/2010 7:15:00 PM	1 CCF
1,1-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	1 CCF
1,1-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,1-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	I CCF
1,2,3-Trichlorobenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
1,2,3-Trichloropropane	NELAP	5.0		ND	μg/L	1	8/5/2010 7:15:00 PM	I CCF
1,2,3-Trimethylbenzene		5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,2,4-Trichlorobenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
1,2,4-Trimethylbenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
1,2-Dibromo-3-chloropropane	NELAP	5.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
1,2-Dibromoethane	NELAP	5.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
1,2-Dichlorobenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
1,2-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,3,5-Trimethylbenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
1,3-Dichlorobenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
1,3-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1,4-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
1-Chlorobutane	NELAP	5.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
2,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
2-Butanone	NELAP	25.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
2-Chloroethyl vinyl ether	NELAP	20.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
2-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
2-Hexanone	NELAP	25.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
2-Nitropropane	NELAP	50.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
4-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
4-Methyi-2-pentanone	NELAP	25.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
Acetone	NELAP	25.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Acetonitrile	NELAP	50.0		NÐ	µg/L	1	8/5/2010 7:15:00 PM	CCF
Acrolein	NELAP	100		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Acrylonitrile	NELAP	5.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
Allyl chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Benzene	NELAP	2.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Bromobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Bromochloromethane	NELAP	5.0		ND	μ g/L	1	8/5/2010 7:15:00 PM	CCF
Bromodichloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Bromoform	NELAP	5.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-005 Report Date: 17-Aug-10 Client Project: BA Landfill 2028-004 Client Sample ID: CS-1 Collection Date: 8/4/2010 12:35:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 5030, 8260B, YOLATH	LE ORGANIC COMPO	UNDS E	BY GC/MS				·	
Bromomethane	NELAP	10.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Butyl acetate		25.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
Carbon disulfide	NELAP	5.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
Carbon tetrachloride	NELAP	5.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
Chlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Chloroethane	NELAP	10.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
Chloroform	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Chloromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Chloroprene	NELAP	20.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
cis-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
cis-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
cis-1,4-Dichloro-2-butene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Cyclohexanone		50.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
Dibromochloromethane	NELAP	5.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
Dibromomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Dichlorodifluoromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Ethyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Ethyl ether	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Ethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Heptane		20.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Hexachloroethane	NELAP	10.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
lodomethane	NELAP	5.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
Isopropylbenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
m,p-Xylenes	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Methacrylonitrile	NELAP	10.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Methyl Methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Methyl tert-butyl ether	NELAP	2.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
Methylacrylate		10.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Methylene chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Naphthalene	NELAP	10.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
n-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
n-Hexane		20.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Nitrobenzene	NELAP	50.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
n-Propylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
o-Xylene	NELAP	5.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
Pentachloroethane	NELAP	20.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF



Page 36 of 115

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-005 Report Date: 17-Aug-10 Client Project: BA Landfill 2028-004 Client Sample ID: CS-1 Collection Date: 8/4/2010 12:35:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 5030, 8260B, VOLATILE (DRGANIC COMPO	DUNDS E	BY GC/MS				····	
p-Isopropyltoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Propionitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
sec-Butylbenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
Styrene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
tert-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Tetrachloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Tetrahydrofuran	NELAP	20.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Toluene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
trans-1,2-Dichloroethene	NELAP	5.0		NÐ	µg/L	1	8/5/2010 7:15:00 PM	CCF
trans-1,3-Dichloropropene	NELAP	5.0		ND	μg/L	1	8/5/2010 7:15:00 PM	CCF
trans-1,4-Dichloro-2-butene	NELAP	10.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Trichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Vinyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Vinyl chloride	NELAP	2.0		ND	µg/L	1	8/5/2010 7:15:00 PM	CCF
Surr: 1,2-Dichloroethane-d4	74	1.7-129		101.5	%REC	1	8/5/2010 7:15:00 PM	CCF
Surr: 4-Bromofluorobenzene		86-119		101.0	%REC	1	8/5/2010 7:15:00 PM	CCF
Surr: Dibromofluoromethane	81	.7-123		99.4	%REC	1	8/5/2010 7:15:00 PM	CCF
Surr: Toluene-d8	84	.3-114		96.0	%REC	1	8/5/2010 7:15:00 PM	CCF
<u>SW-846 7470A (DISSOLVED)</u>								
Mercury	NELAP 0	.00020		< 0.00020	mg/L	1	8/10/2010	MEK
<u>SW-846 7470A (TOTAL)</u>								
Mercury	NELAP 0.	.00020		< 0.00020	mg/L	1	8/10/2010	MEK
SW-846 9040B, LABORATORY AN	ALYZED							
Lab pH	NELAP	0		3.52		1	8/5/2010 2:43:00 PM	CS
<u>SW-846 9050A</u>								
Conductivity	NELAP	1		3330	µmhos/cm	1	8/6/2010	KNS

Sample Narrative

SW-846 3020A, Metals by GFAA (Total)

TI- Matrix interference present in sample.

SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS

Laboratory control sample duplicate was outside of lower recovery limits. Batch verified on MS recovery.

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client:	A&M Engineerir	ng			Client P	roject: BA	Landfil	1 2028-004		
WorkOrder:	10080226	-			Client Same	ole ID: CS	5-2			
Lab ID:	10080226-006				Collection	Date: 8/4	. <u>-</u> 1/2010 ·	12-15-00 PM		
Report Date:	17-Aug-10			Materia COOLEDWATED						
							IOUNDV		_	
Analyses	8	Certification	RL	Qual	Result	Units	DF	Date Analyzed Ar	nalyst	
EPA 600 365.4 (TOT	<u>'AL)</u>									
Phosphorus, Total (as	9 P)	NELAP	0.075	J	0.051	mg/L	1	8/6/2010 2:18:49 PM	RCE	
STANDARD METH	ODS 18TH ED, 45	00-NO2 B (TO)	<u>[AL)</u>							
Nitrogen, Nitrite (as N)	NELAP	0.01		0.01	mg/L	1	8/5/2010 1:05:00 PM	MK	
STANDARD METH	ODS 18TH ED. 45	00-NO3 F (TOT	<u>(AL)</u>							
Nitrogen, Nitrate (as N	1)	NELAP	0.050	J	0.038	mg/L	1	8/5/2010 1:35:00 PM	DLW	
<u>SW-846 3005A, 6010</u>	<u>B, METALS BY IC</u>	<u>CP (DISSOLVE</u>	<u>D)</u>							
Antimony		NELAP	0.0500		< 0.0500	mg/L	1	8/10/2010 1:16:03 PM	LAL	
Arsenic		NELAP	0.0250		< 0.0250	mg/L	1	8/9/2010 5:32:01 PM	LAL	
Beryllium		NELAP	0.0010		0.0038	mg/L	1	8/10/2010 1:16:03 PM	LAL	
Cadmium		NELAP	0.0020	J	0.0017	mg/L	1	8/9/2010 5:32:01 PM	LAL	
Chromium		NELAP	0.0100		< 0.0100	mg/L	1	8/10/2010 1:16:03 PM	LAL	
Copper		NELAP	0.0100		< 0.0100	mg/L	1	8/10/2010 1:16:03 PM	LAL	
Lead		NELAP	0.0400	J	0.015	mg/L	1	8/7/2010 2:41:36 AM	LAL	
Nickel		NELAP	0.0100		0.813	mg/L	1	8/9/2010 5:32:01 PM	LAL	
Selenium		NELAP	0.0500	J	0.031	mg/L	1	8/10/2010 1:16:03 PM	LAL	
Silver		NELAP	0.0100	J	0.0051	mg/L	1	8/11/2010 10:06:58 AM	JMW	
Zinc		NELAP	0.0100		0.951	mg/L	1	8/9/2010 5:32:01 PM	LAL	
<u>SW-846 3005A, 60101</u>	<u>3, METALS BY IC</u>	<u>(TOTAL)</u>								
Antimony		NELAP	0.0500		< 0.0500	mg/L	1	8/10/2010 2:44:21 PM	LAL	
Arsenic		NELAP	0.0250		< 0.0250	mg/L	1	8/9/2010 4:04:32 PM	LAL	
Beryllium		NELAP	0.0010		0.0039	mg/L	1	8/10/2010 2:44:21 PM	LAL	
Cadmium		NELAP	0.0020	J	0.0015	mg/L	1	8/10/2010 2:44:21 PM	LAL	
Chromium		NELAP	0.0100	J	0.0069	mg/L	1	8/9/2010 4:04:32 PM	LAL	
Copper		NELAP	0.0100		< 0.0100	mg/L	1	8/10/2010 2:44:21 PM	LAL	
Lead		NELAP	0.0400	J	0.015	mg/L	1	8/9/2010 4:04:32 PM	LAL	
Nickel		NELAP	0.0100		0.850	mg/L	1	8/9/2010 4:04:32 PM	LAL	
Selenium		NELAP	0.0500	J	0.046	mg/L	1	8/9/2010 4:04:32 PM	LAL	
Silver		NELAP	0.0100	J	0.0057	mg/L	1	8/11/2010 11:14:49 AM	JMW	
Zinc		NELAP	0.0100		0.985	mg/L	1	8/9/2010 4:04:32 PM	LAL	
SW-846 3005A, META	<u>ALS BY GFAA (D</u>	ISSOLVED)								
Thallium 784	1	NELAP	0.0020		< 0.0020	mg/L	1	8/12/2010 5:01:22 PM	MEK	
SW-846 3020A, META	ALS BY GFAA (TO	<u>OTAL)</u>								
Thallium 784	1	NELAP	0.0020		< 0.0020	mg/L	1	8/12/2010 5:17:38 PM	MEK	
SW-846 3510C, 8081A	<u>, CHLORINATED</u>) PESTICIDES	BY GC/	ECD						
4,4 -DDD		NELAP	0.05		ND	µg/L	1	8/8/2010 10:05:00 PM	HE	
4,4'-DDE		NELAP	0.05		ND	μg/L	1	8/8/2010 10:05:00 PM	ΗE	
4,4'-DDT		NELAP	0.05		ND	µg/L	1	8/8/2010 10:05:00 PM	HE	
Alachlor		NELAP	0.05		ND	µg/L	1	8/8/2010 10:05:00 PM	HE	

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BROKEN ARROW PLAN DEVELOPMENT

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-006

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: CS-2 Collection Date: 8/4/2010 12:15:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 3510C, 8081A, CHLORINA	ATED PESTICIDES	BY GC	/ECD					
Aldrin	NELAP	0.05	~	ND	µg/L	1	8/8/2010 10:05:00 PN	HE
alpha-BHC	NELAP	0.05		ND	μg/L	1	8/8/2010 10:05:00 PM	HE
beta-BHC	NELAP	0.05		ND	μg/L	1	8/8/2010 10:05:00 PM	HE
Chlordane	NELAP	0.50		ND	µg/L	1	8/8/2010 10:05:00 PM	HE
delta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 10:05:00 PM	HE
Dieldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 10:05:00 PM	HE
Endosulfan I	NELAP	0.05		ND	μg/L	1	8/8/2010 10:05:00 PM	HE
Endosulfan II	NELAP	0.05		ND	µg/L	1	8/8/2010 10:05:00 PM	HE
Endosulfan sulfate	NELAP	0.05		ND	µg/L	1	8/8/2010 10:05:00 PM	HE
Endrin	NELAP	0.05		ND	μg/L	1	8/8/2010 10:05:00 PM	HE
Endrin aldehyde	NELAP	0.05		ND	μg/L	1	8/8/2010 10:05:00 PM	HE
Endrin ketone	NELAP	0.05		ND	μg/L	1	8/8/2010 10:05:00 PM	HE
gamma-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 10:05:00 PM	HE
Heptachlor	NELAP	0.05		ND	μg/L	1	8/8/2010 10:05:00 PM	HE
Heptachlor epoxide	NELAP	0.05		ND	μg/L	1	8/8/2010 10:05:00 PM	HE
Methoxychlor	NELAP	0.05		ND	μg/L	1	8/8/2010 10:05:00 PM	HE
Toxaphene	NELAP	0.50		ND	ua/L	1	8/8/2010 10:05:00 PM	HE
Surr: Decachlorobiphenyl	5.5	4-150		47.8	%REC	1	8/8/2010 10:05:00 PM	HE
Surr: Tetrachloro-m-xylene	1	3-129		49.0	%REC	1	8/8/2010 10:05:00 PM	HE
SW-846 3510C, 8082, POLYCHLOR	INATED BIPHENY	LS (PC	BS) BY GC	/ECD				
Aroclor 1016	NELAP	1.00		ND	μg/L	1	8/9/2010 2:24:00 AM	HE
Aroclor 1221	NELAP	1.00		ND	µg/L	1	8/9/2010 2:24:00 AM	HE
Aroclor 1232	NELAP	1.00		ND	μg/L	1	8/9/2010 2:24:00 AM	HE
Aroclor 1242	NELAP	1.00		ND	µg/L	1	8/9/2010 2:24:00 AM	HE
Aroclor 1248	NELAP	1.00		ND	μg/L	1	8/9/2010 2:24:00 AM	HE
Aroclor 1254	NELAP	1.00		ND	µg/L	1	8/9/2010 2:24:00 AM	HE
Aroclor 1260	NELAP	1.00		ND	μg/L	1	8/9/2010 2:24:00 AM	HE
Surr: Decachlorobiphenyl	;	5-174		41.8	%REC	1	8/9/2010 2:24:00 AM	HE
Surr: Tetrachloro-meta-xylene	22.	2-139		46.1	%REC	1	8/9/2010 2:24:00 AM	HE
<u>SW-846 3510C, 8270C, SEMI-VOLA</u>	TILE ORGANIC C	ΟΜΡΟΙ	UNDS BY G	C/MS				
1,2,4-Trichlorobenzene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
1,2-Dichlorobenzene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
1,3-Dichlorobenzene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
1,4-Dichlorobenzene	NELAP (0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
2,4,5-Trichlorophenol	NELAP (0.024		ND	ma/L	1	8/10/2010 4:09:00 AM	DMH
2,4,6-Trichlorophenol	NELAP (0.024		ND	ma/L	1	8/10/2010 4:09:00 AM	DMH
2,4-Dichlorophenol	NELAP (0.024		ND	ma/L	1	8/10/2010 4:09:00 AM	DMH
2,4-Dimethylphenol	NELAP (0.024		ND	mg/L	(†	8/10/2010 4:09:00 AM	DMH
					- v	171		



5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-006

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: CS-2 Collection Date: 8/4/2010 12:15:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VC	DLATILE ORGANIC	COMPO	UNDS BY	GC/MS				
2,4-Dinitrophenol	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
2,4-Dinitrotoluene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
2,6-Dinitrotoluene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
2-Chloronaphthalene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
2-Chlorophenol	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
2-Methoxy-4-methylphenol		0.024		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
2-Methylnaphthalene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AI	M DMH
2-Nitroaniline	NELAP	0.095		ND	mg/L	1	8/10/2010 4:09:00 AI	M DMH
2-Nitrophenol	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 AI	M DMH
3,3'-Dichlorobenzidine	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AI	
3-Nitroaniline	NELAP	0.095		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
4,6-Dinitro-2-methylphenol	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
4-Bromophenyl phenyl ether	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
4-Chloro-3-methylphenol	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 AM	M DMH
4-Chloroaniline	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 AM	M DMH
4-Chlorophenyl phenyl ether	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	A DMH
4-Nitroaniline	NELAP	0.048		ND	ma/L	1	8/10/2010 4:09:00 AM	I DMH
4-Nitrophenol	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 AM	/ DMH
Acenaphthene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	/ DMH
Acenaphthylene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AN	1 DMH
Aniline	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 AN	1 DMH
Anthracene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	1 DMH
Azobenzene		0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	1 DMH
Benzidine	NELAP	0.095		ND	mg/L	= 10	8/10/2010 4:09:00 AM	1 DMH
Benzo(a)anthracene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	1 DMH
Benzo(a)pyrene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	I DMH
Benzo(b)fluoranthene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Benzo(g,h,i)perylene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AN	I DMH
Benzo(k)fluoranthene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Benzoic acid	NELAP	0.119		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Benzyl alcohol	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Bis(2-chloroethoxy)methane	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Bis(2-chloroethyl)ether	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Bis(2-chloroisopropy!)ether	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.014		ND	ma/L	1	8/10/2010 4:09:00 AM	DMH
Butyl benzyl phthalate	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Carbazole	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH
Chrysene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AM	DMH

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226 Lab ID: 10080226-006

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: CS-2 Collection Date: 8/4/2010 12:15:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOL/	ATILE ORGANIC	COMPC	UNDS BY	GC/MS				
Dibenzo(a,h)anthracene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
Dibenzofuran	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
Diethyl phthalate	NELAP	0.024		NÐ	mg/L	1	8/10/2010 4:09:00 A	M DMH
Dimethyl phthalate	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
Di-n-butyl phthalate	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
Di-n-octyl phthalate	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
Fluoranthene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
Fluorene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
Hexachlorobenzene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
Hexachlorobutadiene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
Hexachlorocyclopentadiene	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
Hexachloroethane	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
Indeno(1,2,3-cd)pyrene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
Isophorone	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
m,p-Cresol	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
Naphthalene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
Nitrobenzene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
N-Nitrosodimethylamine	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
N-Nitroso-di-n-propylamine	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
N-Nitrosodiphenylamine	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 AI	M DMH
o-Cresol	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
Pentachlorophenol	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 Al	M DMH
Phenanthrene	NELAP	0.024		ND	mg/L.	10	8/10/2010 4:09:00 AI	M DMH
Phenol	NELAP	0.012		ND	mg/L	1	8/10/2010 4:09:00 AI	M DMH
Pyrene	NELAP	0.024		ND	mg/L	1	8/10/2010 4:09:00 Af	M DMH
Pyridine	NELAP	0.048		ND	mg/L	1	8/10/2010 4:09:00 A	M DMH
Quinoline		0.012		ND	mg/L	1	8/10/2010 4:09:00 AM	A DMH
Surr: 2,4,6-Tribromophenol	27.	.7-149		66.4	%REC	1	8/10/2010 4:09:00 AM	A DMH
Surr: 2-Fluorobiphenyl	44.	.9-116		49.2	%REC	1	8/10/2010 4:09:00 AM	M DMH
Surr: 2-Fluorophenol	10.0	6-78.7		30.0	%REC	1	8/10/2010 4:09:00 AM	A DMH
Surr: Nitrobenzene-d5	41.	4-104		55.2	%REC	1	8/10/2010 4:09:00 AM	DMH
Surr: Phenol-d5	9.04	1-52.9		19.7	%REC	1	8/10/2010 4:09:00 AN	/ DMH
Surr: p-Terphenyl-d14	23.	5-114		65.4	%REC	1	8/10/2010 4:09:00 AM	A DMH
SW-846 5030, 8260B, VOLATILE OF	RGANIC COMPOU	JNDS BY	GC/MS					
1,1,1,2-Tetrachloroethane	NELAP	5.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
1,1,1-Trichloroethane	NELAP	5.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
1,1,2,2-Tetrachloroethane	NELAP	5.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
1,1,2-Trichloro-1,2,2-trifluoroethane		20.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF

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IL ELAP and NELAP Accredited - Accreditation #100226

Page 41 of 115

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-006 Report Date: 17-Aug-10 Client Project: BA Landfill 2028-004 Client Sample ID: CS-2 Collection Date: 8/4/2010 12:15:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 5030, 8260B, VOLATILE	ORGANIC COMPO	UNDS F	Y GC/MS					
1,1,2-Trichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,1-Dichloro-2-propanone		50.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,1-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,1-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,1-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,2,3-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,2,3-Trichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,2,3-Trimethylbenzene		5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,2,4-Trichlorobenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
1,2,4-Trimethylbenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
1,2-Dibromo-3-chloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,2-Dibromoethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,2-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,2-Dichloroethane	NELAP	5.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
1,2-Dichloropropane	NELAP	5.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
1,3,5-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,3-Dichlorobenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
1,3-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
1,4-Dichlorobenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
1-Chlorobutane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
2,2-Dichloropropane	NELAP	5.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
2-Butanone	NELAP	25.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
2-Chloroethyl vinyl ether	NELAP	20.0		ND	µg/L	213	8/5/2010 7:44:00 PM	CCF
2-Chlorotoluene	NELAP	5.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
2-Hexanone	NELAP	25.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
2-Nitropropane	NELAP	50.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
4-Chlorotoluene	NELAP	5.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
4-Methyl-2-pentanone	NELAP	25.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Acetone	NELAP	25.0	J	5.2	µg/L	1	8/5/2010 7:44:00 PM	CCF
Acetonitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Acrolein	NELAP	100		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
Acrylonitrile	NELAP	5.0		ND	μα/L	1	8/5/2010 7:44:00 PM	CCF
Allyl chloride	NELAP	5.0		ND	μα/L	1	8/5/2010 7:44:00 PM	CCF
Benzene	NELAP	2.0		ND	µa/L	1	8/5/2010 7:44:00 PM	CCF
Bromobenzene	NELAP	5.0		ND	ua/L	1	8/5/2010 7:44:00 PM	CCF
Bromochloromethane	NELAP	5.0		ND	ua/L	1	8/5/2010 7:44:00 PM	CCF
Bromodichloromethane	NELAP	5.0		ND	ua/L	1	8/5/2010 7:44:00 PM	CCE
Bromoform	NELAP	5.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF

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BROKEN ARROW PLAN DEVELOPMENT

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-006 Report Date: 17-Aug-10 Client Project: BA Landfill 2028-004 Client Sample ID: CS-2 Collection Date: 8/4/2010 12:15:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 5030, 8260B, VOLATII	E ORGANIC COMPO	UNDS F	BY GC/MS					
Bromomethane	NELAP	10.0	*	ND	µg/L	1	8/5/2010 7:44:00 PM	I CCF
Butyl acetate		25.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Carbon disulfide	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Carbon tetrachloride	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Chlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Chloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Chloroform	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Chloromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Chloroprene	NELAP	20.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
cis-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
cis-1,3-Dichloropropene	NELAP	5.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
cis-1,4-Dichloro-2-butene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Cyclohexanone		50.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Dibromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Dibromomethane	NELAP	5.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
Dichlorodifluoromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Ethyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Ethyl ether	NELAP	5.0		NÐ	µg/L	1	8/5/2010 7:44:00 PM	CCF
Ethyl methacrylate	NELAP	5.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
Ethylbenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
Heptane		20.0		ND	µg/L	3	8/5/2010 7:44:00 PM	CCF
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Hexachloroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
lodomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
isopropylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
m,p-Xylenes	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Methacrylonitrile	NELAP	10.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Methyl Methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Methyl tert-butyl ether	NELAP	2.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
Methylacrylate		10.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
Methylene chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Naphthalene	NELAP	10.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
n-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
n-Hexane		20.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Nitrobenzene	NELAP	50.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
n-Propylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
o-Xylene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Pentachloroethane	NELAP	20.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client:	A&M Engineering
WorkOrder:	10080226

Lab ID: 10080226-006

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: CS-2 Collection Date: 8/4/2010 12:15:00 PM Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 5030, 8260B, VOLATIL	E ORGANIC COMP	OUNDS H	BY GC/MS			-		
p-Isopropyltoluene	NELAP	5.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
Propionitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
sec-Butylbenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
Styrene	NELAP	5.0		ND	μ g /L	1	8/5/2010 7:44:00 PM	CCF
tert-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Tetrachloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Tetrahydrofuran	NELAP	20.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Toluene	NELAP	5.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
trans-1,2-Dichloroethene	NELAP	5.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
trans-1,3-Dichloropropene	NELAP	5.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
trans-1,4-Dichloro-2-butene	NELAP	10.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Trichloroethene	NELAP	5.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
Trichlorofluoromethane	NELAP	5.0		ND	μg/L	1	8/5/2010 7:44:00 PM	CCF
Vinyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Vinyl chloride	NELAP	2.0		ND	µg/L	1	8/5/2010 7:44:00 PM	CCF
Surr: 1,2-Dichloroethane-d4	7	4.7-129		101.2	%REC	1	8/5/2010 7:44:00 PM	CCF
Surr: 4-Bromofluorobenzene		86-119		103.1	%REC	1	8/5/2010 7:44:00 PM	CCF
Surr: Dibromofluoromethane	8	1.7-123		98.6	%REC	1	8/5/2010 7:44:00 PM	CCF
Surr: Toluene-d8	8	4.3-114		95.2	%REC	1	8/5/2010 7:44:00 PM	CCF
SW-846 7470A (DISSOLVED)								
Mercury	NELAP (0.00020		< 0.00020	mg/L	1	8/10/2010	MEK
<u>SW-846 7470A (TOTAL)</u>					-			
Mercury	NELAP (0.00020		< 0.00020	mg/L	1	8/10/2010	MEK
SW-846 9040B, LABORATORY	ANALYZED				-			
Lab pH	NELAP	0		3.53		1	8/5/2010 2:43:00 PM	CS
<u>SW-846 9050A</u>								
Conductivity	NELAP	1		3420	µmhos/cm	1	8/6/2010	KNS

Sample Narrative

SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS

Laboratory control sample duplicate was outside of lower recovery limits. Batch verified on MS recovery.

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client:	A&M Engineerin	ng			Client P	roject: BA	Landfil	2028-004	
WorkOrder:	10080226				Client Sam	ole ID: DL	JP		
Lab ID:	10080226-007				Collection	Date: 8/4	4/2010		
Report Date:	17-Aug-10				M	latrix: GF	ROUNDW	/ATEB	
Analyses		Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
· · · · · · · · · · · · · · · · · · ·									
EPA 600 365.4 (TOT	AL)								
Phosphorus, Total (as	s P)	NELAP	0.075		0.963	mg/L	1	8/6/2010 2:18:49 PM	RCE
STANDARD METH	<u>ODS 18TH ED. 45</u>	00-NO2 B (TO)	<u>(AL)</u>		0.01				
Nitrogen, Nitrite (as N) ODC 19771 ED - 454		10.0		0.01	mg/L	1	8/5/2010 1:05:00 PM	MK
Nitrogen Nitrate (as N	<u>UDS 181 H ED. 450</u> N	NELAP	<u>AL</u>] 0.050	1	0.045	ma/l	4	9/5/0010 1/05/00 DM	DIW
SW-846 3005 4 6010	'' R METALS RV I(TP (DISSOI VE	D)	0	0.045	mg/L		0/5/2010 1.35.00 PM	DLW
Antimony	D, METALS DI K	NELAP	0.0500		< 0.0500	ma/l	1	8/10/2010 1-23-06 PM	
Arsenic		NELAP	0.0250		< 0.0250	mg/L	1	8/9/2010 5:39:03 PM	
Beryllium		NELAP	0.0010		< 0.0010	ma/L	1	8/10/2010 1:23:06 PM	
Cadmium		NELAP	0.0020		0.0035	ma/L	1	8/9/2010 5:39:03 PM	LAI
Chromium		NELAP	0.0100	J	0.0090	ma/L	1	8/9/2010 5:39:03 PM	LAL
Copper		NELAP	0.0100		< 0.0100	mg/L	1	8/10/2010 1:23:06 PM	LAL
Lead		NELAP	0.0400	J	0.013	mg/L	1	8/7/2010 2:48:42 AM	LAL
Nickel		NELAP	0.0100		0.983	mg/L	1	8/9/2010 5:39:03 PM	LAL
Selenium		NELAP	0.0500	J	0.026	mg/L	1	8/10/2010 1:23:06 PM	LAL
Silver		NELAP	0.0100	L	0.0050	mg/L	1	8/11/2010 10:10:27 AM	JMW
Zinc		NELAP	0.0100		0.294	mg/L	1	8/9/2010 5:39:03 PM	LAL
<u>SW-846 3005A, 6010</u>	<u>B, METALS BY IC</u>	<u> (TOTAL)</u>							
Antimony		NELAP	0.0500		< 0.0500	mg/L	1	8/10/2010 2:51:21 PM	LAL
Arsenic		NELAP	0.0250		< 0.0250	mg/L	1	8/9/2010 4:11:35 PM	LAL
Beryllium		NELAP	0.0010	J	0.0007	mg/L	1	8/10/2010 2:51:21 PM	LAL
Cadmium		NELAP	0.0020		0.0028	mg/L	1	8/11/2010 11:28:59 AM	JMW
Chromium		NELAP	0.0100		0.0234	mg/L	1	8/9/2010 4:11:35 PM	LAL
Copper		NELAP	0.0100		0.0187	mg/L	1	8/10/2010 2:51:21 PM	LAL
Lead		NELAP	0.0400	J	0.024	mg/L	1	8/9/2010 4:11:35 PM	LAL
Nickel		NELAP	0.0100		1.06	mg/L	1	8/9/2010 4:11:35 PM	LAL
Selenium		NELAP	0.0500	J	0.032	mg/L	1	8/10/2010 2:51:21 PM	LAL
Silver		NELAP	0.0100	J	0.0063	mg/L	1	8/11/2010 11:18:18 AM	JMW
		NELAP (0.0100		0.388	mg/L	1	8/9/2010 4:11:35 PM	LAL
SW-846 3005A, MET	<u>ALS BY GFAA (DI</u> 1	ISSOLVED)	0000						
			J.0020		< 0.0020	mg/L	1	8/12/2010 5:04:46 PM	MEK
<u>SW-840 3020A, MET7</u> Thallium 794	<u>MS BY GFAA (TO</u> 1	<u>JTAL)</u> NELAD (0020		. 0.0000		4	0/40/0040 5-04-00 FM	
FTIGILIULT 704					< 0.0020	mg/L	'	8/12/2010 5:21:02 PM	MEK
4 4'-DDD	<u>, URLUKINA I ED</u>	NELAP	0.05	<u>ecn</u>	ND	uo/I	4	9/9/2010 10:00:00 034	ШΓ
4.4'-DDE		NELAP	0.05		ND	μg/L μα/Ι	1	8/8/2010 10:29:00 PM	HE
4.4'-DDT		NELAP	0.05		ND	10/l	1	8/8/2010 10:28:00 PM	HE
Alachlor		NELAP	0.05		ND	ua/L	1	8/8/2010 10:29:00 PM	HE
						r.a. =			



BROKEN ARROW PLAN DEVELOPMENT

Page 45 of 115

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226 Lab ID: 10080226-007

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: DUP Collection Date: 8/4/2010 Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8081A, CHLORIN	ATED PESTICIDES	BY GC	/ECD					
Aldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 ¥0:29:00 P	M HE
alpha-BHC	NELAP	0.05		ND	μg/L	1	8/8/2010 10:29:00 P	M HE
beta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PI	M HE
Chlordane	NELAP	0.50		ND	µg/L	1	8/8/2010 10:29:00 PI	M HE
delta-BHC	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PI	M HE
Dieldrin	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PI	и не
Endosulfan I	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PI	M HE
Endosulfan II	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PI	M HE
Endosulfan sulfate	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PI	M HE
Endrin	NELAP	0.05		ND	μg/L	1	8/8/2010 10:29:00 PM	M HE
Endrin aldehyde	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PM	N HE
Endrin ketone	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PM	A HE
gamma-BHC	NELAP	0.05		ND	μg/L	1	8/8/2010 10:29:00 PM	/ HE
Heptachlor	NELAP	0.05		ND	μg/L	1	8/8/2010 10:29:00 PM	/ HE
Heptachlor epoxide	NELAP	0.05		ND	μg/L	1	8/8/2010 10:29:00 PM	/ HE
Methoxychlor	NELAP	0.05		ND	µg/L	1	8/8/2010 10:29:00 PM	/ HE
Toxaphene	NELAP	0.50		ND	μg/L	1	8/8/2010 10:29:00 PM	A HE
Surr: Decachlorobiphenyl	5.5	54-150		61.6	%REC	1	8/8/2010 10:29:00 PN	A HE
Surr: Tetrachloro-m-xylene	1	3-129		60.2	%REC	1	8/8/2010 10:29:00 PM	/ HE
SW-846 3510C, 8082, POLYCHLO	RINATED BIPHEN	YLS (PC	BS) BY GO	C/ECD				
Aroclor 1016	NELAP	1.00		ND	µg/L	1	8/9/2010 2:41:00 AM	HE
Aroclor 1221	NELAP	1.00		ND	µg/L	1	8/9/2010 2:41:00 AM	HE
Aroclor 1232	NELAP	1.00		ND	µg/L	1	8/9/2010 2:41:00 AM	HE
Arocior 1242	NELAP	1.00		ND	µg/L	1	8/9/2010 2:41:00 AM	HE
Aroclor 1248	NELAP	1.00		ND	µg/L	1	8/9/2010 2:41:00 AM	HE
Aroclor 1254	NELAP	1.00		ND	µg/L	1	8/9/2010 2:41:00 AM	HE
Aroclor 1260	NELAP	1.00		ND	µg/L	21	8/9/2010 2:41:00 AM	HE
Surr: Decachlorobiphenyl		5-174		53.6	%REC	1	8/9/2010 2:41:00 AM	HE
Surr: Tetrachloro-meta-xylene	22.	2-139		55.2	%REC	1	8/9/2010 2:41:00 AM	HE
<u>SW-846 3510C, 8270C, SEMI-VOL</u>	ATILE ORGANIC C	OMPOU	UNDS BY C	GC/MS				
1,2,4-Trichlorobenzene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
1,2-Dichlorobenzene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
1,3-Dichlorobenzene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
1,4-Dichlorobenzene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
2,4,5-Trichlorophenol	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
2,4,6-Trichlorophenol	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
2,4-Dichlorophenol	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
2,4-Dimethylphenol	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH

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PLAN DEVELOPMENT

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-007

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: DUP Collection Date: 8/4/2010 Matrix: GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VC	DLATILE ORGANIC	COMPO	UNDS BY	GC/MS			· · · · · · · · · · · · · · · · · · ·	
2,4-Dinitrophenol	NELAP	0.050	p	ND	mg/L	1	8/10/2010 4:41:00 AI	M DMH
2,4-Dinitrotoluene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AI	M DMH
2,6-Dinitrotoluene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AI	и рин
2-Chioronaphthalene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AI	M DMH
2-Chlorophenol	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AI	M DMH
2-Methoxy-4-methylphenol		0.025		ND	mg/L	1	8/10/2010 4:41:00 Al	M DMH
2-Methylnaphthalene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 A	M DMH
2-Nitroaniline	NELAP	0.100		ND	mg/L	1	8/10/2010 4:41:00 AM	A DMH
2-Nitrophenol	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 AM	A DMH
3,3'-Dichlorobenzidine	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	I DMH
3-Nitroaniline	NELAP	0.100		ND	mg/L	1	8/10/2010 4:41:00 AM	/ DMH
4,6-Dinitro-2-methylphenol	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
4-Bromophenyl phenyl ether	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	1 DMH
4-Chloro-3-methylphenol	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 AM	M DMH
4-Chloroaniline	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 AM	M DMH
4-Chlorophenyi phenyi ether	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	1 DMH
4-Nitroaniline	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 AN	1 DMH
4-Nitrophenol	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 AN	1 DMH
Acenaphthene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Acenaphthylene	NELAP	0.025		NÐ	mg/L	1	8/10/2010 4:41:00 AM	1 DMH
Aniline	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Anthracene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	I DMH
Azobenzene		0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	T DMH
Benzidine	NELAP	0.100		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Benzo(a)anthracene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Benzo(a)pyrene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Benzo(b)fluoranthene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Benzo(g,h,i)perylene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Benzo(k)fluoranthene	NELAP	0.025		ND	mg/L	3	8/10/2010 4:41:00 AM	DMH
Benzoic acid	NELAP	0.125		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Benzyl alcohol	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Bis(2-chloroethoxy)methane	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Bis(2-chloroethyl)ether	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Bis(2-chloroisopropyl)ether	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.015		ND	ma/L	1	8/10/2010 4:41:00 AM	DMH
Butyl benzyl phthalate	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Carbazole	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
Chrysene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 AM	DMH
					-			

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PLAN DEVELOPMENT

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client:	A&M Engineering	Client Project:	BA Landfill 2028-004
WorkOrder:	10080226	Client Sample ID:	DUP
Lab ID:	10080226-007	Collection Date:	8/4/2010
Report Date:	17-Aug-10	Matrix:	GROUNDWATER

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VO	LATILE ORGANIC	СОМРС	UNDS BY	GC/MS				
Dibenzo(a,h)anthracene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00	AM DM
Dibenzofuran	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00	AM DM
Diethyl phthalate	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00	AM DM
Dimethyl phthalate	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00	AM DMI
Di-n-butyl phthalate	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 /	AM DMI
Di-n-octyl phthalate	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00	
Fluoranthene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00	AM DMI
Fluorene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 /	AM DMI
Hexachlorobenzene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 /	AM DMI
Hexachlorobutadiene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 /	
Hexachlorocyclopentadiene	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 /	
Hexachloroethane	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 /	
Indeno(1,2,3-cd)pyrene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 /	
Isophorone	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 /	AM DMH
m,p-Cresol	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 A	
Naphthalene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 /	
Nitrobenzene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 4	
N-Nitrosodimethylamine	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 A	
N-Nitroso-di-n-propylamine	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 A	
N-Nitrosodiphenylamine	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 A	
o-Cresol	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 A	
Pentachlorophenol	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 A	M DMH
Phenanthrene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 A	M DMH
Phenol	NELAP	0.012		ND	mg/L	1	8/10/2010 4:41:00 A	M DMH
Pyrene	NELAP	0.025		ND	mg/L	1	8/10/2010 4:41:00 A	M DMH
Pyridine	NELAP	0.050		ND	mg/L	1	8/10/2010 4:41:00 A	M DMH
Quinoline		0.012		ND	mg/L	1	8/10/2010 4:41:00 A	M DMH
Surr: 2,4,6-Tribromophenol	27	.7-149		75.6	%REC	1	8/10/2010 4:41:00 A	M DMH
Surr: 2-Fluorobiphenyl	44	.9-116		57.0	%REC	1	8/10/2010 4:41:00 A	M DMH
Surr: 2-Fluorophenol	10.	6-78.7		37.8	%REC	1	8/10/2010 4:41:00 A	M DMH
Surr: Nitrobenzene-d5	41.	4-104		64.0	%REC	1	8/10/2010 4:41:00 A	M DMH
Surr: Phenol-d5	9.04	4-52.9		24.6	%REC	1	8/10/2010 4:41:00 A	M DMH
Surr: p-Terphenyl-d14	23.	5-114		41.4	%REC	1	8/10/2010 4:41:00 A	M DMH
SW-846 5030, 8260B, VOLATILE (DRGANIC COMPOU	JNDS BY	GC/MS					
1,1,1,2-Tetrachloroethane	NELAP	5.0		ND	μg/L	1	8/5/2010 8:14:00 PM	/ CCF
1,1,1-Trichloroethane	NELAP	5.0		ND	μg/L	1	8/5/2010 8:14:00 PM	/ CCF
1,1,2,2-Tetrachloroethane	NELAP	5.0		ND	μg/L	1	8/5/2010 8:14:00 PM	A CCF
1,1,2-Trichloro-1,2,2-trifluoroethane		20.0		ND	µg/L	1	8/5/2010 8:14:00 PM	A CCF



ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Report Date:	17-Aug-10	Matrix:	GROUNDWATER
Lab ID:	10080226-007	Collection Date:	8/4/2010
WorkOrder:	10080226	Client Sample ID:	DUP
Client:	A&M Engineering	Client Project:	BA Landfill 2028-004

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 5030, 8260B, VOLATILE	ORGANIC COMPO	UNDS E	BY GC/MS				· · · · · · · · · · · · · · · · · · ·	
1,1,2-Trichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,1-Dichloro-2-propanone		50.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,1-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,1-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,1-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,2,3-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,2,3-Trichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,2,3-Trimethylbenzene		5.0		ND	μg/L	1	8/5/2010 8:14:00 PM	CCF
1,2,4-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,2,4-Trimethylbenzene	NELAP	5.0		ND	μα/L	1	8/5/2010 8:14:00 PM	CCF
1,2-Dibromo-3-chloropropane	NELAP	5.0		ND	μα/L	1	8/5/2010 8:14:00 PM	CCF
1,2-Dibromoethane	NELAP	5.0		ND	ug/L	1	8/5/2010 8:14:00 PM	CCF
1,2-Dichlorobenzene	NELAP	5.0		ND	ua/L	1	8/5/2010 8:14:00 PM	COF
1,2-Dichloroethane	NELAP	5.0		ND	μα/L	1	8/5/2010 8:14:00 PM	CCF
1,2-Dichloropropane	NELAP	5.0		ND	μg/L	1	8/5/2010 8:14:00 PM	CCF
1,3,5-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
1,3-Dichlorobenzene	NELAP	5.0		ND	μα/L	1	8/5/2010 8:14:00 PM	CCF
1,3-Dichloropropane	NELAP	5.0		ND	µa/L	1	8/5/2010 8:14:00 PM	CCF
1,4-Dichlorobenzene	NELAP	5.0		ND	μα/L	1	8/5/2010 8:14:00 PM	CCF
1-Chlorobutane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
2,2-Dichloropropane	NELAP	5.0		ND	ua/L	1	8/5/2010 8:14:00 PM	CCF
2-Butanone	NELAP	25.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
2-Chloroethyl vinyl ether	NELAP	20.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
2-Chlorotoluene	NELAP	5.0		ND	µa/L	1	8/5/2010 8:14:00 PM	CCF
2-Hexanone	NELAP	25.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
2-Nitropropane	NELAP	50.0		ND	μg/L	1	8/5/2010 8:14:00 PM	CCF
4-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
4-Methyl-2-pentanone	NELAP	25.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Acetone	NELAP	25.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Acetonitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Acrolein	NELAP	100		ND	μg/L	1	8/5/2010 8:14:00 PM	CCF
Acrylonitrile	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Allyl chloride	NELAP	5.0		ND	μq/L	1	8/5/2010 8:14:00 PM	CCF
Benzene	NELAP	2.0		ND	ug/L	1	8/5/2010 8:14:00 PM	CCF
Bromobenzene	NELAP	5.0		ND	ua/L	1	8/5/2010 8:14:00 PM	CCF
Bromochloromethane	NELAP	5.0		ND	ua/L	1	8/5/2010 8:14:00 PM	CCF
Bromodichloromethane	NELAP	5.0		ND	ua/L	1	8/5/2010 8:14:00 PM	CCF
Bromoform	NELAP	5.0		ND	ua/L	1	8/5/2010 8:14:00 PM	CCE
					1.9	-		


ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Analyse	8	Cartification	DI	Onal	Decult	Unito	DE	Data Analanad
Report Date:	17-Aug-10				Μ	atrix: GF	IOUNDW	/ATER
Lab ID:	10080226-007				Collection	Date: 8/4	1/2010	
WorkOrder:	10080226				Client Samp	le ID: DU	IP	
Client:	A&M Engineerii	ng			Client Pr	oject: BA	Landfill	2028-004

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	nalyst
SW-846 5030, 8260B, VOLATII	LE ORGANIC COMPO	UNDS B	Y GC/MS	_				
Bromomethane	NELAP	10.0		ND	μg/L	1	8/5/2010 8:14:00 PM	CCF
Butyl acetate		25.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Carbon disulfide	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Carbon tetrachloride	NELAP	5.0		ND	µg/L	31	8/5/2010 8:14:00 PM	CCF
Chlorobenzene	NELAP	5.0		NÐ	µg/L	1	8/5/2010 8:14:00 PM	CCF
Chloroethane	NELAP	10.0		ND	μg/L	1	8/5/2010 8:14:00 PM	CCF
Chloroform	NELAP	5.0		ND	μg/L	1	8/5/2010 8:14:00 PM	CCF
Chloromethane	NELAP	10.0		ND	μg/L	1	8/5/2010 8:14:00 PM	CCF
Chloroprene	NELAP	20.0		ND	μg/L	1	8/5/2010 8:14:00 PM	CCF
cis-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
cis-1,3-Dichloropropene	NELAP	5.0		ND	μg/L	1	8/5/2010 8:14:00 PM	CCF
cis-1,4-Dichloro-2-butene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Cyclohexanone		50.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Dibromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Dibromomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Dichlorodifluoromethane	NELAP	10.0		ND	μg/L	1	8/5/2010 8:14:00 PM	CCF
Ethyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Ethyl ether	NELAP	5.0		ND	μg/L	1	8/5/2010 8:14:00 PM	CCF
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Ethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Heptane		20.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Hexachlorobutadiene	NELAP	5.0		ND	μg/L	1	8/5/2010 8:14:00 PM	CCF
Hexachloroethane	NELAP	10.0		ND	µg/L	4	8/5/2010 8:14:00 PM	CCF
lodomethane	NELAP	5.0		ND	μ g/ L	1	8/5/2010 8:14:00 PM	CCF
lsopropylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
m,p-Xylenes	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Methacrylonitrile	NELAP	10.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Methyl Methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Methylacrylate		10.0		ND	μg/L	1	8/5/2010 8:14:00 PM	CCF
Methylene chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Naphthalene	NELAP	10.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
n-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
n-Hexane		20.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Nitrobenzene	NELAP	50.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
n-Propylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
o-Xylene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Pentachloroethane	NELAP	20.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF



PLAN DEVELOPMENT

IL ELAP and NELAP Accredited - Accreditation #100226

Page 50 of 115

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Analyses	Certification	RL	Oual	Result	Units	DF	Date Analyzed	Analyst
Report Date:	17-Aug-10			М	atrix: GF	OUNDW	/ATER	
Lab ID:	10080226-007			Collection	Date: 8/4	\$/2010		
WorkOrder:	10080226			Client Samp	le ID: DU	JР		
Client:	A&M Engineering			Client P	oject: BA	Landfill	2028-004	

			<i>A</i>		Omes	DI	Dute Analyzeu Al	anyst
SW-846 5030, 8260B, VOLATILE C	RGANIC CON	MPOUNDS B	Y GC/MS	5				
p-Isopropyltoluene	NELAP	5.0		^ ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Propionitrile	NELAP	50.0		ND	μg/L	1	8/5/2010 8:14:00 PM	CCF
sec-Butylbenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 8:14:00 PM	CCF
Styrene	NELAP	5.0		ND	μg/L	5	8/5/2010 8:14:00 PM	CCF
tert-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Tetrachloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Tetrahydrofuran	NELAP	20.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Toluene	NELAP	5.0		ND	μg/L	1	8/5/2010 8:14:00 PM	CCF
trans-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
trans-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
trans-1,4-Dichloro-2-butene	NELAP	10.0		ND	μg/L	1	8/5/2010 8:14:00 PM	CCF
Trichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Vinyl acetate	NELAP	10.0		ND	μg/L	1	8/5/2010 8:14:00 PM	CCF
Vinyl chloride	NELAP	2.0		ND	µg/L	1	8/5/2010 8:14:00 PM	CCF
Surr: 1,2-Dichloroethane-d4		74.7-129		101.4	%REC	1	8/5/2010 8:14:00 PM	CCF
Surr: 4-Bromofluorobenzene		86-119		101.4	%REC	1	8/5/2010 8:14:00 PM	CCF
Surr: Dibromofluoromethane		81.7-123		98.9	%REC	1	8/5/2010 8:14:00 PM	CCF
Surr: Toluene-d8		84.3-114		95.7	%REC	1	8/5/2010 8:14:00 PM	CCF
SW-846 7470A (DISSOLVED)								
Mercury	NELAP	0.00020		< 0.00020	mg/L	1	8/10/2010	MEK
<u>SW-846 7470A (TOTAL)</u>								
Mercury	NELAP	0.00020	J	0.00011	mg/L	1	8/10/2010	MEK
SW-846 9040B, LABORATORY ANA	ALYZED							
Lab pH	NELAP	0		6.01		1	8/5/2010 2:43:00 PM	CS
<u>SW-846 9050A</u>								
Conductivity	NELAP	1		3520	µmhos/cm	1	8/6/2010	KNS

Sample Narrative

SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS

Laboratory control sample duplicate was outside of lower recovery limits. Batch verified on MS recovery.

RECEIVED March 13, 2017 BROKEN ARROW PLAN DEVELOPMENT

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client:	A&M Engineerin	g			Client P	roject: B/	A Landfill	2028-004	
WorkOrder:	10080226				Client Sam	ole ID: Fl	ELD		
Lab ID:	10080226-008				Collection	Date: 8/	4/2010		
Report Date:	17-Aug-10				N	latrix• Δ(
Analyse	s	Certification	RL	Qual	Result	Units	DF	Date Analyzed	nalyst
EPA 600 365.4 (TOT	FAL)								
Phosphorus, Total (as	s P)	NELAP	0.075	J	0.045	mg/L	1	8/6/2010 2:18:49 PN	RCE
STANDARD METH	ODS 18TH ED. 45	00-NO2 B (TOT	Г <u>АL)</u>						
Nitrogen, Nitrite (as N	l)	NELAP	0.01		0.01	mg/L	1	8/5/2010 1:05:00 PM	MK
STANDARD METH	ODS 18TH ED. 45	<u>10-NO3 F (TO1</u>	<u>[AL]</u>						
Nitrogén, Nitrate (as r	N)	NELAP	0.050	J	0.042	mg/L	1	8/5/2010 1:35:00 PM	DLW
<u>SW-846 3005A, 6010</u>	<u>B, METALS BY IC</u>	<u>P (DISSOLVE</u>	<u>D)</u>						
Anumony			0.0500		< 0.0500	mg/L		8/10/2010 1:30:10 PN	I LAL
Rondlium			0.0250		< 0.0250	mg/L	ж.	8/9/2010 5:46:06 PM	LAL
Codmium			0.0010		< 0.0010	mg/L	1	8/10/2010 1:30:10 PN	I LAL
Chromium			0.0020	J	0.0004	mg/L	1	8/9/2010 5:46:06 PM	LAL
Copper			0.0100	J	0.0085	mg/∟	1	8/9/2010 5:46:06 PM	LAL
Load			0.0100		< 0.0100	mg/∟	1	8/10/2010 1:30:10 PM	I LAL
Nickel			0.0400		< 0.0400	mg/∟	1	8/7/2010 2:55:46 AM	LAL
Selenium			0.0100	,	< 0.0100	mg/L		8/9/2010 5:46:06 PM	LAL
Silver			0.0500	7	0.040	mg/L	1 彩	8/9/2010 5:46:06 PM	
Zinc			0.0100	1	< 0.0100	mg/∟	<u>9</u> :	8/10/2010 1:30:10 PN	
SW 846 20054 6010	р. метате ру 10	DUTOTAL	0.0100	7	0.0040	mg/L	r	8/9/2010 5:46:06 PM	LAL.
Antimony	<u>D, METALS DI IC</u>		0.0500		< 0.0E00	ma a /l	4	0/10/0010 0-50-00 DM	
Arsenic		NELAP	0.0250		< 0.0300	mg/L	1	0/10/2010 2:58:20 PM	
Beryllium			0.0200		< 0.0250	mg/⊑		9/9/2010 4:18:37 PM	
Cadmium		NELAP	0.0010		< 0.0010	mg/L	4	0/10/2010 2.30.20 PM	LAL
Chromium			0.0020	.1	0.0020	mg/L	1	8/0/2010 4:16:37 PM	
Copper		NELAP	0.0100	Ŭ	< 0.0000	mg/L	1	9/10/2010 4.16.37 PW	
Lead		NELAP	0.0400		< 0.0400	mg/L	1	9/0/2010 2.36.20 FM	
Nickel		NELAP	0.0100		< 0.0100	ma/l	1	8/9/2010 4:18:37 PM	
Selenium		NELAP	0.0500	L	0.027	ma/l	1	8/9/2010 4:18:37 PM	LAL
Silver		NELAP	0.0100	-	< 0.0100	ma/l	1	8/10/2010 2:58:20 PM	
Zinc		NELAP	0.0100	J	0.0060	ma/l	1	8/9/2010 4-18-37 PM	
SW-846 3005A, META	ALS BY GFAA (DI	SSOLVED)					·	0.0/2010 4.10.0/ 1 (4	LAL
Thallium 784	1	NELAP (0.0020		< 0.0020	ma/L	1	8/12/2010 5:08:12 PM	MEK
SW-846 3020A, META	ALS BY GFAA (TO	DTAL)							III LIX
Thallium 784	1	NELAP (0.0020		< 0.0020	ma/L	1	8/12/2010 5:10:54 PM	MEK
SW-846 3510C, 8081A	. CHLORINATED	PESTICIDES	BY GC/I	ECD					MLEIN
4,4'-DDD		NELAP	0.05		ND	µg/L	1	8/8/2010 10:54:00 PM	HE
4,4'-DDE		NELAP	0.05		ND	μg/L	1	8/8/2010 10:54:00 PM	HE
4,4'-DDT		NELAP	0.05		ND	μg/L	1	8/8/2010 10:54:00 PM	HE
Alachior		NELAP	0.05		ND	μg/L	1	8/8/2010 10:54:00 PM	HE



5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
Report Date: 17-Aug-10				М	latrix: AC	DUEOUS		
Lab ID: 10080226-008				Collection	Date: 8/4	4/2010		
WorkOrder: 10080226				Client Samp	le ID: Fil	ELD		
Client: A&M Engineer	ing			Client P	roject: B/	A Landfill	2028-004	

SW-846 3510C, 8081A, CHLORIN	ATED PESTICI	DES BY GC/E	CD				
Aldrin	NELAP	0.05	ND	μg/L	1	8/8/2010 10:54:00 PM	HE
alpha-BHC	NELAP	0.05	ND	μg/L	1	8/8/2010 10:54:00 PM	HE
beta-BHC	NELAP	0.05	ND	μg/L	1	8/8/2010 10:54:00 PM	HE
Chiordane	NELAP	0.50	ND	µg/L	1	8/8/2010 10:54:00 PM	HE
delta-BHC	NELAP	0.05	ND	µg/L	1	8/8/2010 10:54:00 PM	HE
Dieldrin	NELAP	0.05	ND	µg/L	1	8/8/2010 10:54:00 PM	HE
Endosulfan	NELAP	0.05	ND	µg/L	1	8/8/2010 10:54:00 PM	HE
Endosulfan II	NELAP	0.05	ND	µg/L	1	8/8/2010 10:54:00 PM	HE
Endosulfan sulfate	NELAP	0.05	ND	μg/L	1	8/8/2010 10:54:00 PM	HE
Endrin	NELAP	0.05	ND	µg/L	1	8/8/2010 10:54:00 PM	HE
Endrin aldehyde	NELAP	0.05	ND	µg/L	1	8/8/2010 10:54:00 PM	HE
Endrin ketone	NELAP	0.05	ND	μg/L	1	8/8/2010 10:54:00 PM	HE
gamma-BHC	NELAP	0.05	ND	μg/L	1	8/8/2010 10:54:00 PM	HE
Heptachlor	NELAP	0.05	ND	µg/L	1	8/8/2010 10:54:00 PM	HE
Heptachlor epoxide	NELAP	0.05	ND	μg/L	1	8/8/2010 10:54:00 PM	HE
Methoxychlor	NELAP	0.05	ND	µg/L	1	8/8/2010 10:54:00 PM	HE
Toxaphene	NELAP	0.50	ND	µg/L	1	8/8/2010 10:54:00 PM	HE
Surr: Decachlorobiphenyl		5.54-1 50	68.5	%REC	1	8/8/2010 10:54:00 PM	HE
Surr: Tetrachloro-m-xylene		13-129	59.2	%REC	1	8/8/2010 10:54:00 PM	HE
SW-846 3510C, 8082, POLYCHLO	RINATED BIPH	ENYLS (PCBS	S) BY GC/ECD				
Aroclor 1016	NELAP	1.00	ND	μg/L	1	8/9/2010 2:59:00 AM	HE
Aroclor 1221	NELAP	1.00	ND	µg/L	1	8/9/2010 2:59:00 AM	HE
Aroclor 1232	NELAP	1.00	ND	µg/L	1	8/9/2010 2:59:00 AM	HE
Arocior 1242	NELAP	1.00	ND	µg/L	1	8/9/2010 2:59:00 AM	HE
Aroclor 1248	NELAP	1.00	NÐ	µg/L	1	8/9/2010 2:59:00 AM	HE
Aroclor 1254	NELAP	1.00	ND	µg/L	1	8/9/2010 2:59:00 AM	HE
Aroclor 1260	NELAP	1.00	ND	µg/L	8	8/9/2010 2:59:00 AM	HE
Surr: Decachlorobiphenyl		5-174	60.9	%REC	1	8/9/2010 2:59:00 AM	HE
Surr: Tetrachloro-meta-xylene		22.2-139	67.0	%REC	1	8/9/2010 2:59:00 AM	HE
<u>SW-846 3510C, 8270C, SEMI-VOL</u>	TILE ORGAN	IC COMPOUN	DS BY GC/MS				
1,2,4-Trichlorobenzene	NELAP	0.026	ND	mg/L	1	8/10/2010 5:13:00 AM	ĎМН
1,2-Dichlorobenzene	NELAP	0.026	ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
1,3-Dichlorobenzene	NELAP	0.026	ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
1,4-Dichlorobenzene	NELAP	0.026	ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
2,4,5-Trichlorophenol	NELAP	0.026	ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
2,4,6-Trichlorophenol	NELAP	0.026	ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
2,4-Dichlorophenol	NELAP	0.026	ND	mg/L	1	8/10/2010 5:13:00 AM	DMH
2,4-Dimethylphenol	NELAP	0.026	ND	mg/L	1	8/10/2010 5:13:00 AM	DMH



Page 53 of 115

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226 Lab ID: 10080226-008

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: FIELD Collection Date: 8/4/2010 Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-V(DLATILE ORGANIC	COMPO	UNDS BY	GC/MS			· · · ·	
2,4-Dinitrophenol	NELAP	0.053		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
2,4-Dinitrotoluene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 A	
2,6-Dinitrotoluene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
2-Chloronaphthalene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
2-Chlorophenol	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
2-Methoxy-4-methylphenol		0.026		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
2-Methylnaphthalene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
2-Nitroaniline	NELAP	0.105		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
2-Nitrophenol	NELAP	0.053		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
3,3 ⁻ -Dichlorobenzidine	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
3-Nitroaniline	NELAP	0.105		ND	ma/L	1	8/10/2010 5:13:00 A	M DMH
4,6-Dinitro-2-methylphenol	NELAP	0.053		ND	ma/L	1	8/10/2010 5:13:00 A	M DMH
4-Bromophenyl phenyl ether	NELAP	0.026		ND	ma/L	1	8/10/2010 5:13:00 A	M DMH
4-Chloro-3-methylphenol	NELAP	0.053		ND	ma/L	1	8/10/2010 5:13:00 A	M DMH
4-Chloroaniline	NELAP	0.053		ND	ma/L	1	8/10/2010 5:13:00 A	M DMH
4-Chlorophenyl phenyl ether	NELAP	0.026		ND	ma/L	1	8/10/2010 5:13:00 A	M DMH
4-Nitroaniline	NELAP	0.053		ND	ma/L	1	8/10/2010 5:13:00 A	M DMH
4-Nitrophenol	NELAP	0.053		ND	ma/L	1	8/10/2010 5:13:00 A	М ОМН
Acenaphthene	NELAP	0.026		ND	ma/L	1	8/10/2010 5:13:00 A	M DMH
Acenaphthylene	NELAP	0.026		ND	ma/L	1	8/10/2010 5:13:00 A	M DMH
Aniline	NELAP	0.053		ND	ma/L	1	8/10/2010 5:13:00 A	M DMH
Anthracene	NELAP	0.026		ND	ma/L	1	8/10/2010 5:13:00 A	M DMH
Azobenzene		0.026		ND	ma/L	1	8/10/2010 5:13:00 A	M DMH
Benzidine	NELAP	0.105		ND	mg/L	1	8/10/2010 5:13:00 AI	M DMH
Benzo(a)anthracene	NELAP	0.026		ND	ma/L	1	8/10/2010 5:13:00 AI	M DMH
Benzo(a)pyrene	NELAP	0.026		ND	ma/L	1	8/10/2010 5:13:00 Ai	M DMH
Benzo(b)fluoranthene	NELAP	0.026		ND	ma/L	1	8/10/2010 5:13:00 AI	M DMH
Benzo(g,h,i)perylene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	M DMH
Benzo(k)fluoranthene	NELAP	0.026		ND	ma/L	1	8/10/2010 5:13:00 AM	M DMH
Benzoic acid	NELAP	0.132		ND	mg/L	1	8/10/2010 5:13:00 AM	M DMH
Benzyl alcohol	NELAP	0.053		ND	ma/L	1	8/10/2010 5:13:00 AM	M DMH
Bis(2-chloroethoxy)methane	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	A DMH
Bis(2-chloroethyl)ether	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	/ DMH
Bis(2-chloroisopropyl)ether	NELAP	0.026		ND	ma/L	1	8/10/2010 5:13:00 AM	A DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.016		ND	ma/L	1	8/10/2010 5:13:00 AM	A DMH
Butyl benzyl phthalate	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	/ DMH
Carbazole	NELAP	0.053		ND	ma/L	1	8/10/2010 5:13:00 AM	
Chrysene	NELAP	0.026		ND	ma/L	1	8/10/2010 5:13:00 AM	
-		-				,		



PLAN DEVELOPMENT

IL ELAP and NELAP Accredited - Accreditation #100226

Page 54 of 115

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Report Date:	17-Aug-10	Matrix:	AQUEOUS
D	47.4		
Lab ID:	10080226-008	Collection Date:	8/4/2010
WorkOrder:	10080226	Client Sample ID:	FIELD
Client:	A&M Engineering	Client Project:	BA Landfill 2028-004

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOL	ATILE ORGANIC	СОМРО	UNDS BY	GC/MS				
Dibenzo(a,h)anthracene	NELAP	0.026		/ ND	mg/L	1	8/10/2010 5:13:00 A	
Dibenzofuran	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
Diethyl phthalate	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
Dimethyl phthalate	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
Di-n-butyi phthalate	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
Di-n-octyl phthalate	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
Fluoranthene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
Fluorene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
Hexachlorobenzene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
Hexachlorobutadiene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
Hexachlorocyclopentadiene	NELAP	0.053		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
Hexachloroethane	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
Indeno(1,2,3-cd)pyrene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
Isophorone	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
m,p-Cresol	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
Naphthalene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
Nitrobenzene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 A	M DMH
N-Nitrosodimethylamine	NELAP	0.053		ND	mg/L	1	8/10/2010 5:13:00 AI	M DMH
N-Nitroso-di-n-propylamine	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AI	M DMH
N-Nitrosodiphenylamine	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 Ai	M DMH
o-Cresol	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AI	M DMH
Pentachloropheno!	NELAP	0.053		ND	mg/L	1	8/10/2010 5:13:00 AI	M DMH
Phenanthrene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AI	M DMH
Phenol	NELAP	0.013		ND	mg/L	1	8/10/2010 5:13:00 AM	M DMH
Pyrene	NELAP	0.026		ND	mg/L	1	8/10/2010 5:13:00 AM	M DMH
Pyridine	NELAP	0.053		ND	mg/L	1	8/10/2010 5:13:00 AM	M DMH
Quinoline		0.013		ND	mg/L	1	8/10/2010 5:13:00 AM	M DMH
Surr: 2,4,6-Tribromophenol	27	.7-149		74.6	%REC	1	8/10/2010 5:13:00 AM	M DMH
Surr: 2-Fluorobiphenyl	44	.9-116		56.9	%REC	1	8/10/2010 5:13:00 AM	M DMH
Surr: 2-Fluorophenol	10.	6-78.7		33.0	%REC	1	8/10/2010 5:13:00 AM	A DMH
Surr: Nitrobenzene-d5	41	.4-104		58.3	%REC	1	8/10/2010 5:13:00 AM	/ DMH
Surr: Phenol-d5	9.0	4-52.9		21.0	%REC	1	8/10/2010 5:13:00 AM	/ DMH
Surr: p-Terphenyl-d14	23.	.5-114		86.8	%REC	1	8/10/2010 5:13:00 AN	I DMH
SW-846 5030, 8260B, VOLATILE O	RGANIC COMPOU	UNDS BY	GC/MS					
1,1,1,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,1,1-Trichloroethane	NELAP	5.0		ND	μg/L	1	8/5/2010 4:48:00 PM	CCF
1,1,2,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,1,2-Trichloro-1,2,2-trifluoroethane		20.0		ND	µg/∟	1	8/5/2010 4:48:00 PM	CCF



March 13, 2017

BROKEN ARROW PLAN DEVELOPMENT

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client:	A&M Engineering	Client Project:	BA Landfill 2028-004
WorkOrder:	10080226	Client Sample ID:	FIELD
Lab ID:	10080226-008	Collection Date:	8/4/2010
Report Date:	17-Aug-10	Matrix:	AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	alyst
SW-846 5030, 8260B, VOLATILE	ORGANIC COMPO	UNDS B	SY GC/MS					
1,1,2-Trichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PN	I CCF
1,1-Dichloro-2-propanone		50.0		ND	µg/L	1	8/5/2010 4:48:00 PN	CCF
1,1-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,1-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,1-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,2,3-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,2,3-Trichloropropane	NELAP	5.0		ND	μg/L	1	8/5/2010 4:48:00 PM	CCF
1,2,3-Trimethylbenzene		5.0		ND	μg/L	1	8/5/2010 4:48:00 PM	CCF
1,2,4-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,2,4-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,2-Dibromo-3-chloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,2-Dibromoethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,2-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,2-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,3,5-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,3-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,3-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1,4-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
1-Chlorobutane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
2,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
2-Butanone	NELAP	25.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
2-Chloroethyl vinyl ether	NELAP	20.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
2-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
2-Hexanone	NELAP	25.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
2-Nitropropane	NELAP	50.0		ND	µg/L	4	8/5/2010 4:48:00 PM	CCF
4-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
4-Methyl-2-pentanone	NELAP	25.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Acetone	NELAP	25.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Acetonitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Acrolein	NELAP	100		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Acrylonitrile	NELAP	5.0		ND	μg/L	1	8/5/2010 4:48:00 PM	CCF
Allyl chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Benzene	NELAP	2.0		ND	μg/L	1	8/5/2010 4:48:00 PM	CCF
Bromobenzene	NELAP	5.0		ND	µg/L	31	8/5/2010 4:48:00 PM	CCF
Bromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Bromodichloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Bromoform	NELAP	5.0		ND	μg/L	1	8/5/2010 4:48:00 PM	CCF
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IL ELAP and NELAP Accredited - Accreditation #100226

Page 56 of 115

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Analyse	s	Certification	RL	Oual	Result	Units	DF	Date Analyzed
Report Date:	17-Aug-10				Μ	atrix: A	QUEOUS	
Lab ID:	10080226-008				Collection	Date: 8	/4/2010	
WorkOrder:	10080226				Client Samp	le ID: F	IELD	
Client:	A&M Engineerin	ng			Client Pr	oject: E	A Landfil	2028-004

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 5030, 8260B, VOLATIL	E ORGANIC COMPO	UNDS E	Y GC/MS				···	
Bromomethane	NELAP	10.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Butyl acetate		25.0		ND	μg/L	1	8/5/2010 4:48:00 PM	CCF
Carbon disulfide	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Carbon tetrachloride	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Chlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Chioroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Chloroform	NELAP	5.0		ND	μg/L	1	8/5/2010 4:48:00 PM	CCF
Chloromethane	NELAP	10.0		ND	μg/L	1	8/5/2010 4:48:00 PM	CCF
Chloroprene	NELAP	20.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
cis-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
cis-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
cis-1,4-Dichloro-2-butene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Cyclohexanone		50.0		ND	μg/L	1	8/5/2010 4:48:00 PM	CCF
Dibromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Dibromomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	COF
Dichlorodifluoromethane	NELAP	10.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Ethyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Ethyl ether	NELAP	5.0		ND	μg/L	1	8/5/2010 4:48:00 PM	CCF
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Ethylbenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 4:48:00 PM	CCF
Heptane		20.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Hexachioroethane	NELAP	10.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
lodomethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
isopropylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
m,p-Xylenes	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Methacrylonitrile	NELAP	10.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Methyl Methacrylate	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Methylacrylate		10.0		ND	μg/L	1	8/5/2010 4:48:00 PM	CCF
Methylene chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Naphthalene	NELAP	10.0		ND	μg/L	1	8/5/2010 4:48:00 PM	CCF
n-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
n-Hexane		20.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Nitrobenzene	NELAP	50.0		ND	μg/L	1	8/5/2010 4:48:00 PM	CCF
n-Propylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
o-Xylene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	CCF
Pentachloroethane	NELAP	20.0		ND	μg/L	1	8/5/2010 4:48:00 PM	CCF

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March 13, 2017 BROKEN ARROW PLAN DEVELOPMENT

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineeri WorkOrder: 10080226 Lab ID: 10080226-008 Report Date: 17-Aug-10		Client Project: BA Landfill 2028-004 Client Sample ID: FIELD Collection Date: 8/4/2010 Matrix: AQUEOUS								
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst		
SW-846 5030, 8260B, VOLATILE OR	GANIC COMPO	UNDS E	BY GC/MS		_					
p-Isopropyltoluene	NELAP	5.0		ND	μg/L	1	8/5/2010 4:48:00 Pl	M CCF		
Propionitrile	NELAP	50.0		ND	µg/L	1	8/5/2010 4:48:00 PI	M CCF		
sec-Butylbenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 4:48:00 PI	M CCF		
Styrene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PI	VI CCF		
tert-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PI	M CCF		
Tetrachloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 P	M CCF		
Tetrahydrofuran	NELAP	20.0		ND	µg/L	1	8/5/2010 4:48:00 PM	V CCF		
Toluene	NELAP	5.0		ND	μg/L	1	8/5/2010 4:48:00 PM	A CCF		
trans-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	I CCF		
trans-1,3-Dichloropropene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	A CCF		
trans-1,4-Dichloro-2-butene	NELAP	10.0		ND	µg/L	1	8/5/2010 4:48:00 PM	A CCF		
Trichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:48:00 PM	A CCF		
Trichlorofluoromethane	NELAP	5.0		ND	ua/L	1	8/5/2010 4:48:00 PM	A CCF		

ND

ND

101.5

102.4

100.2

95.7

< 0.00020

< 0.00020

7.99

519

µg/L

µg/L

%REC

%REC

%REC

%REC

mg/L

mg/L

µmhos/cm

1

1

1

1

1

1

1

1

1

1

Sample Narrative

SW-846 9050A Conductivity

Vinyl acetate

Vinyl chloride

Mercury

Mercury

Lab pH

Surr: 1,2-Dichloroethane-d4

Surr: 4-Bromofluorobenzene

Surr: Dibromofluoromethane

SW-846 7470A (DISSOLVED)

SW-846 9040B, LABORATORY ANALYZED

Surr: Toluene-d8

SW-846 7470A (TOTAL)

SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS

Laboratory control sample duplicate was outside of lower recovery limits. Batch verified on MS recovery.

NELAP

NELAP

NELAP

NELAP

NELAP

NELAP

10.0

2.0

74.7-129

81.7-123

84.3-114

0.00020

0.00020

0

1

86-119

RECEIVED March 13, 2017 **BROKEN ARROW** PLAN DEVELOPMENT

8/5/2010 4:48:00 PM

8/10/2010

8/10/2010

8/5/2010 2:43:00 PM

8/6/2010

CCF

CCF

CCF

CCF

CCF

CCF

MEK

MEK

CS

KNS

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

WorkOrder: 10080226 Client Sample ID: EQUIP Lab ID: 10080226-009 Collection Date: 8/4/2010 Report Date: 17-Aug-10 Matrix: AQUEOUS	Ivet
Lab ID: 10080226-009Collection Date: 8/4/2010Report Date: 17-Aug-10Matrix: AQUEOUS	Ivet
Report Date: 17-Aug-10 Matrix: AQUEOUS	Ivet
	Ivet
	wet
Analyses Certification RL Qual Result Units DF Date Analyzed Ana	IYSL
EPA 600 365.4 (TOTAL)	
Phosphorus, Total (as P) NELAP 0.107 J 0.068 mg/L 1 8/11/2010 8:05:44 PM	RCE
STANDARD METHODS 18TH ED. 4500-NO2 B (TOTAL)	
Nitrogen, Nitrite (as N) NELAP 0.01 0.01 mg/L 1 8/5/2010 1:05:00 PM	MK
STANDARD METHODS 18TH ED. 4500-NO3 F (TOTAL)	
Nitrogen, Nitrate (as N) NELAP 0.050 J 0.046 mg/L 1 8/5/2010 1:35:00 PM	DLW
SW-846 3005A, 6010B, METALS BY ICP (DISSOLVED)	
Antimony NELAP 0.0500 < 0.0500 mg/L 1 8/10/2010 1:37:01 PM	LAL
Arsenic NELAP 0.0250 < 0.0250 mg/L 1 8/9/2010 5:52:51 PM	LAL
Beryinum NELAP 0.0010 <0.0010 mg/L 1 8/10/2010 1:37:01 PM	LAL
Cadmium NELAP 0.0020 J 0.0003 mg/L 1 8/9/2010 5:52:51 PM	LAL
Chromidin NELAP 0.0100 J 0.0079 mg/L 1 8/9/2010 5:52:51 PM	LAL
Copper NELAP 0.0100 < 0.0100 mg/L 1 8/10/2010 1:37:01 PM	LAL
Lead NELAP 0.0400 < 0.0400 mg/L 1 8/7/2010 3:14:53 AM	LAL
NICKEI NELAP 0.0100 < 0.0100 mg/L 1 8/9/2010 5:52:51 PM	LAL
Selenium NELAP 0.0500 J 0.042 mg/L 1 8/9/2010 5:52:51 PM I	
Zing NELAP 0.0100 < 0.0100 mg/L 1 8/10/2010 1:37:01 PM	
2000 J 0.0077 mg/L 1 8/9/2010 5:52:51 PM	LAL
$\frac{5 \text{ W} - 640 \text{ JOUDA, OUTUD, WEITALS BTICK (TOTAL)}}{\text{Antimony}}$	
Arsenic NELAP 0.0250 <0.0350 mg/L 1 9/0/0010 4/05/04 PM L	
Benvillium NELAP 0.0010 <0.0230 mg/L 1 8/9/2010 2:25:24 PM L	
Cadmium NELAP 0.0020 < 0.0010 mg/L 1 8/0/2010 3.05:10 PM L	
Chromium NELAP 0.0100 J 0.0020 mg/L 1 8/0/2010 4:25:24 PM L	
Copper NELAP 0.0100 <0.0100 mg/L 1 8/10/2010 2:05:10 PM L	
Lead NELAP 0.0400 < 0.0400 mg/L 1 8/0/2010 3.05.10 PM L	
Nickel NELAP 0.0100 < 0.0100 mg/l 1 8/9/2010 4:25:24 PM L	
Selenium NELAP 0.0500 J 0023 mg/L 1 8/9/2010 4:25:24 PM L	
Silver NELAP 0.0100 < 0.0100 mg/l 1 8/10/2010 3:05:10 PM /	ΔI
Zinc NELAP 0.0100 0.0460 mg/L 1 8/9/2010 0.05:24 PM L	
SW-846 3005A, METALS BY GFAA (DISSOLVED)	
Thailium 7841 NELAP 0.0020 < 0.0020 mg/L 1 8/12/2010 5:11:38 PM	ЛЕК
SW-846 3020A, METALS BY GFAA (TOTAL)	
Thallium 7841 NELAP 0.0020 < 0.0020 mg/L 1 8/12/2010 5:14:16 PM M	/IEK
SW-846 3510C, 8081A, CHLORINATED PESTICIDES BY GC/ECD	
4,4'-DDD NELAP 0.05 ND μg/L 1 8/8/2010 11:18:00 PM Η	IE
4,4'-DDE NELAP 0.05 ND µg/L 1 8/8/2010 11:18:00 PM H	łE
4,4'-DDT NELAP 0.05 ND µg/L 1 8/8/2010 11:18:00 PM F	ŀΕ
Alachlor NELAP 0.05 ND µg/L 1 8/8/2010 11:18:00 PM H	IE,



5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A& WorkOrder: 10	M Engineering			Client Pr	roject: BA	Landfill	2028-004
Lab ID: 10	080226-009			Collection	Date: 8/4	4/2010	
Report Date: 17-	Aug-10			М	latrix: AC	UEOUS	
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed Analyst

SW-846 3510C, 8081A, CHLORIN	ATED PESTICII	DES BY GC/ECI)				
Aldrin	" NELAP	0.05	ND	μg/L	1	8/8/2010 11:18:00 PM	HE
alpha-BHC	NELAP	0.05	ND	µg/L	1	8/8/2010 11:18:00 PM	HE
beta-BHC	NELAP	0.05	ND	µg/L	1	8/8/2010 11:18:00 PM	HE
Chlordane	NELAP	0.50	ND	µg/L	1	8/8/2010 11:18:00 PM	HE
delta-BHC	NELAP	0.05	ND	µg/L	1	8/8/2010 11:18:00 PM	HE
Dieldrin	NELAP	0.05	ND	µg/L	1	8/8/2010 11:18:00 PM	HE
Endosulfan I	NELAP	0.05	ND	μg/L	1	8/8/2010 11:18:00 PM	HE
Endosulfan II	NELAP	0.05	ND	µg/L	1	8/8/2010 11:18:00 PM	HE
Endosulfan sulfate	NELAP	0.05	ND	μg/L	1	8/8/2010 11:18:00 PM	HE
Endrin	NELAP	0.05	ND	μg/L	1	8/8/2010 11:18:00 PM	HE
Endrin aldehyde	NELAP	0.05	ND	µg/L	1	8/8/2010 11:18:00 PM	HE
Endrin ketone	NELAP	0.05	ND	µg/L	1	8/8/2010 11:18:00 PM	HE
gamma-BHC	NELAP	0.05	ND	µg/L	1	8/8/2010 11:18:00 PM	HE
Heptachlor	NELAP	0.05	ND	µg/L	1	8/8/2010 11:18:00 PM	HE
Heptachlor epoxide	NELAP	0.05	ND	µg/L	1	8/8/2010 11:18:00 PM	HE
Methoxychlor	NELAP	0.05	ND	μg/L	1	8/8/2010 11:18:00 PM	HE
Toxaphene	NELAP	0.50	ND	µg/L	1	8/8/2010 11:18:00 PM	HE
Surr: Decachlorobiphenyl		5.54-150	42.6	%REC	1	8/8/2010 11:18:00 PM	HE
Surr: Tetrachloro-m-xylene		13-129	45.8	%REC	1	8/8/2010 11:18:00 PM	HE
SW-846 3510C, 8082, POLYCHLO	RINATED BIPH	ENYLS (PCBS)]	<u>BY GC/ECD</u>				
Aroclor 1016	NELAP	1.00	ND	μg/L	1	8/9/2010 3:16:00 AM	HE
Aroclor 1221	NELAP	1.00	ND	µg/L	1	8/9/2010 3:16:00 AM	ΗE
Aroclor 1232	NELAP	1.00	ND	µg/L	S 1 2	8/9/2010 3:16:00 AM	HE
Aroclor 1242	NELAP	1.00	ND	µg/L	1	8/9/2010 3:16:00 AM	HE
Aroclor 1248	NELAP	1.00	ND	µg/L	1	8/9/2010 3:16:00 AM	HE
Aroclor 1254	NELAP	1.00	ND	µg/L	1	8/9/2010 3:16:00 AM	HE
Aroclor 1260	NELAP	1.00	ND	µg/L	1	8/9/2010 3:16:00 AM	HE
Surr: Decachlorobiphenyl		5-174	37.0	%REC	1	8/9/2010 3:16:00 AM	HE
Surr: Tetrachloro-meta-xylene		22.2-139	49.5	%REC	1	8/9/2010 3:16:00 AM	ΗĘ
SW-846 3510C, 8270C, SEMI-VOLA	ATILE ORGANI	C COMPOUND	S BY_GC/MS				
1,2,4-Trichlorobenzene	NELAP	0.010	ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
1,2-Dichlorobenzene	NELAP	0.010	ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
1,3-Dichlorobenzene	NELAP	0.010	ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
1,4-Dichlorobenzene	NELAP	0.010	ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
2,4,5-Trichlorophenol	NELAP	0.010	ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
2,4,6-Trichlorophenol	NELAP	0.010	ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
2,4-Dichlorophenol	NELAP	0.010	ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
2,4-Dimethylphenol	NELAP	0.010	ND	mg/L	1	8/10/2010 5:44:00 AM	DMH



PLAN DEVELOPMENT

IL ELAP and NELAP Accredited - Accreditation #100226

Page 60 of 115

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226 Lab ID: 10080226-009

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: EQUIP Collection Date: 8/4/2010 Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 3510C, 8270C, SEMI-VO	DLATILE ORGANIC	сомро	UNDS BY	GC/MS				
2,4-Dinitrophenol	NELAP	0.020		ND	mg/L	1	8/10/2010 5:44:00 AM	I DMH
2,4-Dinitrotoluene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
2,6-Dinitrotoluene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	I DMH
2-Chloronaphthalene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
2-Chlorophenol	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
2-Methoxy-4-methylphenol		0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
2-Methylnaphthalene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
2-Nitroaniline	NELAP	0.040		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
2-Nitrophenol	NELAP	0.020		ND	ma/L	1	8/10/2010 5:44:00 AM	DMH
3,3'-Dichlorobenzidine	NELAP	0.010		ND	ma/L	1	8/10/2010 5:44:00 AM	DMH
3-Nitroaniline	NELAP	0.040		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
4,6-Dinitro-2-methylphenol	NELAP	0.020		ND	ma/L	1	8/10/2010 5:44:00 AM	DMH
4-Bromophenyl phenyl ether	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
4-Chloro-3-methylphenol	NELAP	0.020		ND	ma/L	1	8/10/2010 5:44:00 AM	DMH
4-Chloroaniline	NELAP	0.020		NÐ	mg/L	1	8/10/2010 5:44:00 AM	DMH
4-Chlorophenyl phenyl ether	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
4-Nitroaniline	NELAP	0.020		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
4-Nitrophenol	NELAP	0.020		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Acenaphthene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Acenaphthylene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Aniline	NELAP	0.020		ND	mg/L	212	8/10/2010 5:44:00 AM	DMH
Anthracene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Azobenzene		0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	ĎМН
Benzidine	NELAP	0.040		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Benzo(a)anthracene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Benzo(a)pyrene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Benzo(b)fluoranthene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Benzo(g,h,i)perylene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Benzo(k)fluoranthene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Benzoic acid	NELAP	0.050		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Benzyl alcohol	NELAP	0.020		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Bis(2-chloroethoxy)methane	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Bis(2-chloroethyl)ether	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Bis(2-chloroisopropyl)ether	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.006		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Butyl benzyl phthalate	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Carbazole	NELAP	0.020		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Chrysene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH

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Page 61 of 115

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226 Lab ID: 10080226-009

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: EQUIP Collection Date: 8/4/2010 Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3510C, 8270C, SEMI-VOL	ATILE ORGANIC	COMPC	UNDS BY	GC/MS				
Dibenzo(a,h)anthracene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 A	M ~DMH
Dibenzofuran	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 A	M DMH
Diethyl phthalate	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 A	M DMH
Dimethyl phthalate	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 Al	M DMH
Di-n-butyl phthalate	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AI	M DMH
Di-n-octyl phthalate	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 Al	M DMH
Fluoranthene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AI	V DMH
Fluorene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AI	M DMH
Hexachlorobenzene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AI	M DMH
Hexachlorobutadiene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	J DMH
Hexachlorocyclopentadiene	NELAP	0.020		ND	mg/L	1	8/10/2010 5:44:00 AM	A DMH
Hexachloroethane	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Indeno(1,2,3-cd)pyrene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	I DMH
Isophorone	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	I DMH
m,p-Cresol	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	/ DMH
Naphthalene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Nitrobenzene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	/ DMH
N-Nitrosodimethylamine	NELAP	0.020		ND	mg/L	1	8/10/2010 5:44:00 AN	
N-Nitroso-di-n-propylamine	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AN	DMH
N-Nitrosodiphenylamine	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
o-Cresol	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	1 DMH
Pentachlorophenol	NELAP	0.020		ND	mg/L	1	8/10/2010 5:44:00 AM	I DMH
Phenanthrene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Phenol	NELAP	0.005		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Pyrene	NELAP	0.010		ND	mg/L	1	8/10/2010 5:44:00 AN	I DMH
Pyridine	NELAP	0.020		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Quinoline		0.005		ND	mg/L	1	8/10/2010 5:44:00 AM	DMH
Surr: 2,4,6-Tribromophenol	27	.7-149		88.0	%REC	1	8/10/2010 5:44:00 AM	DMH
Surr: 2-Fluorobiphenyl	44.	.9-116		75.8	%REC	1	8/10/2010 5:44:00 AM	DMH
Surr: 2-Fluorophenol	10.0	6-78.7		40.1	%REC	1	8/10/2010 5:44:00 AM	DMH
Surr: Nitrobenzene-d5	41.	4-104		79.6	%REC	1	8/10/2010 5:44:00 AM	DMH
Surr: Phenol-d5	9.04	4-52.9		24.2	%REC	1	8/10/2010 5:44:00 AM	DMH
Surr: p-Terphenyl-d14	23.	5-114		95.6	%REC	1	8/10/2010 5:44:00 AM	DMH
SW-846 5030, 8260B, VOLATILE OJ	RGANIC COMPOU	JNDS BY	GC/MS					
1,1,1,2-Tetrachloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,1,1-Trichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,1,2,2-Tetrachloroethane	NELAP	5.0		ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
1,1,2-Trichloro-1,2,2-trifluoroethane		20.0		ND	μg/L	1	8/5/2010 4:18:00 PM	CCF

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March 13, 2017 BROKEN ARROW PLAN DEVELOPMENT

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Analyse		Certification	RI.	Onal	Result	Unite	DF	Data Analyzad	
Report Date:	17-Aug-10				M	latrix: AC	UEOUS		
Lab ID:	10080226-009				Collection	Date: 8/4	\$/2010		
WorkOrder:	10080226				Client Samp	ole ID: EC	QUIP		
Client:	A&M Engineering	ng			Client P	roject: BA	Landfill	2028-004	

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	.nalyst
SW-846 5030, 8260B, VOLATILE	ORGANIC COMPO	UNDS B	BY GC/MS					
1,1,2-Trichloroethane	NELAP	5.0		ND 1	μg/L	1	8/5/2010 4:18:00 PM	CCF
1,1-Dichloro-2-propanone		50.0		ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
1,1-Dichloroethane	NELAP	5.0		ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
1,1-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,1-Dichloropropene	NELAP	5.0		ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
1,2,3-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,2,3-Trichloropropane	NELAP	5.0		ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
1,2,3-Trimethylbenzene		5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,2,4-Trichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,2,4-Trimethylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,2-Dibromo-3-chloropropane	NELAP	5.0		ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
1,2-Dibromoethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,2-Dichlorobenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
1,2-Dichloroethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,3,5-Trimethylbenzene	NELAP	5.0		ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
1,3-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1,3-Dichloropropane	NELAP	5.0		ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
1,4-Dichlorobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
1-Chlorobutane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
2,2-Dichloropropane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
2-Butanone	NELAP	25.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
2-Chloroethyl vinyl ether	NELAP	20.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
2-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
2-Hexanone	NELAP	25.0		ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
2-Nitropropane	NELAP	50.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
4-Chlorotoluene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
4-Methyl-2-pentanone	NELAP	25.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Acetone	NELAP	25.0	J	5.2	µg/L	1	8/5/2010 4:18:00 PM	CCF
Acetonitrile	NELAP	50.0		ND	µg/L	<u>(†</u>	8/5/2010 4:18:00 PM	CCF
Acroleín	NELAP	100		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Acrylonitrile	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Allyl chloride	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Benzene	NELAP	2.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Bromobenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Bromochloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Bromodichloromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Bromoform	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF



Page 63 of 115

5445 HORSESHOE LAKE ROAD COLLINSVILLE. ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

							· · · · ·		
Analyses	i (Certification	RL	Qual	Result	Unit	s DF	Date Analyzed	Analyst
Report Date:	17-Aug-10				Μ	latrix:	AQUEOUS		
Lab ID:	10080226-009				Collection	Date:	8/4/2010		
WorkOrder:	10080226				Client Samp	ole ID:	EQUIP		
Client:	A&M Engineering)			Client P	roject:	BA Landfil	II 2028-004	

SW-846 5030, 8260B, VOLATH	LE ORGANIC COM	POUNDS BY G	C/MS				
Bromomethane	NELAP	10.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Butyl acetate		25.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Carbon disulfide	NELAP	5.0	DN	µg/L	1	8/5/2010 4:18:00 PM	CCF
Carbon tetrachloride	NELAP	5.0	ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
Chlorobenzene	NELAP	5.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Chloroethane	NELAP	10.0	ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
Chloroform	NELAP	5.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Chloromethane	NELAP	10.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Chloroprene	NELAP	20.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
cis-1,2-Dichloroethene	NELAP	5.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
cis-1,3-Dichloropropene	NELAP	5.0	ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
cis-1,4-Dichloro-2-butene	NELAP	5.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Cyclohexanone		50.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Dibromochloromethane	NELAP	5.0	ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
Dibromomethane	NELAP	5.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Dichlorodifluoromethane	NELAP	10.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Ethyl acetate	NELAP	10.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Ethyl ether	NELAP	5.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Ethyl methacrylate	NELAP	5.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Ethylbenzene	NELAP	5.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Heptane		20.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Hexachlorobutadiene	NELAP	5.0	ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
Hexachloroethane	NELAP	10.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
lodomethane	NELAP	5.0	ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
Isopropylbenzene	NELAP	5.0	ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
m,p-Xylenes	NELAP	5.0	ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
Methacrylonitrile	NELAP	10.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Methyl Methacrylate	NELAP	5.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Methyl tert-butyl ether	NELAP	2.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Methylacrylate		10.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Methylene chloride	NELAP	5.0	ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
Naphthalene	NELAP	10.0	ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
n-Butylbenzene	NELAP	5.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
n-Hexane		20.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Nitrobenzene	NELAP	50.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
n-Propylbenzene	NELAP	5.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
o-Xylene	NELAP	5.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Pentachloroethane	NELAP	20.0	ND	µg/L	1	8/5/2010 4:18:00 PM	CCF



BROKEN ARROW PLAN DEVELOPMENT

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226 Lab ID: 10080226-009

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: EQUIP Collection Date: 8/4/2010 Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 5030, 8260B, VOLATILE	ORGANIC COMP	OUNDS B	Y GC/MS	5	·			
p-Isopropyltoluene	NELAP	5.0		- ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
Propionitrile	NELAP	50.0		ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
sec-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Styrene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
tert-Butylbenzene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Tetrachloroethene	NELAP	5.0		ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
Tetrahydrofuran	NELAP	20.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Toluene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
trans-1,2-Dichloroethene	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
trans-1,3-Dichloropropene	NELAP	5.0		ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
trans-1,4-Dichloro-2-butene	NELAP	10.0		ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
Trichloroethene	NELAP	5.0		ND	μg/L	1	8/5/2010 4:18:00 PM	CCF
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Vinyl acetate	NELAP	10.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Vinyl chloride	NELAP	2.0		ND	µg/L	1	8/5/2010 4:18:00 PM	CCF
Surr: 1,2-Dichloroethane-d4	7	4.7-129		101.6	%REC	1	8/5/2010 4:18:00 PM	CCF
Surr: 4-Bromofluorobenzene		86-119		100.4	%REC	1	8/5/2010 4:18:00 PM	CCF
Surr: Dibromofluoromethane	8	1.7-123		100.6	%REC	1	8/5/2010 4:18:00 PM	CCF
Surr: Toluene-d8	8	4.3-114		96.4	%REC	1	8/5/2010 4:18:00 PM	CCF
SW-846 7470A (DISSOLVED)								
Mercury	NELAP ().00020		< 0.00020	ma/L	1	8/10/2010	MEK
SW-846 7470A (TOTAL)					U			
Mercury	NELAP (0.00020		< 0.00020	mg/L	1	8/10/2010	MEK
SW-846 9040B, LABORATORY AM	NALYZED				Ū			
Lab pH	NELAP	0		8.05		4	8/5/2010 2:43:00 PM	CS
<u>SW-846 9050A</u>								
Conductivity	NELAP	1		525	µmhos/cm	1	8/6/2010	KNS
						-		1010

Sample Narrative

SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS

Laboratory control sample duplicate was outside of lower recovery limits. Batch verified on MS recovery.

RECEIVED March 13, 2017 BROKEN ARROW PLAN DEVELOPMENT

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Lab ID: 10000226-010 Collection Date: 3/4/2010 8:30:00 AM Report Date: 17-Aug-10 Collection Date: 3/4/2010 8:30:00 AM Analyses Certification RL Qual Result Units DF Date Analyzed Analyzed EPA 600 2-78-054 METHOD 32.18.1 Specific Conductance, Solid 1 409 µmhos/cm 1 B/0/2010 NUM EPA 5030 2550C, 5035A, ASTM D2974 Onto Analyzed 0.1 12.9 % 1 8/0/2010 NUM StranDa RD METHODS 18TH ED, 2540 G O.1 87.1 % 1 8/0/2010 12:9:93 PM LAL Artimory NELAP 2.36 13.8 mg/Kg-dry 1 8/0/2010 14:2:16 PM LAL Artimory NELAP 0.90 0.44 mg/Kg-dry 1 8/0/2010 4:4:16 PM LAL Corper NELAP 0.94 22.4 mg/Kg-dry 1 8/0/2010 4:4:16 PM LAL Cadmium NELAP 0.94 22.4 mg/Kg-dry 1 8/0/2010 4:4:16 PM LAL Corper NELAP <th>Client: A&M Engineerin WorkOrder: 10080226</th> <th colspan="5">Client: A&M Engineering WorkOrder: 10080226</th> <th colspan="7">Client Project: BA Landfill 2028-004</th>	Client: A&M Engineerin WorkOrder: 10080226	Client: A&M Engineering WorkOrder: 10080226					Client Project: BA Landfill 2028-004						
Link Todo Contrelinit Parts: Order 2010 Contrelinit Parts: SOLID Analyses Certification RL Qual Result Units DF Date Analyzed Analyset EPA 600 2-78-054 METHOD 3.2 18.1 Specific Conductance, Solid 1 409 µmhos/cm 1 8/9/2010 NUM EPA 600 2-78-054 METHOD 3.2 18.1 Specific Conductance, Solid 1 409 µmhos/cm 1 8/9/2010 NUM EPA 500 2-78-054 METHOD 3.2 18.1 Specific Conductance, Solid 1 409 µmhos/cm 1 8/9/2010 NUM EPA 500 2-78-054 METHOD 3.2 18.1 Specific Conductance, Solid 0.1 87.1 % 1 8/5/2010 200:00 PM MK Attemory NELAP 0.1 87.1 % 1 8/5/2010 200:00 PM MK Aratimory NELAP 0.30 mg/kg-dry 1 8/10/2010 4/216 PM LAL Cadmium NELAP 0.31 mg/kg-dry 1 8/10/2010 4/216 PM LAL<	Lab ID• 10080226-010				Collectio	n Dotor 0/4	10040	0.00.00 414					
Analyses Certification RJ. Qual Result Units DF Date Analyzed Analyst EPA 600 2-75-054 METHOD 3.2.18.1 Spedilc Conductance, Solid 1 409 µmhos/cm 1 89/2010 NJM EPA SW286 559C, 2015A, ASTM D2974 0.1 12.9 % 1 86/2010 200.00 PM MK STANDAR DWETHODS I&TH ED. 2540 G 0.1 87.1 % 1 86/2010 200.00 PM MK STANDAR DWETHODS I&TH ED. 2540 G 70tal Solids 0.1 87.1 % 1 86/2010 200.00 PM MK STANDAR DWETHODS INTH ED. 2540 G 70tal Solids 0.1 87.1 % 1 86/2010 42.16 PM LAL Antimony NELAP 2.36 13.8 mg/G-dry 1 87/02010 44.216 PM LAL Cadmium NELAP 0.94 2.1 mg/G-dry 1 87/02010 44.216 PM LAL Copper NELAP 0.34 2.24 mg/G-dry 1	Banort Date: 17 Aug 10				Conecho	II Date: 8/4	2010	8:30:00 AM					
Analyses Certification RL Qual Result Units DF Date Analyzed Analyset EPA 600 2-78-054 MICTHOD 3.2,15.1 specific Conductance, Solid 1 409 µmhosicm 1 8/9/2010 NJM Percent Molsture Solid 0.1 12.9 % 1 8/9/2010 2:00:00 PM MK STANDARD MICTHODS 18TH ED.2540 C Total Solids 0.1 67.1 % 1 8/9/2010 2:00:00 PM MK STANDARD MICTHODS 18TH ED.2540 C Total Solids 0.1 67.1 % 1 8/9/2010 2:00:00 PM MK Stranding NELAP 2:35 13.8 mg/%-dry 1 8/9/02010 4:2:16 PM LAL Arsenic NELAP 0.19 0.38 mg/%-dry 1 8/10/2010 4:2:16 PM LAL Cadmium NELAP 0.77 2:4 mg/%-dry 1 8/10/2010 4:2:16 PM LAL Cadmium NELAP 0.77 2:4 mg/%-dry </th <th>Keport Date: 17-Aug-10</th> <th></th> <th></th> <th></th> <th>I </th> <th>Matrix: SQ</th> <th>LID</th> <th></th> <th></th>	Keport Date: 17-Aug-10				I 	Matrix: SQ	LID						
EPA 600 2-78-054 METHOD 3.2.18.1 1 409 µmhos/cm 1 Bry2010 NJM Specific Conductance, Solid 0.1 12.9 % 1 8//2010 2:00:00 PM MK STADARD METHODS ISTH ED.2540 C; Total Solids 0.1 87.1 % 1 8//2010 2:00:00 PM MK STADARD METHODS ISTH ED.2540 C; Total Solids 0.1 87.1 % 1 8//2010 2:00:00 PM MK STADARD METHODS ISTH ED.2540 C; Total Solids 0.1 87.1 % 1 8///2010 2:00:00 PM MK Stade 3050B, 6010B, METALS BY ICP Antimony NELAP 0.36 mg/Kg-dry 1 8///2010 14:26:18 PM LAL Arsenic NELAP 0.99 0.84 mg/Kg-dry 1 8///0210 4:42:16 PM LAL Cadmium NELAP 0.94 2.28 mg/Kg-dry 1 8///0210 4:42:16 PM LAL Cadmium NELAP 0.94 2.24 mg/Kg-dry 1 8///0210 4:42:16 PM LAL Solenium NELAP 0.37 5.377 <td< th=""><th>Analyses</th><th>Certification</th><th>RL</th><th>Qual</th><th>Result</th><th>Units</th><th>DF</th><th>Date Analyzed A</th><th>nalyst</th></td<>	Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst				
Specific Conductance, Solid 1 409 µmhtes/cm 1 80/2010 NJM Per Several ASSNC, S035A, ASTM D2974 0.1 12.9 % 1 8/5/2010 2:00:00 PM MK STANDARD METHEDD S INTH ED.2540 C 0.1 87.1 % 1 8/5/2010 2:00:00 PM MK SW-846 3050B, 6010B, METALS BY ICP Andmony K44, 90 <4.90	EPA 600 2-78-054 METHOD 3.2.18.1								د				
EPA SW846 35SPC, 5035A, ASTM D2974 0.1 12,9 % 1 8/5/2010 2:00:00 PM MK STANDARD METHODS 18TH ED. 2540 G . . . 7011 % 1 8/5/2010 2:00:00 PM MK SW-364 3050B, 6010B, METALS BY CP 8/9/2010 12:59:31 PM LAL Arisenic NELAP 2.36 13.8 mg/Kg-dry 1 8/9/2010 4:42:16 PM LAL Cardmium NELAP 0.90 0.44 mg/Kg-dry 1 8/10/2010 4:42:16 PM LAL Cardmium NELAP 0.91 0.38 mg/Kg-dry 1 8/10/2010 4:42:16 PM LAL Cardmium NELAP 0.94 21.1 mg/Kg-dry 1 8/10/2010 4:42:16 PM LAL Capper NELAP 0.94 21.4 mg/Kg-dry 1 8/10/2010 4:42:16 PM LAL Laad NELAP 0.94 22.4 mg/Kg-dry 1 8/10/2010 4:42:16 PM LAL Selenium NELAP 0.94	Specific Conductance, Solid		1		409	µmhos/cm	1	8/9/2010	NJM				
Percent Molecura 0.1 12.9 % 1 8/5/2010 2:00:00 PM MKK STANDARD METHODS ISTH ED, 2540 G .1 87.1 % 1 8/5/2010 2:00:00 PM MKK SW-846 3050B, 6010B, METALS BY ICP .1 87.1 % 1 8/5/2010 12:59:31 PM LAL Antimony NELAP 2.36 13.8 mg/Kg-dry 1 8/7/2010 4:42:16 PM LAL Beryllum NELAP 0.19 0.38 mg/Kg-dry 1 8/10/2010 4:42:16 PM LAL Cadmium NELAP 0.34 22.8 mg/Kg-dry 1 8/10/2010 4:42:16 PM LAL Coronium NELAP 0.34 21.1 mg/Kg-dry 1 8/10/2010 4:42:16 PM LAL Lead NELAP 0.34 22.4 mg/Kg-dry 1 8/10/2010 4:2:16 PM LAL Selenium NELAP 0.32 <0.52	EPA SW846 3550C, 5035A, ASTM D29	974											
STATUCARD METHEDD, 2540 C 0.1 87.1 % 1 9/6/2010 2:00:00 PM MK SW-846 3050B, 6010B, METALS BY ICP Antimony NELAP 4.90 mg/Kg-dry 1 8/9/2010 12:59:31 PM LAL Arsenic NELAP 2.36 13.8 mg/Kg-dry 1 8/9/2010 14:25 PM LAL Baryllium NELAP 0.09 0.84 mg/Kg-dry 1 8/10/2010 4:42:16 PM LAL Cardmium NELAP 0.19 0.38 mg/Kg-dry 1 8/10/2010 4:42:16 PM LAL Cardmium NELAP 0.34 22.4 mg/Kg-dry 1 8/10/2010 4:42:16 PM LAL Cardmium NELAP 3.77 20.4 mg/Kg-dry 1 8/10/2010 4:42:16 PM LAL Laad NELAP 3.77 <3.77	Percent Moisture		0.1		12.9	%	1	8/5/2010 2:00:00 PM	MK				
Total solucity 0.1 87.1 % 1 8/5/2010 2:00:00 PM MKK SW-366 3050B, 6010B, METALS BY ICP Anteniony NELAP 2.36 13.8 mg/Kg-dry 1 8/10/2010 4:2:16 PM LAL Arsenic NELAP 2.36 13.8 mg/Kg-dry 1 8/10/2010 4:42:16 PM LAL Cadmium NELAP 0.19 0.38 mg/Kg-dry 1 8/10/2010 4:42:16 PM LAL Copper NELAP 0.94 22.8 mg/Kg-dry 1 8/10/2010 4:42:16 PM LAL Lead NELAP 0.94 22.4 mg/Kg-dry 1 8/10/2010 4:42:16 PM LAL Lead NELAP 0.34 22.4 mg/Kg-dry 1 8/10/2010 4:42:16 PM LAL Silter NELAP 0.34 22.4 mg/Kg-dry 1 8/10/2010 4:42:16 PM LAL Silter NELAP 0.52 <0.52	STANDARD METHODS 18TH ED. 25	<u>540 G</u>											
Sive-369 30506, 60106, METALS BY ICP Antimony NELAP 4.90 rg/kg-dry 1 8/9/2010 12:59:31 PM LAL Arsenic NELAP 2.36 13.8 rg/kg-dry 1 8/10/2010 4:42:16 PM LAL Beryllium NELAP 0.09 0.84 rg/kg-dry 1 8/10/2010 4:42:16 PM LAL Cadmium NELAP 0.94 22.8 rg/kg-dry 1 8/10/2010 4:42:16 PM LAL Corport NELAP 0.94 22.8 rg/kg-dry 1 8/10/2010 4:42:16 PM LAL Lead NELAP 0.94 22.4 rg/kg-dry 1 8/10/2010 4:42:16 PM LAL Silver NELAP 0.94 22.4 rg/kg-dry 1 8/10/2010 4:42:16 PM LAL Zinc NELAP 0.94 65.4 rg/kg-dry 1 8/10/2010 4:42:16 PM LAL Zinc NELAP 0.20 J 0.13 rg/kg-dry 1 8/10/2010 4:42:16 PM LAL Weadd 3050B, MET		an	0.1		87.1	%	1	8/5/2010 2:00:00 PM	MK				
Anamiotry NELAP 4.90 < 4.90 mg/kg-dry 1 89/2010 12:59:31 PM LAL Arsenic NELAP 2.36 13.8 mg/kg-dry 1 89/2010 12:59:31 PM LAL Beryllium NELAP 0.09 0.84 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL Cadmium NELAP 0.19 0.38 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL Copper NELAP 0.94 21.1 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL Lead NELAP 0.94 22.4 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL Selenium NELAP 3.77 <2.4	SW-840 3050B, 6010B, METALS BY 10		4.00										
Arbsenic NELAP 2.36 13.8 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL Cadmium NELAP 0.19 0.38 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL Cadmium NELAP 0.94 22.8 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL Copper NELAP 0.94 21.1 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL Copper NELAP 0.94 22.4 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL Nickel NELAP 0.94 22.4 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL Silver NELAP 0.94 65.4 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL Zinc NELAP 0.94 65.4 mg/kg-dry 1 8/12/2010 4:26:58 PM MEK SW-846 3050B, METALS BY GFAA Thalium 7841 NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE 4.4'-	Arossia		4.90		< 4.90	mg/Kg-dry	1	8/9/2010 12:59:31 PM	I LAL				
Designation NELAP 0.09 0.08 mg/Kg-dry 1 8/10/2010 4:42:16 PM LAL Cadmium NELAP 0.94 22.8 mg/Kg-dry 1 8/10/2010 4:42:16 PM LAL Copper NELAP 0.94 21.1 mg/Kg-dry 1 8/10/2010 4:42:16 PM LAL Lead NELAP 0.94 21.4 mg/Kg-dry 1 8/10/2010 4:42:16 PM LAL Lead NELAP 0.94 22.4 mg/Kg-dry 1 8/10/2010 4:42:16 PM LAL Silver NELAP 3.77 <3.77	Roselium	NELAP	2.36		13.8	mg/Kg-dry	1	8/10/2010 4:42:16 PM	LAL				
Channing NELAP 0.19 0.38 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL Copper NELAP 0.94 228 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL Copper NELAP 0.94 21.1 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL Lead NELAP 3.77 20.4 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL Nickel NELAP 0.94 23.7 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL Silver NELAP 0.52 <0.52	Cadmium		0.09		0.84	mg/Kg-ary	1	8/10/2010 4:42:16 PM	LAL				
Ontonum INELAP 0.94 22.8 mg/kg-dry 1 9/10/2010 4.42:16 PM LAL Copper NELAP 0.94 21.1 mg/kg-dry 1 8/10/2010 4.42:16 PM LAL Lead NELAP 0.94 22.4 mg/kg-dry 1 8/10/2010 4.42:16 PM LAL Nickel NELAP 0.94 22.4 mg/kg-dry 1 8/10/2010 4.42:16 PM LAL Silver NELAP 0.52 <0.52	Chromium		0.19		0.38	mg/Kg-ary	16	8/10/2010 4:42:16 PM	LAL				
NELAP 0.34 21.1 mg/rg-dry 1 8/10/2010 4:42:16 PM LAL Nickel NELAP 3.77 20.4 mg/rg-dry 1 8/10/2010 4:42:16 PM LAL Nickel NELAP 0.94 22.4 mg/rg-dry 1 8/10/2010 4:42:16 PM LAL Silver NELAP 3.77 <3.77	Copper		0.94		22.8	mg/Kg-ary	1	8/10/2010 4:42:16 PM	LAL				
Locat NELAP 3.7 20.4 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL Satenium NELAP 3.77 <3.77	Lead		0.94		21.1	mg/Kg-ary	1	8/10/2010 4:42:16 PM					
Nutch NELAP 3.77 <2.4 Ing/kg-dry 1 8/10/2010 4:42:16 PM LAL Silver NELAP 3.77 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL Silver NELAP 0.52 <0.52	Nickel		0.04		20.4	mg/Kg-ary	1	8/10/2010 4:42:16 PM	LAL				
Silver NELAP 0.52 < 0.52 < 0.52 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL Zinc NELAP 0.52 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL SWest6 3050B, METALS BY GFAA NELAP 0.200 J 0.13 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL SW-846 3050B, METALS BY GFAA Thalium 7841 NELAP 0.200 J 0.13 mg/kg-dry 1 8/12/2010 4:42:16 PM LAL SW-846 3550B, METALS BY GFAA Thalium 7841 NELAP 0.200 J 0.13 mg/kg-dry 50 8/11/2010 3:12:00 AM HE 4,4'-DD NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE 4,4'-DDT NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Aldrin NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE alpha-BHC NELAP 94.0 ND	Selenium		2.77		22.4	mg/Kg-ary	1	8/10/2010 4:42:16 PM	LAL				
Sunch NELAP 0.32 < 0.52 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL Since NELAP 0.94 65.4 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL SW-846 3050B, METALS BY GFAA Thallium 7841 NELAP 0.200 J 0.13 mg/kg-dry 1 8/10/2010 4:42:16 PM LAL SW-846 3050B, METALS BY GFAA NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE 4,4'-DDD NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE 4,4'-DDT NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Alachior NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Alachior NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Aldrin NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE	Silver		0.52		< 3.77	mg/Kg-ary	1	8/10/2010 4:42:16 PM	LAL				
SW-364 3050B, METALS BY GFAA NELAP 0.200 J 0.13 mg/kg-dry 1 8/12/2010 4:22:16 PM ELL SW-364 3050B, METALS BY GFAA NELAP 0.200 J 0.13 mg/kg-dry 1 8/12/2010 4:26:58 PM MEK SW-364 3550B, 8081A, CHLORINATED PESTICIDES BY GC/ECD 4.4'-DDE NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE 4,4'-DDE NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE 4,4'-DDT NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Alachlor NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE alpha-BHC NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE alpha-Chlordane NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Dieldrin NELAP 94.0 ND <t< td=""><td>Zinc</td><td></td><td>0.02</td><td></td><td>< 0.52</td><td>mg/Kg-ary</td><td></td><td>8/10/2010 4:42:16 PM</td><td>LAL</td></t<>	Zinc		0.02		< 0.52	mg/Kg-ary		8/10/2010 4:42:16 PM	LAL				
International state Nite rate of the state <td>SW-846 3050R METALS BV CEAA</td> <td>NEGA</td> <td>0.34</td> <td></td> <td>05.4</td> <td>mg/Ag-ary</td> <td></td> <td>8/10/2010 4:42:16 PM</td> <td>LAL</td>	SW-846 3050R METALS BV CEAA	NEGA	0.34		05.4	mg/Ag-ary		8/10/2010 4:42:16 PM	LAL				
SW-846 3550B, 8081A, CHLORINATED PESTICIDES BY GC/ECD NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE 4,4'-DD NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE 4,4'-DDE NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE 4,4'-DDT NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Alachlor NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE alpha-BHC NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE alpha-Chlordane NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Chlordane NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE chlordane NELAP 188 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Dieldrin NELAP <td>Thallium 7841</td> <td></td> <td>0.200</td> <td>.I</td> <td>0.13</td> <td>ma/Ka-day</td> <td>4</td> <td>9/10/0010 4-06-50 DM</td> <td></td>	Thallium 7841		0.200	.I	0.13	ma/Ka-day	4	9/10/0010 4-06-50 DM					
At-Chordene NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE 4,4'-DDE NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE 4,4'-DDE NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE 4,4'-DDT NELAP 470 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Alachlor NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Aldrin NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE alpha-BHC NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE beta-BHC NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Chlordane NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Dieldrin NELAP 94.0 ND	SW-846 3550B. 8081A. CHLORINATE	D PESTICIDES	BV CC/	FCD	0.15	ing/itg-diy		0/12/2010 4.20.00 FW	MEN				
A,4'-DDE NELAP 94.0 ND µg/Kg-dry 50 61 /1/2010 3.12:00 AM HE 4,4'-DDT NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3.12:00 AM HE Alachlor NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3.12:00 AM HE Alachlor NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3.12:00 AM HE Aldrin NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3.12:00 AM HE alpha-BHC NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3.12:00 AM HE alpha-Chlordane NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3.12:00 AM HE beta-BHC NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3.12:00 AM HE Chlordane NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3.12:00 AM HE Dieldrin NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3.12:00 AM HE Endosulfan I	4,4'-DDD	NELAP	94.0	ECD	ND	ua/Ka-day	50	8/11/2010 3-12-00 AM	ᆔᄃ				
4,4'-DDT NELAP 470 ND µg/kg-dry 250 8/16/2010 2:7:00 AM HE Alachlor NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:1:2:00 AM HE Alachlor NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:1:2:00 AM HE alpha-BHC NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:1:2:00 AM HE alpha-BHC NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:1:2:00 AM HE alpha-Chlordane NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:1:2:00 AM HE beta-BHC NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:1:2:00 AM HE Chlordane NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:1:2:00 AM HE Dieldrin NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:1:2:00 AM HE Endosulfan I NELAP 94.0 ND<	4,4'-DDE	NELAP	94.0		ND	ua/Ka-day	50	8/11/2010 3:12:00 AM					
Alachlor NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Aldrin NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Aldrin NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE alpha-BHC NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE alpha-Chlordane NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE beta-BHC NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Chlordane NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Chlordane NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Dieldrin NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan I NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan II </td <td>4,4'-DDT</td> <td>NELAP</td> <td>470</td> <td></td> <td>ND</td> <td>ug/Kg-dry</td> <td>250</td> <td>8/16/2010 2:27:00 AM</td> <td>HE</td>	4,4'-DDT	NELAP	470		ND	ug/Kg-dry	250	8/16/2010 2:27:00 AM	HE				
Aldrin NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE alpha-BHC NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE alpha-Chlordane NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE beta-BHC NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE chlordane NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE beta-BHC NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Chlordane NELAP 188 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Dieldrin NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan II<	Alachlor	NELAP	94.0		ND	ua/Ka-dry	50	8/11/2010 3:12:00 AM	HE				
alpha-BHC NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE alpha-Chlordane NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE beta-BHC NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE chlordane NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE chlordane NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE chlordane NELAP 188 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE chlordane NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE chlordane NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Dieldrin NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan II NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endrin </td <td>Aldrín</td> <td>NELAP</td> <td>94.0</td> <td></td> <td>ND</td> <td>uo/Ka-dry</td> <td>50</td> <td>8/11/2010 3:12:00 AM</td> <td>HE</td>	Aldrín	NELAP	94.0		ND	uo/Ka-dry	50	8/11/2010 3:12:00 AM	HE				
alpha-Chlordane NELAP 94.0 ND µg/kg-dry 50 6/11/2010 3:12:00 AM HE beta-BHC NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Chlordane NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Chlordane NELAP 188 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE delta-BHC NELAP 188 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Dieldrin NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan II NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan sulfate NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Endrin NELAP 94.0	alpha-BHC	NELAP	94.0		ND	ua/Ka-dry	50	8/11/2010 3:12:00 AM	HE				
beta-BHC NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Chlordane NELAP 188 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE delta-BHC NELAP 188 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE delta-BHC NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Dieldrin NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan II NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan sulfate NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endrin NELAP 94.0 <td< td=""><td>alpha-Chlordane</td><td>NELAP</td><td>94.0</td><td></td><td>ND</td><td>ua/Ka-dry</td><td>50</td><td>8/11/2010 3:12:00 AM</td><td>HE</td></td<>	alpha-Chlordane	NELAP	94.0		ND	ua/Ka-dry	50	8/11/2010 3:12:00 AM	HE				
Chlordane NELAP 188 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE delta-BHC NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Dieldrin NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan II NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan sulfate NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Endrin NELAP 94.0 ND µg/kg-dry 50 8/11/2010 3:12:00 AM HE Endrin aldehyde NELAP 94.0	beta-BHC	NELAP	94.0		ND	ua/Ka-drv	50	8/11/2010 3:12:00 AM	HE				
delta-BHC NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Dieldrin NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan II NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan sulfate NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan sulfate NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endrin NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endrin aldehyde NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endrin ketone NELAP <td< td=""><td>Chlordane</td><td>NELAP</td><td>188</td><td></td><td>ND</td><td>ua/Ka-drv</td><td>50</td><td>8/11/2010 3:12:00 AM</td><td>HE</td></td<>	Chlordane	NELAP	188		ND	ua/Ka-drv	50	8/11/2010 3:12:00 AM	HE				
Dieldrin NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan I NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan II NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan II NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan sulfate NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan sulfate NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endrin NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endrin aldehyde NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endrin ketone NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE gamma-BHC NELAP	delta-BHC	NELAP	94.0		ND	ua/Ka-drv	50	8/11/2010 3:12:00 AM	HE				
Endosulfan NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan II NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan II NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan sulfate NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endrin NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endrin aldehyde NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endrin ketone NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE gamma-BHC NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE	Dieldrin	NELAP	94.0		ND	ua/Ka-drv	50	8/11/2010 3:12:00 AM	HE				
Endosulfan II NELAP 94.0 ND μg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan sulfate NELAP 94.0 ND μg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endosulfan sulfate NELAP 94.0 ND μg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endrin NELAP 94.0 ND μg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endrin aldehyde NELAP 94.0 ND μg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endrin ketone NELAP 94.0 ND μg/Kg-dry 50 8/11/2010 3:12:00 AM HE gamma-BHC NELAP 94.0 ND μg/Kg-dry 50 8/11/2010 3:12:00 AM HE	Endosulfan	NELAP	94.0		ND	ua/Ka-drv	50	8/11/2010 3·12·00 AM	HE				
Endosulfan sulfate NELAP 94.0 ND μg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endrin NELAP 94.0 ND μg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endrin NELAP 94.0 ND μg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endrin aldehyde NELAP 94.0 ND μg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endrin ketone NELAP 94.0 ND μg/Kg-dry 50 8/11/2010 3:12:00 AM HE gamma-BHC NELAP 94.0 ND μg/Kg-dry 50 8/11/2010 3:12:00 AM HE	Endosulfan II	NELAP	94.0		ND	ua/Ko-drv	50	8/11/2010 3:12:00 AM	HE				
Endrin NELAP 94.0 ND μg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endrin aldehyde NELAP 94.0 ND μg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endrin ketone NELAP 94.0 ND μg/Kg-dry 50 8/11/2010 3:12:00 AM HE gamma-BHC NELAP 94.0 ND μg/Kg-dry 50 8/11/2010 3:12:00 AM HE	Endosulfan sulfate	NELAP	94.0		ND	ua/Ka-drv	50	8/11/2010 3·12·00 AM	HE				
Endrin aldehyde NELAP 94.0 ND μg/Kg-dry 50 8/11/2010 3:12:00 AM HE Endrin ketone NELAP 94.0 ND μg/Kg-dry 50 8/11/2010 3:12:00 AM HE gamma-BHC NELAP 94.0 ND μg/Kg-dry 50 8/11/2010 3:12:00 AM HE	Endrin	NELAP	94.0		ND	µa/Ka-drv	50	8/11/2010 3:12:00 AM	HE				
Endrin ketone NELAP 94.0 ND μg/Kg-dry 50 8/11/2010 3:12:00 AM HE gamma-BHC NELAP 94.0 ND μg/Kg-dry 50 8/11/2010 3:12:00 AM HE	Endrin aldehyde	NELAP	94.0		ND	ua/Ka-drv	50	8/11/2010 3:12:00 AM	HE				
gamma-BHC NELAP 94.0 ND µg/Kg-dry 50 8/11/2010 3:12:00 AM HE	Endrin ketone	NELAP	94.0		ND	µg/Kg-drv	50	8/11/2010 3:12:00 AM	HE				
	gamma-BHC	NELAP	94.0		ND	µg/Kg-dry	50	8/11/2010 3:12:00 AM	HE				



March 13, 2017

BROKEN ARROW PLAN DEVELOPMENT

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineeri	eering Client Project: BA Landfill 2028-004										
WorkOrder: 10080226				Client San	ple ID: SS	-1					
Lab ID: 10080226-010				Collection Date: 8/4/2010 8:30:00 AM							
Report Date: 17-Aug-10]	Matrix: SO	LID	5.00.00 / IM				
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst			
SW-846 3550B, 8081A, CHLORINATE	D PESTICIDE	S BY GC	/FCD	_		_					
gamma-Chlordane	NELAP	94.0		ND	rta/Ka-drv	50	8/11/2010 3·12·00 AM	1 46			
Heptachlor	NELAP	94.0		ND	ug/Kg-dry	50	8/11/2010 3:12:00 AM				
Heptachlor epoxide	NELAP	94.0		ND	ua/Ka-drv	50	8/11/2010 3:12:00 AM	I HE			
Methoxychlor	NELAP	470		ND	ua/Ka-dry	250	8/16/2010 2:27:00 AM				
Toxaphene	NELAP	1690		ND	ua/Ka-drv	50	8/11/2010 3:12:00 AM	HF			
Surr: Decachlorobiphenyl		48-149		99.6	%REC	50	8/11/2010 3:12:00 AM	HE			
Surr: Tetrachloro-m-xylene		19-145		85.8	%REC	50	8/11/2010 3:12:00 AM	HE			
SW-846 3550B, 8082, POLYCHLORIN	ATED BIPHEN	YLS (PC	CBS) BY GO	VECD							
Aroclor 1016	NELAP	42.2		ND	µg/Kg-dry	1	8/9/2010 6:41:00 PM	HE			
Aroclor 1221	NELAP	42.2		ND	µg/Kg-dry	1	8/9/2010 6:41:00 PM	HE			
Aroclor 1232	NELAP	42.2		ND	µg/Kg-dry	1	8/9/2010 6:41:00 PM	HE			
Aroclor 1242	NELAP	42.2		ND	µg/Kg-dry	1	8/9/2010 6:41:00 PM	HE			
Aroclor 1248	NELAP	42.2		ND	µg/Kg-dry	1	8/9/2010 6:41:00 PM	HE			
Aroclor 1254	NELAP	42.2		ND	µg/Kg-dry	1	8/9/2010 6:41:00 PM	HE			
Aroclor 1260	NELAP	42.2		ND	µg/Kg-dry	1	8/9/2010 6:41:00 PM	HE			
Surr: Decachlorobiphenyl		5-156		68.0	%REC	1	8/9/2010 6:41:00 PM	HE			
Surr: Tetrachioro-meta-xylene	7	.35-123		67.5	%REC	1	8/9/2010 6:41:00 PM	HE			
<u>SW-846 3550B, 8270C, SEMI-VOLATI</u>	LE ORGANIC	COMPO	<u>UNDS BY G</u>	C/MS							
1,2,4-Trichlorobenzene	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH			
1,2-Dichlorobenzene	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH			
1,3-Dichlorobenzene	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH			
1,4-Dichlorobenzene	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH			
2,4,5-Trichlorophenol	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH			
2,4,6-Trichlorophenol	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH			
2,4-Dichlorophenol	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH			
2,4-Dimethylphenol	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH			
2,4-Dinitrophenol	NELAP	28.7		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH			
2,4-Dinitrotoluene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH			
2,6-Dinitrotoluene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH			
2-Chloronaphthalene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH			
2-Chlorophenol	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH			
2-Methoxy-4-methylphenol		18.6		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH			
2-Methyinaphthalene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH			
2-Nitroaniline	NELAP	28.7		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH			
2-Nitrophenol	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH			
3,3´-Dichlorobenzidine	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH			
3-Nitroaniline	NELAP	28.7		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH			
4,6-Dinitro-2-methylphenol	NELAP	28.7		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH			

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March 13, 2017 BROKEN ARROW PLAN DEVELOPMENT

Page 67 of 115

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-010

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: SS-1 Collection Date: 8/4/2010 8:30:00 AM Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	Analyst
SW-846 3550B, 8270C, SEMI-VO	LATILE ORGANIC	COMPO	UNDS BY	GC/MS				
4-Bromophenyl phenyl ether	'NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 P	M DMH
4-Chloro-3-methylphenol	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 P	M DMH
4-Chloroaniline	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 P	M DMH
4-Chlorophenyl phenyl ether	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 P	M DMH
4-Nitroaniline	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 P	M DMH
4-Nitrophenol	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 P	M DMH
Acenaphthene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PI	M DMH
Acenaphthylene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 P	M DMH
Aniline	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PI	M DMH
Anthracene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PI	M DMH
Azobenzene		10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PI	M DMH
Benzidine	NELAP	30.3		see note	mg/Kg-dry	25	8/10/2010 12:15:00 PI	M DMH
Benzo(a)anthracene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PI	M DMH
Benzo(a)pyrene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PI	M DMH
Benzo(b)fluoranthene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	M DMH
Benzo(g,h,i)perylene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	M DMH
Benzo(k)fluoranthene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	I DMH
Benzoic acid	NELAP	43.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	
Benzyl alcohol	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	/ DMH
Bis(2-chloroethoxy)methane	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	/ DMH
Bis(2-chloroethyl)ether	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	/ DMH
Bis(2-chloroisopropyl)ether	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	1 DMH
Bis(2-ethylhexyl)phthalate	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	1 DMH
Butyl benzyl phthalate	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	1 DMH
Carbazole		14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	1 DMH
Chrysene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	1 DMH
Dibenzo(a,h)anthracene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Dibenzofuran	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Diethyl phthalate	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	I DMH
Dimethyl phthalate	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PN	DMH
Di-n-butyl phthalate	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Di-n-octyl phthalate	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Fluoranthene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Fluorene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Hexachlorobenzene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Hexachlorobutadiene	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Hexachlorocyclopentadiene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH
Hexachloroethane	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM	DMH

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Page 68 of 115

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering					Client Project: BA Landfill 2028-004						
WorkOrder: 10080226				Client San	ple ID: SS-	-1					
Lab ID: 10080226-0	10			Collectio	- n Date: 8/4	/2010 8	3:30:00 AM				
Report Date: 17-Aug-10				Matrix: SOLID							
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalvst			
SW-846 3550B 8270C SEMI-VOL	ATH F OPCANIC	COMPO		COME							
Indeno(1.2.3-cd)pyrene	NELAP	10.0	UND <u>5 D1</u>		ma/Ka _s dry	25	8/10/2010 12:15:00 DM				
Isophorone	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM				
m.p-Cresol	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM				
Naphthalene	NELAP	10.0		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM				
Nitrobenzene	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM				
N-Nitrosodimethylamine	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM				
N-Nitroso-di-n-propylamine	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM				
N-Nitrosodiphenvlamine	NELAP	14.3		ND	ma/Ka-dry	25	8/10/2010 12:15:00 PM				
o-Cresol	NELAP	14.3		ND	mg/Kg-dry	25	8/10/2010 12:15:00 PM				
Pentachlorophenol	NELAP	57.3		ND	mg/Kg-dry	25	9/10/2010 12, 15:00 PM				
Phenanthrene	NELAP	10.0		ND	mg/Kg-dry	25	9/10/2010 12:15:00 PM				
Phenol	NELAP	10.0			mg/Kg-dry	25	8/10/2010 12:15:00 PM				
Pyrene	NELAP	14.3		ND	mg/Kg-dn/	25	8/10/2010 12:15:00 PM				
Pyridine		14.3		ND	mg/Kg-dry	20	9/10/2010 12:15:00 PM				
1.2-Diphenvlhydrazine	HED U	24.1		ND	mg/Kg-day	20	9/10/2010 12:15:00 PM				
Surr: 2.4.6-Tribromonhenol	33	27-130		70.9	Mg/Ag-ary	20	0/10/2010 12:15:00 PM				
Surr: 2-Eluorobinhenvi	34	L1-116		876	%REC	25	0/10/2010 12:15:00 PM				
Surr: 2-Fluorophenol		10 5-00		70.1	% DEC	20	0/10/2010 12:15:00 PM				
Surr: Nitrobenzene-d5	3/	1.1.101		73.1 PC 0	% DEC	20	8/10/2010 12:15:00 PM				
Surr: Phenol-d5	3/	0.110		00.0		20	8/10/2010 12:15:00 PM	DMH			
Surr: n-Tembenyl-d14	J-	7-124		04.Z	%nec	20	8/10/2010 12:15:00 PM	DMH			
SW-846 5030 8260B VOL ATH E O			COME	02.2	MEC	25	8/10/2010 12:15:00 PM	DMH			
1.1.1.2-Tetrachloroethane		7 78	I GC/MIS	ND	ua/Ka day	4	8/0/0010 44-40-00 AM	DIALE			
1 1 1-Trichloroethane		7.78			µy/Ky-ury	1	8/6/2010 11:46:00 AM	HWE			
1 1 2 2-Tetrachioroethane		7.70			µg/Kg-ary		8/6/2010 11:46:00 AM	HWE			
1 1 2-Trichloro-1 2 2-trifluoroethane	NEDA	7.70		ND	µy/Kg-ury	4	8/6/2010 11:46:00 AM	HWE			
1 1 2-Trichloroethane		7.70		ND	µg/Kg-ary	1	8/6/2010 11:46:00 AM	HWE			
1 1-Dichloro-2-propanone	NELA	77.9			µg/Kg-dry		8/6/2010 11:46:00 AM	HWE			
1 1-Dichloroethene		770			µg/kg-ary	1	8/6/2010 11:46:00 AM	RWE			
1 1-Dichloroethene		7.70			µg/kg-ary	- 22	8/6/2010 11:46:00 AM	RWE			
1 1-Dichloropropopo		7.70			µg/Kg-ary	69	8/6/2010 11:46:00 AM	RWE			
1,2,2 Trichlorobonzono		7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE			
	NELAP	1.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE			
1,2,3-Thendopropane	NELAP	15.6		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE			
		7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE			
	NELAP	/./8		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE			
	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE			
1,2-Libromo-3-chioropropane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE			
1,2-Dibromoethane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE			

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5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-010

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: SS-1 Collection Date: 8/4/2010 8:30:00 AM Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 5030, 8260B, VOLATI	LE ORGANIC COMPO	UNDS B	BY GC/MS					
1,2-Dichlorobenzene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1,2-Dichloroethane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	BWE
1,2-Dichloropropane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	BWF
1,3,5-Trimethylbenzene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	BWE
1,3-Dichlorobenzene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1,3-Dichloropropane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	BWE
1,4-Dichlorobenzene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
1-Chlorobutane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
2,2-Dichloropropane	NELAP	7.78		ND	µa/Ka-dry	1	8/6/2010 11:46:00 AM	RWF
2-Butanone	NELAP	77.8		ND	µa/Ka-drv	1	8/6/2010 11:46:00 AM	BWE
2-Chlorotoluene	NELAP	7.78		ND	µa/Ka-drv	1	8/6/2010 11:46:00 AM	BWE
2-Hexanone	NELAP	77.8		ND	µa/Ka-drv	1	8/6/2010 11:46:00 AM	BWE
2-Nitropropane	NELAP	77.8		ND	ua/Ka-drv	1	8/6/2010 11:46:00 AM	RWE
4-Chlorotoluene	NELAP	7.78		ND	ua/Ka-dry	1	8/6/2010 11:46:00 AM	BWE
4-Methyl-2-pentanone	NELAP	77.8		ND	µa/Ka-drv	1	8/6/2010 11:46:00 AM	BWE
Acetone	NELAP	77.8		ND	µa/Ka-drv	1	8/6/2010 11:46:00 AM	RWE
Acrolein	NELAP	156		ND	µa/Ka-drv	1	8/6/2010 11:46:00 AM	BWE
Acrylonitrile	NELAP	15.6		ND	ua/Ka-drv	1	8/6/2010 11:46:00 AM	RWE
Allyl chloride	NELAP	7.78		ND	ua/Ka-drv	1	8/6/2010 11:46:00 AM	BWE
Benzene	NELAP	1.56		ND	ua/Ka-drv	1	8/6/2010 11:46:00 AM	RWE
Bromobenzene	NELAP	7.78		ND	µa/Ka-drv	1	8/6/2010 11:46:00 AM	BWE
Bromochloromethane	NELAP	7.78		ND	ua/Ka-drv	1	8/6/2010 11:46:00 AM	RWE
Bromodichloromethane	NELAP	7.78		ND	µa/Ka-drv	1	8/6/2010 11:46:00 AM	BWE
Bromoform	NELAP	7.78		ND	ua/Ka-drv	1	8/6/2010 11:46:00 AM	BWE
Bromomethane	NELAP	15.6		ND	ua/Ka-drv	1	8/6/2010 11:46:00 AM	BWE
Carbon disulfide	NELAP	7.78		ND	µa/Ka-drv	1	8/6/2010 11:46:00 AM	BWE
Carbon tetrachloride	NELAP	7.78		ND	µa/Ka-drv	1	8/6/2010 11:46:00 AM	RWE
Chlorobenzene	NELAP	7.78		ND	ua/Ka-drv	1	8/6/2010 11:46:00 AM	RWE
Chloroethane	NELAP	15.6		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	BWE
Chloroform	NELAP	7.78		ND	µa/Ka-drv	1	8/6/2010 11:46:00 AM	RWE
Chloromethane	NELAP	15. 6		ND	ua/Ka-drv	1	8/6/2010 11:46:00 AM	RWE
cis-1,2-Dichloroethene	NELAP	7.78		ND	µa/Ka-drv	1	8/6/2010 11:46:00 AM	BWE
cis-1,3-Dichloropropene	NELAP	6.23		ND	ua/Ka-drv	1	8/6/2010 11:46:00 AM	RWE
Cyclohexanone		156		ND	ua/Ka-drv	1	8/6/2010 11:46:00 AM	BWE
Dibromochloromethane	NELAP	7.78		ND	ua/Ka-drv	1	8/6/2010 11:46:00 AM	RWE
Dibromomethane	NELAP	7.78		ND	ua/Ka-drv	1	8/6/2010 11:46:00 AM	BWE
Dichlorodifluoromethane	NELAP	15.6		ND	µa/Ka-drv	1	8/6/2010 11:46:00 AM	RWF
Ethyl acetate	NELAP	77.8		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE

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Page 70 of 115

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5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-010

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: SS-1 Collection Date: 8/4/2010 8:30:00 AM Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE	ORGANIC COMPO	UNDS E	BY GC/MS					
Ethyl ether	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 A	M RWE
Ethyl methacrylate	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 A	M RWE
Ethylbenzene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 A	M RWF
Heptane		31.1		ND	µg/Kg-dry	1	8/6/2010 11:46:00 A	M RWE
Hexachlorobutadiene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 A	M RWE
Hexachloroethane	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 A	M RWE
lodomethane	NELAP	15.6		ND	µg/Kg-dry	1	8/6/2010 11:46:00 A	M RWE
Isopropylbenzene	NELAP	7.78		ND	µa/Ka-drv	1	8/6/2010 11:46:00 A	M RWF
m,p-Xylenes	NELAP	7.78		ND	ua/Ka-drv	1	8/6/2010 11:46:00 AI	M RWF
Methacrylonitrile	NELAP	77.8		ND	ua/Ka-drv	1	8/6/2010 11:46:00 AI	M RWE
Methyl Methacrylate	NELAP	7.78		ND	µa/Ka-drv	18	8/6/2010 11:46:00 A	M RWF
Methyl tert-butyl ether	NELAP	3.11		ND	ua/Ka-drv	1	8/6/2010 11:46:00 A	M RWF
Methylacrylate		15.6		ND	µq/Kq-dry	1	8/6/2010 11:46:00 AM	V RWE
Methylene chloride	NELAP	7.78	J	4.3	µa/Ka-drv	1	8/6/2010 11:46:00 AM	M RWF
Naphthalene	NELAP	15.6		ND	µa/Ka-drv	1	8/6/2010 11:46:00 AM	A BWE
n-Butylbenzene	NELAP	7.78		ND	ua/Ka-drv	1	8/6/2010 11:46:00 AN	J RWF
n-Hexane		31.1		ND	ua/Ka-drv	1	8/6/2010 11:46:00 AM	A RWF
Nitrobenzene	NELAP	156		ND	ua/Ka-drv	1	8/6/2010 11:46:00 AM	A RWE
n-Propylbenzene	NELAP	7.78		ND	ua/Ka-drv	1	8/6/2010 11:46:00 AM	/ RWE
o-Xylene	NELAP	7.78		ND	µa/Ka-drv	1	8/6/2010 11:46:00 AM	A RWE
Pentachloroethane	NELAP	7.78		ND	µa/Ka-drv	1	8/6/2010 11:46:00 AM	A RWE
p-lsopropyltoluene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	A RWE
Propionitrile	NELAP	77.8		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	A RWF
sec-Butylbenzene	NELAP	7.78		ND	µa/Ka-dry	1	8/6/2010 11:46:00 AM	A BWE
Styrene	NELAP	7.78		ND	µa/Ka-drv	1	8/6/2010 11:46:00 AM	1 BWF
tert-Butylbenzene	NELAP	7.78		ND	µa/Ka-drv	1	8/6/2010 11:46:00 AM	A BWE
Tetrachloroethene	NELAP	7.78		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	BWE
Tetrahydrofuran	NELAP	77.8		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	BWE
Toluene	NELAP	7.78		ND	µa/Ka-drv	1	8/6/2010 11:46:00 AM	BWE
trans-1,2-Dichloroethene	NELAP	7.78		ND	ua/Ka-drv	1	8/6/2010 11:46:00 AM	BWE
trans-1,3-Dichloropropene	NELAP	6.23		NÐ	µg/Kg-dry	1	8/6/2010 11:46:00 AM	BWE
Trichloroethene	NELAP	7.78		ND	µg/Kg-drv	1	8/6/2010 11:46:00 AM	BWE
Trichlorofluoromethane	NELAP	7.78		ND	µa/Ka-drv	1	8/6/2010 11:46:00 AM	RWE
Vinyl acetate	NELAP	77.8		ND	µa/Ka-drv	1	8/6/2010 11:46:00 AM	RWE
Vinyl chloride	NELAP	3.11		ND	µg/Kg-dry	1	8/6/2010 11:46:00 AM	RWE
Surr: 1,2-Dichloroethane-d4	72.:	2-131		102.8	%REC	1	8/6/2010 11:46:00 AM	BWF
Surr: 4-Bromofluorobenzene	82.	1-116		96.1	%REC	1	8/6/2010 11:46:00 AM	BWE
Surr: Dibromofluoromethane	77.3	7-120		102.9	%REC	1	8/6/2010 11:46:00 AM	RWE



March 13, 2017 BROKEN ARROW PLAN DEVELOPMENT

IL ELAP and NELAP Accredited - Accreditation #100226

Page 71 of 115

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engine	eering	ng Client Project: BA Landfill 2028-004						
WorkOrder: 10080226		Client Sample ID: SS-1						
Lab ID: 10080226-0	10			Collection	n Date: 8/4	/2010 8	3:30:00 AM	
Report Date: 17-Aug-10				Ν	Aatrix: SO	LID		
Analyses	Certification	n RL	Qual	Result	Units	DF	Date Analyzed A	alyst
SW-846 5030, 8260B, VOLATILE	ORGANIC COMP	OUNDS H	BY GC/MS	<u>.</u>				
Surr: Toluene-d8	9	86-116		98.7	%REC	1	8/6/2010 11:46:00 AM	RWE
<u>SW-846 7471A</u>								
Mercury	NELAP	0.011		0.030	mg/Kg-dry	1	8/6/2010	MEK
<u>SW-846 9045C</u>								
pH (1:1)	NELAP	1.00		7.66		1	8/6/2010 8:46:00 AM	KNS

Sample Narrative

SW-846 3550B, 8081A, Chlorinated Pesticides by GC/ECD

Elevated reporting limit due to sample composition.

SW-846 3550B, 8270C, Semi-Volatile Organic Compounds by GC/MS

Note: Benzidine is currently not reportable while extraction efficiency and recovery are investigated.

LCS was outside upper QC limits. Sample results are below reporting limit - data is reportable.

Elevated reporting limit due to high levels of target and/or non-target analytes.

SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS

RPD was outside of QC limit on 1,1-Dichloro-2-propanone in the LCSD.

Marginal Exceedance on Trichloroethene in the LCS is verified per NELAC Appendix D 1.1.2



ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client:	Client: A&M Engineering					Client Project: BA Landfill 2028-004							
WorkOrder:	10080226	•			Client Sample ID: SS-2								
Lab ID:	10080226-011				Collection Date: $8/4/2010 9.30.00 \text{ AM}$								
Report Date:	17-Aug-10				Motrix 2010 5.50.00 AW								
Report Date.			_										
Analyses		Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst				
EPA 600 2-78-054 MI	ETHOD 3.2.18.1												
Specific Conductance,	, Solid		1		1510	µmhos/cm	1	8/9/2010	NJM				
EPA SW846 3550C, 5	5035A, ASTM D29	<u>74</u>											
Percent Moisture			0.1		16.8	%	1	8/5/2010 2:00:00 PM	t MK				
STANDARD METHO	<u>DDS 18TH ED. 25</u>	<u>40 G</u>											
Total Solids			0.1		83.2	%	1	8/5/2010 2:00:00 PN	I MK				
<u>SW-846 3050B, 6010E</u>	<u>B, METALS BY IC</u>	<u>CP</u>											
Antimony		NELAP	4.90		< 4.90	mg/Kg-dry	1	8/9/2010 1:06:48 PM	i lal				
Arsenic		NELAP	4.81		19.2	mg/Kg-dry	2	8/11/2010 10:04:13 A	M LAL				
Beryinum		NELAP	0.19		1.27	mg/Kg-dry	2	8/11/2010 10:04:13 A	M LAL				
Cadmium		NELAP	0.38		1.87	mg/Kg-dry	2	8/11/2010 10:04:13 A	M LAL				
Cappor			1.00		59.4	mg/Kg-dry	1	8/10/2010 4:49:21 PN	1 LAL				
Lead			7.60		95.2	mg/Kg-ary	2	8/11/2010 10:04:13 Al	VI LAL				
Nickel			1.09		30.0	mg/Kg-ary	2	8/11/2010 10:04:13 AI					
Selenium			3.85		- 2 95	mg/Kg-ury	2	0/11/2010 10:04:13 AI	VI LAL				
Silver			0.00		< 3.65	mg/Kg-dry		0/10/2010 4:49:21 PN 9/10/2010 4:40:21 PN					
Zinc		NELAP	1.92		341	mg/Kg-dry	2	8/11/2010 10:04:19 AM					
SW-846 3050B. META	ALS BY GEAA		1.02		041	mg/rtg-ory	~	0/11/2010 10:04:13 Ar	/ LAL				
Thallium 784	1	NELAP	0.200		0.802	ma/Ka-drv	1	8/12/2010 4:37:06 PM	MEK				
SW-846 3550B, 8081A	. CHLORINATEI	D PESTICIDES	BY GC/	ECD					i inclik				
4,4'-DDD		NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE				
4,4'-DDE		NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE				
4,4´-DDT		NELAP	501		ND	µg/Kg-dry	250	8/16/2010 2:51:00 AM	HE				
Alachlor		NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE				
Aldrin		NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE				
alpha-BHC		NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE				
alpha-Chlordane		NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE				
beta-BHC		NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE				
Chlordane		NELAP	20.0		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE				
delta-BHC		NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE				
Dieldrin		NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE				
Endosulfan I		NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE				
Endosulfan II		NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE				
Endosulfan sulfate		NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE				
Endrin		NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE				
Endrin aldenyde		NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE				
Enarin ketone		NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE				
gamma-BHC		NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AM	HE				



March 13, 2017

BROKEN ARROW PLAN DEVELOPMENT

Page 73 of 115

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client:A&M EngineeringClient PWorkOrder:10080226Client SamLab ID:10080226-011CollectionReport Date:17-Aug-10N						Project: BA Landfill 2028-004 nple ID: SS-2 on Date: 8/4/2010 9:30:00 AM Matrix: SOLID					
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst			
SW-846 3550B, 8081A, CHLORINATE	ED PESTICIDE	<u>S BY GC</u>	- /ECD								
gamma-Chlordane	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AN	I HE			
Heptachlor	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AN	I HE			
Heptachlor epoxide	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AN	I HE			
Methoxychlor	NELAP	501		ND	µg/Kg-dry	250	8/16/2010 2:51:00 AM	HE			
loxaphene	NELAP	180		ND	µg/Kg-dry	5	8/11/2010 3:36:00 AM	I HE			
Surr: Decachlorobiphenyl		48-149		85.1	%REC	5	8/11/2010 3:36:00 AM	HE			
Surr: letrachloro-m-xylene		19-145		57.7	%REC	5	8/11/2010 3:36:00 AM	HE			
SW-846 3550B, 8082, POLYCHLORIN	ATED BIPHEN	IYLS (PC	<u>(BS) BY GO</u>	<u>C/ECD</u>							
Aroclor 1016	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 6:58:00 PM	HE			
Aroclor 1221	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 6:58:00 PM	HE			
Arocior 1232	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 6:58:00 PM	HE			
Aroclor 1242	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 6:58:00 PM	HE			
Aroclor 1248	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 6:58:00 PM	HE			
Aroclor 1254	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 6:58:00 PM	ΗĘ			
Arocior 1260	NELAP	45.0		DM	µg/Kg-dry	1	8/9/2010 6:58:00 PM	HE			
Surr. Decachioropiphenyi	-	5-156		75.7	%REC	1	8/9/2010 6:58:00 PM	HE			
	<i>.</i>	35-123		57.3	%REC	1	8/9/2010 6:58:00 PM	HĘ			
<u>5W-846 3550B, 8270C, SEMI-VOLATI</u>	LE ORGANIC (COMPO	UNDS BY C	<u>GC/MS</u>							
1,2,4-Thenologenzene		0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH			
1,2-Dichlorobenzene	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH			
	NELAP	0.600		ND	mg/Kg-ary	210	8/8/2010 6:20:00 PM	DMH			
1,4-Dichloropenzene	NELAP	0.600		ND	mg/Kg-dry	T	8/8/2010 6:20:00 PM	DMH			
2,4,5-Trichlerenhand	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH			
2,4,6-11Chlorophenol	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH			
2,4-Dichloropheno:	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH			
2,4-Dimetryphenol		1.00		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH			
2,4-Dinitrophenol	NELAP	1.20		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH			
2,4-Dinitrotoluene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH			
	NELAP	0.420		ND	mg/Kg-dry	- 3	8/8/2010 6:20:00 PM	DMH			
2-Chloronaphthalene	NELAP	0.420		ND	mg/Kg-dry	3 7	8/8/2010 6:20:00 PM	DMH			
2-Chlorophenol	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH			
2-Methoxy-4-methylphenol		0.779		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH			
	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH			
	NELAP	1.20		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH			
2-Nitrophenol	NELAP	0.420		NĎ	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH			
	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH			
	NELAP	1.20		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH			
4,o-Dinitro-2-methylphenol	NELAP	1.20		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH			

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5445 HORSESHOE LAKE ROAD COLLINSVILLE. ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-011

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: SS-2 Collection Date: 8/4/2010 9:30:00 AM Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	Analyst
SW-846 3550B, 8270C, SEMI-VO	LATILE ORGANIC	COMPO	UNDS BY	GC/MS				
4-Bromophenyl phenyl ether	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PN	/ DMH
4-Chioro-3-methylphenol	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	A DMH
4-Chloroaniline	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	1 DMH
4-Chiorophenyl phenyl ether	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	1 DMH
4-Nitroaniline	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	1 DMH
4-Nitrophenol	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PN	1 DMH
Acenaphthene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	I DMH
Acenaphthylene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	I DMH
Aniline	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	I DMH
Anthracene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	I DMH
Azobenzene		0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Benzidine	NELAP	1.27		see note	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Benzo(a)anthracene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Benzo(a)pyrene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Benzo(b)fluoranthene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Benzo(g,h,i)perylene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Benzo(k)fluoranthene	NELAP	0.420		NÐ	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Benzoic acid	NELAP	1.80		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Benzyl alcohoi	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Bis(2-chloroethoxy)methane	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Bis(2-chloroethyl)ether	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Bis(2-chloroisopropyl)ether	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Butyl benzyl phthalate	NELAP	0.420		ND	mg/Kg-dry	S 1 6,	8/8/2010 6:20:00 PM	DMH
Carbazole		0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Chrysene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Dibenzo(a,h)anthracene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Dibenzofuran	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Diethyl phthalate	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Dimethyl phthalate	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Di-n-butyl phthalate	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Di-n-octyl phthalate	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Fluoranthene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Fluorene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Hexachlorobenzene	NELAP	0.420		ND	ma/Ka-drv	1	8/8/2010 6:20:00 PM	DMH
Hexachlorobutadiene	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Hexachlorocyclopentadiene	NELAP	0.420		NÐ	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Hexachloroethane	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH



March 13, 2017 BROKEN ARROW

PLAN DEVELOPMENT

Page 75 of 115

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client:	A&M Engineering	CI
WorkOrder:	10080226	Client
Lab ID:	10080226-011	Coll

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 ient Sample ID: SS-2 Collection Date: 8/4/2010 9:30:00 AM Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	Analyst
SW-846 3550B, 8270C, SEMI-VOLAT	TILE ORGANIC	СОМРО	UNDS BY	GC/MS				
Indeno(1,2,3-cd)pyrene	NELAP'	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	
Isophorone	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	
m,p-Cresol	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PN	
Naphthalene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	1 DMH
Nitrobenzene	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	1 DMH
N-Nitrosodimethylamine	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	I DMH
N-Nitroso-di-n-propylamine	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PN	I DMH
N-Nitrosodiphenylamine	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
o-Cresol	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	I DMH
Pentachlorophenol	NELAP	2.40		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Phenanthrene	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Phenol	NELAP	0.420		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Pyrene	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Pyridine	NELAP	0.600		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
1,2-Diphenylhydrazine		1.01		ND	mg/Kg-dry	1	8/8/2010 6:20:00 PM	DMH
Surr: 2,4,6-Tribromophenol	32	.7-130		90.5	%REC	1	8/8/2010 6:20:00 PM	DMH
Surr: 2-Fluorobiphenyl	34	.1-116		86.0	%REC	1	8/8/2010 6:20:00 PM	DMH
Surr: 2-Fluorophenol	3	0.5-99		72.6	%REC	1	8/8/2010 6:20:00 PM	DMH
Surr: Nitrobenzene-d5	34	.1-101		83.3	%REC	1	8/8/2010 6:20:00 PM	DMH
Surr: Phenol-d5	34	.9-110		78.1	%REC	1	8/8/2010 6:20:00 PM	DMH
Surr: p-Terphenyi-d14	41	.7-124		115.4	%REC	1	8/8/2010 6:20:00 PM	DMH
SW-846 5030, 8260B, VOLATILE OR	GANIC COMPO	UNDS BY	Y GC/MS					
1,1,1,2-Tetrachloroethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,1,1-Trichloroethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,1,2,2-Tetrachloroethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,1,2-Trichloro-1,2,2-trifluoroethane		9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,1,2-Trichloroethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,1-Dichloro-2-propanone		94.2		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,1-Dichloroethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,1-Dichloroethene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,1-Dichloropropene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,2,3-Trichlorobenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,2,3-Trichloropropane	NELAP	18.8		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,2,3-Trimethylbenzene		9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,2,4-Trichlorobenzene	NELAP	9.42		ND	μg/Kg-dry	1	8/6/2010 1:11:00 PM	BWE
1,2,4-Trimethylbenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	BWE
1,2-Dibromo-3-chloropropane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	BWF
1,2-Dibromoethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE



March 13, 2017

BROKEN ARROW PLAN DEVELOPMENT

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-011 Report Date: 17-Aug-10 Client Project: BA Landfill 2028-004 Client Sample ID: SS-2 Collection Date: 8/4/2010 9:30:00 AM

Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 5030, 8260B, VOLATI	LE ORGANIC COMPO	UNDS E	Y GC/MS					
t,2-Dichlorobenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,2-Dichloroethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,2-Dichloropropane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,3,5-Trimethylbenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,3-Dichlorobenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,3-Dichloropropane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1,4-Dichlorobenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
1-Chlorobutane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
2,2-Dichloropropane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
2-Butanone	NELAP	94.2		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
2-Chlorotoluene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
2-Hexanone	NELAP	94.2		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	BWE
2-Nitropropane	NELAP	94.2		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
4-Chlorotoluene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
4-Methyl-2-pentanone	NELAP	94.2		ND	µg/Kg-dry	10 E	8/6/2010 1:11:00 PM	RWE
Acetone	NELAP	94.2		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	BWE
Acrolein	NELAP	188		NÐ	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Acrylonitrile	NELAP	18.8		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	BWE
Allyl chloride	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	BWE
Benzene	NELAP	1.88		ND	μg/Kg-drγ	1	8/6/2010 1:11:00 PM	BWE
Bromobenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Bromochloromethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Bromodichloromethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	BWE
Bromoform	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Bromomethane	NELAP	18.8		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	BWE
Carbon disulfide	NELAP	9.42		ND	µa/Ka-drv	1	8/6/2010 1:11:00 PM	RWE
Carbon tetrachloride	NELAP	9.42		ND	µa/Ka-dry	1	8/6/2010 1:11:00 PM	BWE
Chlorobenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	BWE
Chloroethane	NELAP	18.8		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Chloroform	NELAP	9.42		ND	µa/Ka-drv	1	8/6/2010 1:11:00 PM	RWE
Chloromethane	NELAP	18.8		ND	µa/Ka-dry	1	8/6/2010 1:11:00 PM	BWE
cis-1,2-Dichloroethene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
cis-1,3-Dichloropropene	NELAP	7.54		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Cyclohexanone		188		ND	µa/Ka-drv	1	8/6/2010 1:11:00 PM	BWE
Dibromochloromethane	NELAP	9.42		ND	µa/Ka-drv	1	8/6/2010 1:11:00 PM	BWE
Dibromomethane	NELAP	9.42		ND	µg/Kg-drv	1	8/6/2010 1:11:00 PM	BWF
Dichlorodifluoromethane	NELAP	18.8		ND	ua/Ka-drv	1	8/6/2010 1:11:00 PM	BWE
Ethyl acetate	NELAP	94.2		ND	µa/Ka-drv	1	8/6/2010 1:11:00 PM	RWE
						112		



PLAN DEVELOPMENT

Page 77 of 115

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-011

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: SS-2 Collection Date: 8/4/2010 9:30:00 AM Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 5030, 8260B, VOLATILE	ORGANIC COMPO	UNDS E	BY GC/MS				· · · · · · · · · · · · · · · · · · ·	
Ethyl ether	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Ethyl methacrylate	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Ethylbenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Heptane		37.7		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Hexachlorobutadiene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Hexachloroethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
lodomethane	NELAP	18. 8		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
lsopropylbenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
m,p-Xylenes	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Methacrylonitrile	NELAP	94.2		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Methyl Methacrylate	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Methyl tert-butyl ether	NELAP	3.77		ND	µg/Kg-dry	13	8/6/2010 1:11:00 PM	RWE
Methylacrylate		18.8		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Methylene chloride	NELAP	9.42	J	5.0	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Naphthalene	NELAP	18.8		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
n-Butylbenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
n-Hexane		37.7		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Nitrobenzene	NELAP	188		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
n-Propylbenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
o-Xylene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Pentachloroethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	BWE
p-Isopropyltoluene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Propionitrile	NELAP	94.2		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
sec-Butylbenzene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Styrene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
tert-Butylbenzene	NELAP	9.42		NÐ	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Tetrachloroethene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Tetrahydrofuran	NELAP	94.2		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Toluene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
trans-1,2-Dichloroethene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
trans-1,3-Dichloropropene	NELAP	7.54		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Trichloroethene	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Trichlorofluoromethane	NELAP	9.42		ND	µg/Kg-dry	1	8/6/2010 1:11:00 PM	RWE
Vinyl acetate	NELAP	94.2		ND	µq/Kq-drv	1	8/6/2010 1:11:00 PM	RWE
Vinyl chloride	NELAP	3.77		ND	µa/Ka-dry	1	8/6/2010 1:11:00 PM	BWE
Surr: 1,2-Dichloroethane-d4	72.2	2-131		99.1	%REC	1	8/6/2010 1:11:00 PM	RWF
Surr: 4-Bromofluorobenzene	82.1	-116		87.3	%REC	1	8/6/2010 1:11:00 PM	BWE
Surr: Dibromofluoromethane	77.7	7-120		105.1	%REC	1	8/6/2010 1:11:00 PM	RWE



Page 78 of 115

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineer	ing			Client P	roject: BA	Landfil	2028-004	
WorkOrder: 10080226				Client Sam	ple ID: SS	-2		
Lab ID: 10080226-011				Collection	1 Date: 8/4	l/2010 s	9:30:00 AM	
Report Date: 17-Aug-10				Ν	Aatrix: SC	LID		
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE OR	GANIC COMP	<u>OUNDS I</u>	BY GC/MS					
Surr: Toluene-d8		86-116		104.8	%REC	- 1	8/6/2010 1:11:00 P	M RWE
SW-846 7471A Mercury	NELAP	0.012		0.120	mg/Kg-dry	1	8/6/2010	МЕК
pH (1:1)	NELAP	1.00		5.88		1	8/6/2010 8:46:00 A	M KNS

Sample Narrative

SW-846 3550B, 8081A, Chlorinated Pesticides by GC/ECD

Elevated reporting limit due to sample composition.

SW-846 3550B, 8270C, Semi-Volatile Organic Compounds by GC/MS

Note: Benzidine is currently not reportable while extraction efficiency and recovery are investigated.

LCS was outside upper QC limits. Sample results are below reporting limit - data is reportable.

SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS

RPD was outside of QC limit on 1,1-Dichloro-2-propanone in the LCSD.

Marginal Exceedance on Trichloroethene in the LCS is verified per NELAC Appendix D 1.1.2

RECEIVED March 13, 2017 BROKEN ARROW PLAN DEVELOPMENT

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineerin WorkOrder: 10080226		Client Project: BA Landfill 2028-004 Client Sample ID: SS-3								
Lab ID: 10080226-012				Collection Date: 8/4/2010 11:30:00 AM						
Report Date: 17-Aug-10				Matrix: SOUD						
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst		
EPA 600 2-78-054 METHOD 3.2.18.1	2									
Specific Conductance, Solid		1		183	µmhos/cm	1	8/9/2010	NJM		
EPA SW846 3550C, 5035A, ASTM D29	274									
Percent Moisture		0.1		13.5	%	1	8/5/2010 2:00:00 PM	MK		
STANDARD METHODS 18TH ED. 25	<u>40 G</u>	.								
CAN BAG 2050D COLOD MEETAX C DAVID	() D	0.1		86.5	%	1	8/5/2010 2:00:00 PM	MK		
SW-846 3050B, 6010B, METALS BY 10		4.04								
Arsenic		4.01		< 4.81	mg/Kg-ary		8/9/2010 1:14:18 PM	LAL		
Bendlium		2.40		0.50	mg/Kg-ary	10	8/10/2010 4:56:51 PM			
Cadmium		0.10		0.09	mg/Kg-ary	1	8/10/2010 4:56:51 PM	LAL		
Chromium	NELAP	0.20		20.23	mg/Kg-dry		0/10/2010 4:50:51 PM			
Copper	NELAP	0.00		29.7	mg/Kg-dry	ा न	9/10/2010 4:50:51 PM			
Lead	NELAP	3.92		21.7	mg/Kg-dry	1	8/10/2010 4:50:51 PM			
Nickel	NELAP	0.98		22.6	ma/Ka-dry	1	8/10/2010 4:56:51 PM			
Selenium	NELAP	3.92		< 3.92	ma/Ka-drv	1	8/10/2010 4:56:51 PM			
Silver	NELAP	0.54		< 0.54	ma/Ka-drv	t:	8/10/2010 4:56:51 PM	LAL		
Zinc	NELAP	0.98		87.0	ma/Ka-drv	1	8/10/2010 4:56:51 PM	LAL		
SW-846 3050B, METALS BY GFAA										
Thallium 7841	NELAP	0.196		0.297	mg/Kg-dry	1	8/12/2010 4:40:28 PM	MEK		
SW-846 3550B, 8081A, CHLORINATE	D PESTICIDES	BY GC/	ECD							
4,4´-DDD	NELAP	9.53		ND	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE		
4,4'-DDE	NELAP	9.53		ND	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE		
4,4´-DDT	NELAP	477		ND	µg/Kg-dry	250	8/16/2010 3:14:00 AM	HE		
Alachior	NELAP	9.53		ND	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE		
Aldrin	NELAP	9.53		ND	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE		
alpha-BHC	NELAP	9.53		ND	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE		
alpha-Chlordane	NELAP	9.53		ND	µg/Kg-dry	5	8/11/2010 3:59:00 AM	ΗĘ		
beta-BHC	NELAP	9.53		ND	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE		
Chlordane	NELAP	19.1		ND	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE		
delta-BHC	NELAP	9.53		ND	µg∕Kg-dry	5	8/11/2010 3:59:00 AM	HE		
Dieldrin	NELAP	9.53		ND	µg/Kg-d ry	5	8/11/2010 3:59:00 AM	HE		
	NELAP	9.53		ND	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE		
Endosultan II	NELAP	9.53		ND	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE		
Endosultan sulfate		9.53		ND	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE		
Englin Englin oldobudo		9.53		ND	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE		
Endrin kotono		9.53		ND	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE		
		9.53		ND	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE		
gamma-brio	INELAP	9.53		UN	µg/kg-ary	5	8/11/2010 3:59:00 AM	HE		



March 13, 2017

BROKEN ARROW

PLAN DEVELOPMENT

Page 80 of 115

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering	ng			Client I	Project: BA	Landfill	2028-004	
WorkOrder: 10080226				Client Sam	ple ID: SS-	-3		
Lab ID: 10080226-012				Collectio	n Date: 8/4	- /2010-1	1·30·00 AM	
Report Date: 17-Aug-10				Concerto	Motaire CO		1.00.00 AM	
Report Date: 17-Aug-10					Matrix: 50			
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 3550B, 8081A, CHLORINATE	D PESTICIDE	<u>S BY GC</u>	/ECD					
gamma-Chlordane	NELAP	9.53		ND	µg/Kg-dry	5	8/11/2010 3:59:00 AM	I HE
Heptachlor	NELAP	9.53		ND	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE
Heptachlor epoxide	NELAP	9.53		ND	µg/Kg-dry	5	8/11/2010 3:59:00 AM	I HE
Methoxychlor	NELAP	477		ND	µg/Kg-dry	250	8/16/2010 3:14:00 AM	HE
Toxaphene	NELAP	17 1		ND	µg/Kg-dry	5	8/11/2010 3:59:00 AM	HE
Surr: Decachlorobiphenyl		48-149		91.8	%REC	5	8/11/2010 3:59:00 AM	HE
Surr: Tetrachloro-m-xylene		19-145		65.8	%REC	5	8/11/2010 3:59:00 AM	HE
SW-846 3550B, 8082, POLYCHLORIN	ATED BIPHEN	<u>NYLS (PC</u>	CBS) BY GO	C/ECD				
Aroclor 1016	NELAP	42.8		ND	µg/Kg-dry	1	8/9/2010 7:15:00 PM	HE
Aroclor 1221	NELAP	42.8		ND	µg/Kg-dry	1	8/9/2010 7:15:00 PM	HE
Aroclor 1232	NELAP	42.8		ND	µg/Kg-dry	1	8/9/2010 7:15:00 PM	HE
Aroclor 1242	NELAP	42.8		ND	µg/Kg-dry	1	8/9/2010 7:15:00 PM	HE
Aroclor 1248	NELAP	42.8		ND	µg/Kg-dry	1	8/9/2010 7:15:00 PM	HE
Aroclor 1254	NELAP	42.8		ND	µg/Kg-dry	1	8/9/2010 7:15:00 PM	HE
Aroclor 1260	NELAP	42.8		ND	µg/Kg-dry	1	8/9/2010 7:15:00 PM	HE
Surr: Decachlorobiphenyl		5-156		80.2	%REC	1	8/9/2010 7:15:00 PM	HE
Surr: Tetrachloro-meta-xylene	7	.35-123		66.0	%REC	1	8/9/2010 7:15:00 PM	HE
SW-846 3550B, 8270C, SEMI-VOLATI	LE ORGANIC	COMPO	<u>UNDS BY (</u>	GC/MS				
1,2,4-Trichlorobenzene	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
1,2-Dichlorobenzene	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
1,3-Dichlorobenzene	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
1,4-Dichlorobenzene	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2,4,5-Trichlorophenol	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2,4,6-Trichlorophenol	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2,4-Dichlorophenol	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2,4-Dimethylphenol	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2,4-Dinitrophenol	NELAP	1.15		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2,4-Dinitrotoluene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2,6-Dinitrotoluene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2-Chloronaphthalene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2-Chlorophenol	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2-Methoxy-4-methylphenol		0.745		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2-Methylnaphthalene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2-Nitroaniline	NELAP	1.15		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
2-Nitrophenol	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
3,3 ⁻ Dichlorobenzidine	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
3-Nitroaniline	NELAP	1.15		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
4,6-Dinitro-2-methylpheno!	NELAP	1.15		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH



March 13, 2017 BROKEN ARROW

PLAN DEVELOPMENT

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client:	A&M Engineering
WorkOrder:	10080226

Lab ID: 10080226-012

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: SS-3 Collection Date: 8/4/2010 11:30:00 AM Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed Ar	alyst
SW-846 3550B, 8270C, SEMI-VOL	ATILE ORGANIC	COMPO	UNDS BY	GC/MS				
4-Bromophenyl phenyl ether	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
4-Chloro-3-methylphenol	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMF
4-Chloroaniline	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
4-Chlorophenyl phenyl ether	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DM⊢
4-Nitroaniline	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
4-Nitrophenol	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Acenaphthene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Acenaphthylene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Aniline	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Anthracene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Azobenzene		0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Benzidine	NELAP	1.21		see note	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Benzo(a)anthracene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Benzo(a)pyrene	NELAP	0.401		ND	mg/Kg-dry	1	8/10/2010 11:43:00 AM	DMH
Benzo(b)fluoranthene	NELAP	0.401		ND	mg/Kg-dry	1	8/10/2010 11:43:00 AM	DMH
Benzo(g,h,i)perylene	NELAP	0.401		ND	mg/Kg-dry	1	8/10/2010 11:43:00 AM	DMH
Benzo(k)fluoranthene	NELAP	0.401		ND	mg/Kg-dry	1	8/10/2010 11:43:00 AM	DMH
Benzoic acid	NELAP	1.72		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Benzyl ałcohol	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Bis(2-chloroethoxy)methane	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Bis(2-chloroethyl)ether	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Bis(2-chloroisopropyl)ether	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Butyl benzyl phthalate	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Carbazole		0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Chrysene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Dibenzo(a,h)anthracene	NELAP	0.401		ND	mg/Kg-dry	1	8/10/2010 11:43:00 AM	DMH
Dibenzofuran	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Diethyl phthalate	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Dimethyl phthalate	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Di-n-butyl phthalate	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Di-n-octyl phthalate	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Fluoranthene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Fluorene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Hexachlorobenzene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Hexachlorobutadiene	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Hexachlorocyclopentadiene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Hexachloroethane	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH



March 13, 2017 BROKEN ARROW PLAN DEVELOPMENT

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client:	A&M Engineering	Client Project:	BA Landfill 2028-004
WorkOrder:	10080226	Client Sample ID:	SS-3
Lab ID:	10080226-012	Collection Date:	8/4/2010 11:30:00 AM
Report Date:	17-Aug-10	Matrix:	SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3550B, 8270C, SEMI-VOLA	TILE ORGANIC	сомра	UNDS BY	GC/MS				
Indeno(1,2,3-cd)pyrene	NELAP	0.401		ND	mg/Kg-dry	-1	8/10/2010 11:43:00 /	
Isophorone	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PI	M DMH
m,p-Cresol	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 P	M DMH
Naphthalene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PI	M DMH
Nitrobenzene	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PI	M DMH
N-Nitrosodimethylamine	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PI	M DMH
N-Nitroso-di-n-propylamine	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 P	M DMH
N-Nitrosodiphenylamine	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	A DMH
o-Cresol	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	
Pentachlorophenol	NELAP	2.29		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	M DMH
Phenanthrene	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	M DMH
Phenol	NELAP	0.401		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	A DMH
Pyrene	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PN	/ DMH
Pyridine	NELAP	0.573		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	/ DMH
1,2-Diphenylhydrazine		0.963		ND	mg/Kg-dry	1	8/8/2010 6:52:00 PM	DMH
Surr: 2,4,6-Tribromophenol	32	2.7-130		98.0	%REC	1	8/8/2010 6:52:00 PM	A DMH
Surr: 2-Fluorobiphenyl	34	.1-116		89.8	%REC	1	8/8/2010 6:52:00 PM	1 DMH
Surr: 2-Fluorophenol	3	0.5-99		80.3	%REC	1	8/8/2010 6:52:00 PM	DMH
Surr: Nitrobenzene-d5	34	.1-101		84.8	%REC	1	8/8/2010 6:52:00 PM	1 DMH
Surr: Phenol-d5	34	.9-110		80.1	%REC	1	8/8/2010 6:52:00 PM	1 DMH
Surr: p-Terphenyl-d14	41	.7-124		105.5	%REC	1	8/8/2010 6:52:00 PM	I DMH
SW-846 5030, 8260B, VOLATILE OR	GANIC COMPO	UNDS B	Y GC/MS					
1,1,1,2-Tetrachloroethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PN	I RWE
1,1,1-Trichloroethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,1,2,2-Tetrachloroethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,1,2-Trichloro-1,2,2-trifluoroethane		9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,1,2-Trichloroethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,1-Dichloro-2-propanone		93.2		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,1-Dichloroethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,1-Dichloroethene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,1-Dichloropropene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,2,3-Trichlorobenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,2,3-Trichloropropane	NELAP	18.6		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,2,3-Trimethylbenzene		9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,2,4-Trichlorobenzene	NELAP	9.32		NÐ	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,2,4-Trimethylbenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,2-Dibromo-3-chloropropane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
1,2-Dibromoethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE

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March 13, 2017 **BROKEN ARROW** PLAN DEVELOPMENT

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-012

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: SS-3 Collection Date: 8/4/2010 11:30:00 AM

Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATH	LE ORGANIC COMPO	UNDS E	BY GC/MS					
1,2-Dichlorobenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	A RWE
1,2-Dichloroethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	A RWE
1,2-Dichloropropane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	A RWE
1,3,5-Trimethylbenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	/ RWE
1,3-Dichlorobenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	A RWE
1,3-Dichloropropane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PN	A RWE
1,4-Dichlorobenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	A RWE
1-Chlorobutane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	A RWE
2,2-Dichloropropane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	1 RWE
2-Butanone	NELAP	93.2		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	1 RWE
2-Chlorotoluene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	1 RWE
2-Hexanone	NELAP	93.2		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	I RWE
2-Nitropropane	NELAP	93.2		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	t RWE
4-Chlorotoluene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	1 RWE
4-Methyl-2-pentanone	NELAP	93.2		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Acetone	NELAP	93.2		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Acrolein	NELAP	186		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Acrylonitrile	NELAP	18.6		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Allyl chloride	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Benzene	NELAP	1.86		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Bromobenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Bromochloromethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Bromodichloromethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Bromoform	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Bromomethane	NELAP	18.6		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Carbon disulfide	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Carbon tetrachloride	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Chlorobenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Chloroethane	NELAP	18.6		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Chloroform	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Chloromethane	NELAP	18.6		ND	µg/Kg-d ry	1	8/6/2010 1:39:00 PM	RWE
cis-1,2-Dichloroethene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
cis-1,3-Dichloropropene	NELAP	7.46		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Cyclohexanone		186		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Dibromochloromethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Dibromomethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Dichlorodifluoromethane	NELAP	18.6		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Ethyl acetate	NELAP	93.2		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE

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5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client:	A&M Engineering	Client Project:	BA Landfill 2028-004
WorkOrder:	10080226	Client Sample ID:	SS-3
Lab ID:	10080226-012	Collection Date:	8/4/2010 11:30:00 AM
Report Date:	17-Aug-10	Matrix:	SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE	ORGANIC COMPO	UNDS B	SY GC/MS					
Ethyl ether	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 P	M RWE
Ethyl methacrylate	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 P	M RWE
Ethylbenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 P	M RWE
Heptane		37.3		ND	µg/Kg-dry	1	8/6/2010 1:39:00 P	M RWE
Hexachlorobutadiene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 P	M RWE
Hexachloroethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 P	M RWE
lodomethane	NELAP	18.6		ND	µg/Kg-dry	1	8/6/2010 1:39:00 P	M RWE
Isopropylbenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 P	M RWE
m,p-Xylenes	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 P	M RWE
Methacrylonitrile	NELAP	93.2		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PI	M RWE
Methyl Methacrylate	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 P	M RWE
Methyl tert-butyl ether	NELAP	3.73		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PI	M RWE
Methylacrylate		18.6		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PI	M RWE
Methylene chloride	NELAP	9.32	J	3.5	µg/Kg-dry	1	8/6/2010 1:39:00 PI	M RWE
Naphthalene	NELAP	18.6		ND	µg/Kg-dry	1	8/6/2010 1:39:00 Pt	M RWE
n-Butylbenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	M RWE
n-Hexane		37.3		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	A RWE
Nitrobenzene	NELAP	186		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	A RWE
n-Propylbenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	A BWE
o-Xylene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	A RWE
Pentachloroethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	A RWE
p-Isopropyltoluene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	/ RWE
Propionitrile	NELAP	93.2		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	A RWE
sec-Butylbenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	A RWE
Styrene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	A RWE
tert-Butylbenzene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	I RWE
Tetrachloroethene	NËLAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	1 RWE
Tetrahydrofuran	NELAP	93.2		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	1 RWE
Toluene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	1 RWE
trans-1,2-Dichloroethene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	I RWE
trans-1,3-Dichloropropene	NELAP	7.46		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Trichloroethene	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PN	RWE
Trichlorofluoromethane	NELAP	9.32		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Vinyl acetate	NELAP	93.2		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Vinyl chloride	NELAP	3.73		ND	µg/Kg-dry	1	8/6/2010 1:39:00 PM	RWE
Surr: 1,2-Dichloroethane-d4	72.	2-131		101.1	%REC	1	8/6/2010 1:39:00 PM	RWE
Surr: 4-Bromofluorobenzene	82.	1-116		88.7	%REC	1	8/6/2010 1:39:00 PM	RWE
Surr: Dibromofluoromethane	77.	7-120		108.2	%REC	1	8/6/2010 1:39:00 PM	RWE


ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Enginee	ering	ring Client Project: BA Landfill 2028-004						
WorkOrder: 10080226		Client Sample ID: SS-3						
Lab ID: 10080226-01	2	Collection Date: 8/4/2010 11:30:00 AM						
Report Date: 17-Aug-10		Matrix: SOLID						
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE O	RGANIC COMP	OUNDS I	BY GC/M	5				
Surr: Toluene-d8		86-116		103.9	%REC	1	8/6/2010 1:39:00 F	M RWE
<u>SW-846 7471A</u>								
Mercury	NELAP	0.012		0.051	mg/Kg-dry	1	8/6/2010	MEK
<u>SW-846 9045C</u>								
pH (1:1)	NELAP	1.00	_	4.89		1	8/6/2010 8:46:00 A	M KNS

Sample Narrative

SW-846 3550B, 8081A, Chlorinated Pesticides by GC/ECD

Elevated reporting limit due to sample composition.

SW-846 3550B, 8270C, Semi-Volatile Organic Compounds by GC/MS

Note: Benzidine is currently not reportable while extraction efficiency and recovery are investigated.

LCS was outside upper QC limits. Sample results are below reporting limit - data is reportable.

SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS

RPD was outside of QC limit on 1,1-Dichloro-2-propanone in the LCSD.

Marginal Exceedance on Trichloroethene in the LCS is verified per NELAC Appendix D 1.1.2

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineerir		Client I	Project: BA	Landfi	II 2028-004					
WorkOrder: 10080226				Client Sample ID: SS-4						
Lab ID: 10080226-013				Collectio	- n Date: 8/4	/2010 -	10:30:00 AM			
Report Date: 17-Aug-10				N	Matrix: SO	חו	0.00.00 / 101			
								_		
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst		
EPA 600 2-78-054 METHOD 3.2.18.1										
Specific Conductance, Solid		1		677	µmhos/cm	1	8/9/2010	NJM		
EPA SW846 3550C, 5035A, ASTM D29	74									
Percent Moisture		0.1		10.7	%	1	8/5/2010 2:00:00 PM	MK		
STANDARD METHODS 18TH ED. 25	<u>40 G</u>									
Total Solids		0.1		89.3	%	1	8/5/2010 2:00:00 PM	MK		
SW-846 3050B, 6010B, METALS BY 10	<u>CP</u>									
Antimony	NELAP	4.90	J	3.6	mg/Kg-dry	1	8/8/2010 10:41:41 PM	LAL		
Arsenic	NELAP	2.31		22.6	mg/Kg-dry	1	8/10/2010 5:04:10 PM	LAL		
Beryllium	NELAP	0.09		1.30	mg/Kg-dry	1	8/10/2010 5:04:10 PM	LAL		
Cadmium	NELAP	0.19		0.99	mg/Kg-dry	1	8/10/2010 5:04:10 PM	LAL		
Chromium	NELAP	0.93		48.4	mg/Kg-dry	1	8/10/2010 5:04:10 PM	LAL		
Copper	NELAP	0.93		59.7	mg/Kg-dry	1	8/10/2010 5:04:10 PM	LAL		
Lead	NELAP	3.70		28.7	mg/Kg-dry	1	8/10/2010 5:04:10 PM	LAL		
Nickel	NELAP	0.93		91.5	mg/Kg-dry	1	8/10/2010 5:04:10 PM	LAL		
Selenium	NELAP	3.70		< 3.70	mg/Kg-dry	1	8/10/2010 5:04:10 PM	LAL		
Silver	NELAP	0.51		< 0.51	mg/Kg-dry	1	8/10/2010 5:04:10 PM	LAL		
Zinc	NELAP	0.93		204	mg/Kg-dry	1	8/10/2010 5:04:10 PM	LAL		
SW-846 3050B, METALS BY GFAA										
Thallium 7841	NELAP	0.189		0.443	mg/Kg-dry	1	8/12/2010 4:43:50 PM	MEK		
SW-846 3550B, 8081A, CHLORINATEI	D PESTICIDES	BY GC/	ECD							
4,4´-DDD	NELAP	9.30		ND	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE		
4,4'-DDE	NELAP	9.30		ND	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE		
4,4'-DDT	NELAP	465		ND	µg/Kg-dry	250	8/16/2010 3:38:00 AM	HE		
Alachior	NELAP	9.30		ND	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE		
Aldrin	NELAP	9.30		ND	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE		
alpha-BHC	NELAP	9.30		ND	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE		
alpha-Chlordane	NELAP	9.30		ND	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE		
beta-BHC	NELAP	9.30		ND	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE		
Chlordane	NELAP	18.6		ND	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE		
delta-BHC	NELAP	9.30		ND	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE		
Dieldrin	NELAP	9.30		ND	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE		
Endosulfan I	NELAP	9.30		ND	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE		
Endosulfan II	NELAP	9.30		ND	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE		
Endosulfan sulfate	NELAP	9.30		ND	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE		
Endrin	NELAP	9.30		ND	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE		
Endrin aldehyde	NELAP	9.30		ND	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE		
Endrin ketone	NELAP	9.30		ND	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HE		
gamma-BHC	NELAP	9.30		ND	µg/Kg-dry	5	8/11/2010 4:23:00 AM	HĘ		



PLAN DEVELOPMENT

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineerin WorkOrder: 10080226	M Engineering Client Project: BA Landfill 2028-004 80226 Client Sample ID: SS-4							
Lab ID: 10080226-013				Collectio	- n Date: 8/4	/2010 1	0:30:00 AM	
Report Date: 17-Aug-10				1	Matrix: SO	LID		
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 3550B, 8081A, CHLORINATE	ED PESTICIDE	S BY GC	ÆCD					
gamma-Chlordane	NELAP	9.30	200	ND	ua/Ka-drv	5	8/11/2010 4:23:00 AM	и не
Heptachlor	NELAP	9.30		ND	µa/Ka-drv	5	8/11/2010 4:23:00 AM	
Heptachlor epoxide	NELAP	9.30		ND	µg/Kg-dry	5	8/11/2010 4:23:00 AM	A HE
Methoxychlor	NELAP	465		ND	µg/Kg-dry	250	8/16/2010 3:38:00 AM	/ HE
Toxaphene	NELAP	167		ND	µg/Kg-dry	5	8/11/2010 4:23:00 AM	A HE
Surr: Decachlorobiphenyl		48-149		84.4	%REC	5	8/11/2010 4:23:00 AM	/ HE
Surr: Tetrachloro-m-xylene		1 9-14 5		63.4	%REC	5	8/11/2010 4:23:00 AM	I HE
SW-846 3550B, 8082, POLYCHLORIN	ATED BIPHEN	YLS (PC	BS) BY G	C/ECD				
Aroclor 1016	NELAP	41.8		ND	µg/Kg-dry	1	8/9/2010 7:32:00 PM	HE
Aroclor 1221	NELAP	41.8		ND	µg/Kg-dry	1	8/9/2010 7:32:00 PM	HE
Arocior 1232	NELAP	41.8		ND	µg/Kg-dry	1	8/9/2010 7:32:00 PM	HE
Aroclor 1242	NELAP	41.8		ND	µg/Kg-dry	1	8/9/2010 7:32:00 PM	HE
Aroclor 1248	NELAP	41.8		ND	µg/Kg-dry	1	8/9/2010 7:32:00 PM	HE
Aroclor 1254	NELAP	41.8		ND	µg/Kg-dry	1	8/9/2010 7:32:00 PM	HE
Aroclor 1260	NELAP	41.8		ND	µg/Kg-dry	1	8/9/2010 7:32:00 PM	HE
Surr: Decachlorobiphenyl		5-156		81.4	%REC	1	8/9/2010 7:32:00 PM	HE
Surr: Tetrachloro-meta-xylene	7.	.35-123		63.0	%REC	1	8/9/2010 7:32:00 PM	HE
SW-846 3550B, 8270C, SEMI-VOLATE	LE ORGANIC	COMPO	UNDS BY	GC/MS				
1,2,4-Trichlorobenzene	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
1,2-Dichlorobenzene	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
1,3-Dichlorobenzene	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
1,4-Dichlorobenzene	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2,4,5-Trichlorophenol	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2,4,6-Trichlorophenol	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2,4-Dichlorophenol	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2,4-Dimethylphenol	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2,4-Dinitrophenol	NELAP	1.11		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2,4-Dinitrotoluene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2,6-Dinitrotoluene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2-Chloronaphthalene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2-Chlorophenol	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2-Methoxy-4-methylphenol		0.724		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2-Methyinaphthalene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2-Nitroaniline	NELAP	1.11		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
2-Nitrophenol	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
3,3'-Dichlorobenzidine	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
3-Nitroaniline	NELAP	1.11		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
4,6-Dinitro-2-methylphenol	NELAP	1.11		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH



5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineer	ring			Client]	Project: BA	Landfi	II 2028-004			
WorkOrder: 10080226		Client Sample ID: SS-4								
Lab ID: 10080226-013	3			Collectio	n Date: 8/4	/2010	10:30:00 AM			
Report Date: 17-Aug-10				concent	Matrix: SO		10.00.00 Alvi			
	<i>(</i>) (<i>)</i>				Maurix. 50					
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst		
SW-846 3550B, 8270C, SEMI-VOLAT	FILE ORGANIC	COMPO	UNDS BY	<u>GC/MS</u>						
4-Bromophenyl phenyl ether	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
4-Chloro-3-methylphenol	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
4-Chloroaniline	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
4-Chlorophenyl phenyl ether	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
4-Nitroaniline	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
4-Nitrophenol	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Acenaphthene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Acenaphthylene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Aniline	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Anthracene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Azobenzene		0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Benzidine	NELAP	1.18		see note	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Benzo(a)anthracene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Benzo(a)pyrene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Benzo(b)fluoranthene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Benzo(g,h,i)perylene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Benzo(k)fluoranthene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Benzoic acid	NELAP	1.67		NÐ	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Benzyi alcohol	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Bis(2-chloroethoxy)methane	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Bis(2-chloroethyl)ether	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Bis(2-chloroisopropyl)ether	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Bis(2-ethylhexyl)phthalate	NELAP	0.390		ND	mg/Kg-dry	S 1 S	8/8/2010 7:24:00 PM	DMH		
Butyl benzyl phthalate	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Carbazole		0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Chrysene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Dibenzo(a,h)anthracene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Dibenzofuran	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Diethyl phthalate	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Dimethyl phthalate	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Di-n-butyl phthalate	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Di-n-octyl phthalate	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Fluoranthene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Fluorene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Hexachlorobenzene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Hexachlorobutadiene	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Hexachlorocyclopentadiene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		
Hexachloroethane	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH		



March 13, 2017 BROKEN ARROW

PLAN DEVELOPMENT

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-013

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: SS-4 Collection Date: 8/4/2010 10:30:00 AM Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 3550B, 8270C, SEMI-VOLA	TILE ORGANIC	СОМРО	UNDS BY	GC/MS				
Indeno(1,2,3-cd)pyrene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Isophorone	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
m,p-Cresol	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Naphthalene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Nitrobenzene	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
N-Nitrosodimethylamine	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
N-Nitroso-di-n-propylamine	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
N-Nitrosodiphenylamine	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
o-Cresol	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Pentachlorophenol	NELAP	2.23		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Phenanthrene	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Phenol	NELAP	0.390		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Pyrene	NELAP	0.557		ND	nng/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Pyridine	NELAP	0.557		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
1,2-Diphenylhydrazine		0.936		ND	mg/Kg-dry	1	8/8/2010 7:24:00 PM	DMH
Surr: 2,4,6-Tribromophenol	32	.7-130		92.5	%REC	1	8/8/2010 7:24:00 PM	DMH
Surr: 2-Fluorobiphenyl	34	.1-116		79.1	%REC	1	8/8/2010 7:24:00 PM	DMH
Surr: 2-Fluorophenol	3	0.5-99		70.5	%REC	1	8/8/2010 7:24:00 PM	DMH
Surr: Nitrobenzene-d5	34	.1-101		73.4	%REC	1	8/8/2010 7:24:00 PM	DMH
Surr: Phenol-d5	34	.9-110		72.2	%REC	1	8/8/2010 7:24:00 PM	DMH
Surr: p-Terphenyl-d14	41	7-124		104.0	%REC	1	8/8/2010 7:24:00 PM	DMH
SW-846 5030, 8260B, VOLATILE OF	RGANIC COMPOU	JNDS BY	Y GC/MS					
1,1,1,2-Tetrachloroethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,1,1-Trichloroethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,1,2,2-Tetrachloroethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,1,2-Trichloro-1,2,2-trifluoroethane		7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,1,2-Trichloroethane	NELAP	7.6 7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,1-Dichloro-2-propanone		76.7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,1-Dichloroethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,1-Dichloroethene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,1-Dichloropropene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,2,3-Trichlorobenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,2,3-Trichloropropane	NELAP	15.3		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,2,3-Trimethylbenzene		7.67		ND	µq/Kq-drv	1	8/6/2010 2:07:00 PM	BWE
1,2,4-Trichlorobenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	BWE
1,2,4-Trimethylbenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,2-Dibromo-3-chloropropane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	BWE
1,2-Dibromoethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE



BROKEN ARROW PLAN DEVELOPMENT

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-013

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: SS-4 Collection Date: 8/4/2010 10:30:00 AM Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 5030, 8260B, VOLATI	LE ORGANIC COMPC	UNDS H	BY GC/MS					
1,2-Dichlorobenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,2-Dichloroethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,2-Dichloropropane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,3,5-Trimethylbenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,3-Dichlorobenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,3-Dichloropropane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1,4-Dichlorobenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
1-Chlorobutane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
2,2-Dichloropropane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
2-Butanone	NELAP	76.7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
2-Chlorotoluene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
2-Hexanone	NELAP	76.7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
2-Nitropropane	NELAP	76.7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
4-Chlorotoluene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
4-Methyl-2-pentanone	NELAP	76.7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Acetone	NELAP	76. 7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Acrolein	NELAP	153		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Acrylonitrile	NELAP	15.3		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Allyl chloride	NELAP	7.67		ND	µg/Kg-dry	5 1 0	8/6/2010 2:07:00 PM	RWE
Benzene	NELAP	1.53		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Bromobenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Bromochloromethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Bromodichloromethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Bromoform	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Bromomethane	NELAP	15.3		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Carbon disulfide	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Carbon tetrachloride	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Chlorobenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Chloroethane	NELAP	15.3		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Chloroform	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Chloromethane	NELAP	15.3		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
cis-1,2-Dichloroethene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
cis-1,3-Dichloropropene	NELAP	6.13		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Cyclohexanone		153		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Dibromochloromethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Dibromomethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	BWE
Dichlorodifluoromethane	NELAP	15.3		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Ethyl acetate	NELAP	76.7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE



Page 91 of 115

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering Client Project: BA Landfill 2028-004 WorkOrder: 10080226 Client Sample ID: SS-4 Lab ID: 10080226-013 Collection Date: 8/4/2010 10:30:00 AM Report Date: 17-Aug-10 Matrix: SOLID Analyses Certification RL Oual Result Units DF Date Analyzed Analyst SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY CC/MS

	ONGIN HO OON.		I GOUND					
Ethyl ether	NELAP	7.67	2	ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Ethyl methacrylate	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Ethylbenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Heptane		30.7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Hexachlorobutadiene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Hexachloroethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
lodomethane	NELAP	15.3		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
isopropylbenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
m,p-Xylenes	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Methacrylonitrile	NELAP	76.7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Methyl Methacrylate	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	BWE
Methyl tert-butyl ether	NELAP	3.07		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Methylacrylate		15.3		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Methylene chloride	NELAP	7.67	3	4.8	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Naphthalene	NELAP	15.3		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	BWE
n-Butylbenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	BWE
n-Hexane		30.7		ND	µq/Kq-dry	1	8/6/2010 2:07:00 PM	RWE
Nitrobenzene	NELAP	153		ND	µa/Ka-drv	1	8/6/2010 2:07:00 PM	BWE
n-Propylbenzene	NELAP	7.67		ND	µa/Ka-dry	1	8/6/2010 2:07:00 PM	RWE
o-Xylene	NELAP	7.67		ND	µa/Ka-drv	1	8/6/2010 2:07:00 PM	BWE
Pentachloroethane	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
p-Isopropyitoluene	NELAP	7.67		ND	ua/Ka-drv	1	8/6/2010 2:07:00 PM	BWF
Propionitrile	NELAP	76.7		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	BWE
sec-Butylbenzene	NELAP	7.67		ND	µg/Kg-dry	1	8/6/2010 2:07:00 PM	RWE
Styrene	NELAP	7.67		ND	µa/Ka-dry	1	8/6/2010 2:07:00 PM	BWE
tert-Butylbenzene	NELAP	7.67		ND	ua/Ka-drv	1	8/6/2010 2:07:00 PM	BWE
Tetrachloroethene	NELAP	7.67		ND	µa/Ka-drv	1	8/6/2010 2:07:00 PM	RWE
Tetrahydrofuran	NELAP	76.7		ND	µa/Ka-drv	1	8/6/2010 2:07:00 PM	RWF
Toluene	NELAP	7.67		ND	µa/Ka-dry	1	8/6/2010 2:07:00 PM	BWE
trans-1,2-Dichloroethene	NELAP	7.67		ND	ua/Ka-drv	1	8/6/2010 2:07:00 PM	RWE
trans-1,3-Dichloropropene	NELAP	6.13		ND	ua/Ka-drv	1	8/6/2010 2:07:00 PM	BWE
Trichloroethene	NELAP	7.67		ND	ua/Ka-drv	1	8/6/2010 2:07:00 PM	BWE
Trichlorofluoromethane	NELAP	7.67		ND	ua/Ka-drv	1	8/6/2010 2:07:00 PM	BWE
Vinyl acetate	NELAP	76.7		ND	ua/Ka-drv	1	8/6/2010 2:07:00 PM	BW/E
Vinyl chloride	NELAP	3.07		ND	ua/Ka-drv	1	8/6/2010 2:07:00 PM	BWE
Surr: 1,2-Dichloroethane-d4		72.2-131		103.0	%REC	1	8/6/2010 2:07:00 PM	RWE
Surr: 4-Bromofluorobenzene		82.1-116		86.8	%REC	1	8/6/2010 2:07:00 PM	RW/F
Surr: Dibromofluoromethane		77.7-120		109.2	%BEC	1	8/6/2010 2:07:00 PM	
					/VI 160		57072010 2.07.00 F IV	11446



BROKEN ARROW PLAN DEVELOPMENT

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engin	eering	ring Client Project: BA Landfill 2028-004						
WorkOrder: 10080226		Client Sample ID: SS-4						
Lab ID: 10080226-	013			Collection	n Date: 8/4	/2010 1	0:30:00 AM	
Report Date: 17-Aug-10		Matrix: SOLID						
Analyses	Certificatio	n RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE	ORGANIC COM	POUNDS	BY GC/M	S				
Surr: Toluene-d8		86-116		102.6	%REC	1	8/6/2010 2:07:00 P	M RWE
<u>SW-846 7471A</u> Mercury	NELAP	0.011		0.100	mg/Kg-dry	1	8/6/2010	MEK
pH (1:1)	NELAP	1.00		4.37		1	8/6/2010 8:46:00 A	M KNS

Sample Narrative

SW-846 3550B, 8081A, Chlorinated Pesticides by GC/ECD

Elevated reporting limit due to sample composition.

SW-846 3550B, 8270C, Semi-Volatile Organic Compounds by GC/MS

Note: Benzidine is currently not reportable while extraction efficiency and recovery are investigated.

LCS was outside upper QC limits. Sample results are below reporting limit - data is reportable.

SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS

RPD was outside of QC limit on 1,1-Dichloro-2-propanone in the LCSD.

Marginal Exceedance on Trichloroethene in the LCS is verified per NELAC Appendix D 1.1.2

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Eng	jineering			Client]	Project: BA	Landfil	2028-004			
WorkOrder: 1008022	3			Client Sample ID: DUP						
Lab ID: 1008022	6-014			Collection Date: 8/4/2010						
Report Date: 17-Aug-1	0				Afatrive SO					
	•									
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst		
EPA 600 2-78-054 METHOD 3.	<u>2,18.1</u>									
Specific Conductance, Solid		1		1530	µmhos/cm	1	8/9/2010	NJM		
EPA SW846 3550C, 5035A, AST	<u>EM D2974</u>									
Percent Moisture		0.1		17.6	%	1	8/5/2010 2:00:00 PM	MK		
STANDARD METHODS 18TH	<u>ED. 2540 G</u>									
I OTAL SOLIDS	0.057.700	0.1		82.4	0/0	1	8/5/2010 2:00:00 PM	MK		
SW-846 JUSUB, 6010B, METAL	<u>SBYICP</u>	5.00		E 60						
Arsenic		2.40		< 5.00	mg/Kg-ary mg/Kg-day	1	8/8/2010 10:48:59 PM			
Bendlium		2.40		10.7	mg/Kg-ary	46 -	8/10/2010 5:11:29 PM			
Cadmium		0.10		1.27	mg/Kg-ury		8/10/2010 5:11:29 PM			
Chromium	NELAP	0.13		34.0	mg/Kg-dry		9/10/2010 5:11:29 PM			
Copper	NELAP	0.96		40.1	mg/Kg-dry	1	8/10/2010 5:11:29 PM			
Lead	NELAP	3.85		22.7	ma/Ka-dry	- 1	8/10/2010 5:11:29 PM			
Nickel	NELAP	0.96		89.3	ma/Ka-drv	1	8/10/2010 5:11:29 PM			
Selenium	NELAP	4.81		< 4.81	ma/Ka-drv	1	8/11/2010 10:24:42 AM			
Silver	NELAP	0.53		< 0.53	mg/Kg-dry	1	8/10/2010 5:11:29 PM	LAL		
Zinc	NELAP	0.96		189	mg/Kg-dry	1	8/10/2010 5:11:29 PM	LAL		
SW-846 3050B, METALS BY GI	FAA									
Thallium 7841	NELAP	0.182		0.378	mg/Kg-dry	1	8/12/2010 4:47:10 PM	MEK		
SW-846 3550B, 8081A, CHLORI	NATED PESTICIDES	BY GC/	ECD							
4,4´-DDD	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE		
4,4 ⁻ -DDE	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE		
4,4'-DDT	NELAP	501		ND	µg/Kg-dry	250	8/16/2010 4:02:00 AM	HE		
Alachior	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE		
Aldrin	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	ΗE		
alpha-BHC	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE		
alpha-Chiordane	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE		
Chlordono	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE		
dolta RHC	NELAP	20.1		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE		
	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE		
Endocultan	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	HE		
Endosulfan II		10.0		ND	µg/Kg-ary	5	8/11/2010 4:47:00 AM	HE		
Endosulfan sulfate	NELAP	10.0		ND	µg/kg-ary	5	8/11/2010 4:47:00 AM	HE		
Endrin		10.0			µg/rtg-ary ug/Kg.dor	5 5	0/11/2010 4:47:00 AM	HE		
Endrin aldehvde	NEI AP	10.0		עא מא	µg/r\g-ury ua/Ka.day	ว 5	9/11/2010 4:47:00 AM	HE		
Endrin ketone	NELAP	10.0		טאי חא	ug/Kg-dry	5	9/11/2010 4:47:00 AM	ne		
gamma-BHC	NELAP	10.0		ND	pg/rg/ury	5	8/11/2010 4.47.00 AM	HE		
					Haura and	5	0/11/2010 4.47:00 AM	лc		



March 13, 2017 BROKEN ARROW PLAN DEVELOPMENT

Page 94 of 115

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineerin	ng Client Project: BA Landfill 2028-004							
WorkOrder: 10080226	Client Sample ID: DUP							
Lab ID: 10080226-014				Collectio	n Date: 8/4	/2010		
Report Date: 17-Aug-10				Concerto	Motuine CO			
Report Date: 17-Aug-10					watrix: 50			
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 3550B, 8081A, CHLORINATE	D PESTICIDE	<u>S BY GC</u>	/ECD					
gamma-Chlordane	NELAP	10.0		ND	µg/Kg-dry	5	8/*1/2010 4:47:00 AN	1 HE
Heptachlor	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AN	1 HE
Heptachlor epoxide	NELAP	10.0		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AN	1 HE
Methoxychlor	NELAP	501		ND	µg/Kg-dry	250	8/16/2010 4:02:00 AN	I HE
Toxaphene	NELAP	180		ND	µg/Kg-dry	5	8/11/2010 4:47:00 AM	1 HE
Surr: Decachlorobiphenyl		48-149		96.1	%REC	5	8/11/2010 4:47:00 AN	I HE
Surr: Tetrachloro-m-xylene		19- 14 5		63.6	%REC	5	8/11/2010 4:47:00 AN	I HE
SW-846 3550B, 8082, POLYCHLORIN	ATED BIPHEN	VYLS (PC	CBS) BY GO	C/ECD				
Arocior 1016	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 7:49:00 PM	HE
Aroclor 1221	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 7:49:00 PM	HE
Aroclor 1232	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 7:49:00 PM	HE
Aroclor 1242	NELAP	45.0		ND	µg∕Kg-dry	1	8/9/2010 7:49:00 PM	HE
Aroclor 1248	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 7:49:00 PM	HE
Aroclor 1254	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 7:49:00 PM	HE
Aroclor 1260	NELAP	45.0		ND	µg/Kg-dry	1	8/9/2010 7:49:00 PM	HE
Surr: Decachlorobiphenyl		5-156		96.1	%REC	1	8/9/2010 7:49:00 PM	HE
Surr: Tetrachioro-meta-xylene	7	.35-123		70.7	%REC	1	8/9/2010 7:49:00 PM	HE
SW-846 3550B, 8270C, SEMI-VOLATI	LE ORGANIC	<u>COMPOI</u>	<u>UNDS BY (</u>	<u>GC/MS</u>				
1,2,4-Trichlorobenzene	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
1,2-Dichlorobenzene	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
1,3-Dichlorobenzene	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
1,4-Dichlorobenzene	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2,4,5-Trichlorophenol	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2,4,6-Trichlorophenol	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2,4-Dichlorophenol	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2,4-Dimethylphenol	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2,4-Dinitrophenol	NELAP	1.20		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2,4-Dinitrotoluene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2,6-Dinitrotoluene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2-Chloronaphthalene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2-Chlorophenol	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2-Methoxy-4-methylphenol		0.782		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2-Methylnaphthalene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2-Nitroaniline	NELAP	1.20		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
2-Nitrophenol	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
3,3'-Dichlorobenzidine	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
3-Nitroaniline	NELAP	1.20		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
4,6-Dinitro-2-methylphenol	NELAP	1.20		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH

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BROKEN ARROW PLAN DEVELOPMENT

Page 95 of 115

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226 Lab ID: 10080226-014

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: DUP Collection Date: 8/4/2010 Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3550B, 8270C, SEMI-VO	LATILE ORGANIC	COMPO	UNDS BY	GC/MS				
4-Bromophenyl phenyl ether	NELAP	0.421	2	ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	A DMH
4-Chloro-3-methylphenol	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	A DMH
4-Chloroaniline	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	A DMH
4-Chlorophenyl phenyl ether	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	/ DMH
4-Nitroaniline	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	A DMH
4-Nitrophenol	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	I DMH
Acenaphthene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Acenaphthylene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	M DMH
Aniline	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Anthracene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	1 DMH
Azobenzene		0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	M DMH
Benzidine	NELAP	1.27		see note	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Benzo(a)anthracene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	I DMH
Benzo(a)pyrene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Benzo(b)fluoranthene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	I DMH
Benzo(g,h,i)perylene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Benzo(k)fluoranthene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Benzoic acid	NELAP	1.80		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Benzyl alcohol	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Bis(2-chloroethoxy)methane	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Bis(2-chloroethyl)ether	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Bis(2-chloroisopropyl)ether	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	0.421	J	0.15	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Butyl benzyl phthalate	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Carbazole		0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Chrysene	NELAP	0.421		ND	mg/Kg-dry	f	8/8/2010 7:57:00 PM	DMH
Dibenzo(a,h)anthracene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Dibenzofuran	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Diethyl phthalate	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Dimethyl phthalate	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Di-n-butyl phthalate	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Di-n-octyl phthalate	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Fluoranthene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Fluorene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Hexachlorobenzene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Hexachlorobutadiene	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Hexachlorocyclopentadiene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Hexachloroethane	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH



5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-014

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: DUP Collection Date: 8/4/2010 Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 3550B, 8270C, SEMI-VOLA	TILE ORGANIC	СОМРС	UNDS BY	GC/MS				
indeno(1,2,3-cd)pytene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Isophorone	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
m,p-Cresol	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Naphthalene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Nitrobenzene	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
N-Nitrosodimethylamine	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
N-Nitroso-di-n-propylamine	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
N-Nitrosodiphenylamine	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
o-Cresol	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Pentachlorophenol	NELAP	2.41		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Phenanthrene	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Phenol	NELAP	0.421		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Pyrene	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Pyridine	NELAP	0.602		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
1,2-Diphenylhydrazine		1.01		ND	mg/Kg-dry	1	8/8/2010 7:57:00 PM	DMH
Surr: 2,4,6-Tribromophenol	32	.7-130		76.7	%REC	1	8/8/2010 7:57:00 PM	DMH
Surr: 2-Fluorobiphenyl	34	.1-116		76.4	%REC	1	8/8/2010 7:57:00 PM	DMH
Surr: 2-Fluorophenol	3	0.5-99		63.0	%REC	1	8/8/2010 7:57:00 PM	DMH
Surr: Nitrobenzene-d5	34	.1-101		75.7	%REC	1	8/8/2010 7:57:00 PM	DMH
Surr: Phenol-d5	34	.9-110		68.3	%REC	1	8/8/2010 7:57:00 PM	DMH
Surr: p-Terphenyl-d14	41	.7-124		104.8	%REC	1	8/8/2010 7:57:00 PM	DMH
SW-846 5030, 8260B, VOLATILE OF	RGANIC COMPOU	UNDS BY	Y GC/MS					
1,1,1,2-Tetrachloroethane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,1,1-Trichloroethane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,1,2,2-Tetrachloroethane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,1,2-Trichloro-1,2,2-trifluoroethane		9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,1,2-Trichloroethane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,1-Dichloro-2-propanone		95.4		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,1-Dichloroethane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,1-Dichloroethene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,1-Dichloropropene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,2,3-Trichlorobenzene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,2,3-Trichloropropane	NELAP	19.1		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,2,3-Trimethylbenzene		9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,2,4-Trichlorobenzene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,2,4-Trimethylbenzene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,2-Dibromo-3-chloropropane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,2-Dibromoethane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Analyses	Certification	RL	Oual	Result	Units	DF	Date Analyzed	Analyst
Report Date: 17-Aug-10		Matrix: SOLID						
Lab ID: 10080226-014				Collection	Date: 8/4	4/2010		
WorkOrder: 10080226				Client Samp	ole ID: DL	JP		
Client: A&M Engineerin	ng	Client Project: BA Landfill 2028-004						

		-					ama y 04
SW-846 5030, 8260B, VOLATI	LE ORGANIC COM	POUNDS BY GC/MS			_	· · · · ·	
1,2-Dichlorobenzene	NELAP	9.54	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,2-Dichloroethane	NELAP	9.54	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,2-Dichloropropane	NELAP	9.54	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,3,5-Trimethylbenzene	NELAP	9.54	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,3-Dichlorobenzene	NELAP	9.54	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,3-Dichloropropane	NELAP	9.54	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1,4-Dichlorobenzene	NELAP	9.54	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
1-Chlorobutane	NELAP	9.54	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
2,2-Dichloropropane	NELAP	9.54	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
2-Butanone	NELAP	95.4	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
2-Chlorotoluene	NELAP	9.54	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
2-Hexanone	NELAP	95.4	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
2-Nitropropane	NELAP	95.4	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
4-Chlorotoluene	NELAP	9.54	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
4-Methyl-2-pentanone	NELAP	95.4	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Acetone	NELAP	95.4	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Acrolein	NELAP	191	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Acrylonitrile	NELAP	19. 1	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Allyi chloride	NELAP	9.54	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Benzene	NELAP	1.91	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Bromobenzene	NELAP	9.54	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Bromochloromethane	NELAP	9.54	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Bromodichloromethane	NELAP	9.54	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Bromoform	NELAP	9.54	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Bromomethane	NELAP	19.1	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Carbon disulfide	NELAP	9.54	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Carbon tetrachloride	NELAP	9.54	ND	µg/Kg-dry	312	8/6/2010 2:35:00 PM	RWE
Chlorobenzene	NELAP	9.54	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Chloroethane	NELAP	19.1	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Chloroform	NELAP	9.54	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Chloromethane	NELAP	19.1	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
cis-1,2-Dichloroethene	NELAP	9.54	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
cis-1,3-Dichloropropene	NELAP	7.63	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Cyclohexanone		191	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Dibromochloromethane	NELAP	9.54	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Dibromomethane	NELAP	9.54	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Dichlorodifluoromethane	NELAP	19.1	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Ethyl acetate	NELAP	95.4	ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Analyse	s Certi	fication RL	Qual	Result	Units	DF	Date Analyzed	Analyst
Report Date:	17-Aug-10			Matr	ix: SC	DLID		
Lab ID:	10080226-014			Collection Da	te: 8/4	4/2010		
WorkOrder:	10080226			Client Sample 1	D: DU	JP		
Client:	A&M Engineering			Client Proje	ect: B/	A Landfill 2	2028-004	

SW-846 5030, 8260B, VOLATILE	ORGANIC COM	POUNDS B	Y GC/MS					
Ethyl ether	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Ethyl methacrylate	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	BWE
Ethylbenzene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Heptane		38.1		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Hexachlorobutadiene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Hexachloroethane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
lodomethane	NELAP	19.1		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Isopropylbenzene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
m,p-Xylenes	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Methacrylonitrile	NELAP	95.4		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Methyl Methacrylate	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Methyl tert-butyl ether	NELAP	3.81		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Methylacrylate		19.1		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Methylene chloride	NELAP	9.54	J	3.2	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Naphthalene	NELAP	19.1		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
n-Butylbenzene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
n-Hexane		38.1		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Nitrobenzene	NELAP	191		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
n-Propylbenzene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
o-Xylene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Pentachloroethane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
p-lsopropyltoluene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Propionitrile	NELAP	95.4		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
sec-Butylbenzene	NELAP	9.54		ND	µg/Kg-dry	S 1 0	8/6/2010 2:35:00 PM	RWE
Styrene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
tert-Butylbenzene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Tetrachloroethene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Tetrahydrofuran	NELAP	95.4		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Toluene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
trans-1,2-Dichloroethene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
trans-1,3-Dichloropropene	NELAP	7.63		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Trichloroethene	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Trichlorofluoromethane	NELAP	9.54		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Vinyl acetate	NELAP	95.4		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	RWE
Vinyl chloride	NELAP	3.81		ND	µg/Kg-dry	1	8/6/2010 2:35:00 PM	BWE
Surr: 1,2-Dichloroethane-d4		72.2-131		104.0	%REC	1	8/6/2010 2:35:00 PM	RWE
Surr: 4-Bromofluorobenzene		82.1-116		87.0	%REC	1	8/6/2010 2:35:00 PM	RWE
Surr: Dibromofluoromethane		77.7-120		111.0	%REC	1	8/6/2010 2:35:00 PM	RWE

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineer	ring Client Project: BA Landfill 2028-004									
WorkOrder: 10080226				Client Sam	Client Sample ID: DUP					
Lab ID: 10080226-014				Collection Date: 8/4/2010						
Report Date: 17-Aug-10				N	latrix: SO	LID				
Analyses	Certification	ı RL	Qual	Result	Units	DF	Date Analyzed	Analyst		
SW-846 5030, 8260B, VOLATILE OR	GANIC COMP	OUNDS E	BY GC/MS	<u>s</u>						
Surr: Toluene-d8		86-116	ور	103.1	%REC	1	8/6/2010 2:35:00 F	M RWE		
<u>SW-846 7471A</u>										
Mercury	NELAP	0.012		0.055	mg/Kg-dry	1	8/6/2010	MEK		
<u>SW-846 9045C</u>										
pH (1:1)	NELAP	1.00		6.51		1	8/6/2010 8:46:00 A	M KNS		

Sample Narrative

SW-846 3050B, 6010B, Metals by ICP

Se - Elevated reporting limit due to high levels of target and/or non-target analytes.

SW-846 3550B, 8081A, Chlorinated Pesticides by GC/ECD

Elevated reporting limit due to sample composition.

SW-846 3550B, 8270C, Semi-Volatile Organic Compounds by GC/MS

Note: Benzidine is currently not reportable while extraction efficiency and recovery are investigated.

LCS was outside upper QC limits. Sample results are below reporting limit - data is reportable.

SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS

RPD was outside of QC limit on 1,1-Dichloro-2-propanone in the LCSD.

Marginal Exceedance on Trichloroethene in the LCS is verified per NELAC Appendix D 1.1.2

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineeri		Client Project: BA Landfill 2028-004								
WorkOrder: 10080226				Client Sample ID: C-1						
Lab ID: 10080226-015				Collection Date: 8/4/2010 12:30:00 PM						
Report Date: 17-Aug-10				Matrix: SOLD						
Report Date: 17-Aug-10				1						
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed An	nalyst		
EPA 600 2-78-054 METHOD 3.2.18.1										
Specific Conductance, Solid		1		1530	µmhos/cm	1	8/9/2010	NJM		
EPA SW846 3550C, 5035A, ASTM D2	<u>974</u>									
Percent Moisture		0.1		80.1	%	1	8/5/2010 2:00:00 PM	MK		
STANDARD METHODS 18TH ED. 25	540 <u>G</u>									
	~~	0.1		19.9	%	1	8/5/2010 2:00:00 PM	MK		
SW-846 3050B, 6010B, METALS BY I		4.01								
Anumony		4.01	•	2.8	mg/Kg-ary	1	8/8/2010 10:56:32 PM	LAL		
Bendlium		40.1		52.9 E 66	mg/Kg-ury	20	8/11/2010 12:54:04 PM			
Cadmium		0.10		3.00	mg/Kg-dry		0/10/2010 0:19:02 PM	LAL		
Chromium		0.13		4.35	mg/Kg-dry		9/10/2010 11:37:40 AM			
Copper	NELAP	19.2		24.3	ma/Ka-dry	20	8/11/2010 12:57-07 PM			
Lead	NELAP	19.2		66.8	mg/Kg-dry	5	8/11/2010 12:13:57 PM			
Nickel	NELAP	19.2		439	ma/Ka-dry	20	8/11/2010 12:54:04 PM	LAL		
Selenium	NELAP	76.9	J	41	ma/Ka-drv	20	8/11/2010 12:54:04 PM	LAL		
Silver	NELAP	0.53		2.40	ma/Ka-drv	1	8/12/2010 11:37:40 AM	JMW		
Zinc	NELAP	19.2		1130	mg/Kg-dry	20	8/11/2010 12:54:04 PM	LAL		
SW-846 3050B, METALS BY GFAA										
Thallium 7841	NELAP	0.192		< 0.192	mg/Kg-dry	1	8/12/2010 4:50:32 PM	MEK		
SW-846 3550B, 8081A, CHLORINATE	D PESTICIDES	BY GC/	<u>ECD</u>							
4,4´-DDD	NELAP	208		ND	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE		
4,4'-DDE	NELAP	208		ND	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE		
4,4'-DDT	NELAP	2080		ND	µg/Kg-dry	250	8/16/2010 4:25:00 AM	HE		
Alachior	NELAP	208		ND	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE		
Aldrin	NELAP	208		ND	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE		
alpha-BHC	NELAP	208		ND	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE		
alpha-Chlordane	NELAP	208		ND	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE		
beta-BHC	NELAP	208		ND	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE		
Chlordane	NELAP	416		ND	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE		
delta-BHC	NELAP	208		ND	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE		
Dieldrin	NELAP	208		ND	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE.		
Endosulfan I	NELAP	208		ND	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE		
Endosulfan II	NELAP	208		ND	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE		
Endosultan sultate	NELAP	208		ND	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE		
Engnn	NELAP	208		ND	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE		
Endrin aldenyde	NELAP	208		ND	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE		
		208		ND	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE		
gamma-BHC	NELAP	208		ND	µg/Kg-dry	25	8/11/2010 5:11:00 AM	HE		



Page 101 of 115

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engine	eering Client Project: BA Landfill 2028-004							
WorkOrder: 10080226				Client San	ple ID: C-1			
Lab ID: 10080226-0	15			Collectio	- n Date: 8/4	/2010 1	2:30:00 PM	
Report Date: 17-Aug-10]	Matrix: SO	LID		
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed An	nalyst
SW-846 3550B 8081A CHI OPIN	ATED PESTICIDE	SBVCC	/FCD		~~			.,
gamma-Chlordane	NELAP	208	ECD	ND	ua/Ka-drv	25	8/11/2010 5-11-00 AM	HE
Heptachlor	NELAP	208		ND	ua/Ka-drv	25	8/11/2010 5:11:00 AM	HE
Heptachlor epoxide	NELAP	208		ND	ug/Kg-dry	25	8/11/2010 5:11:00 AM	HE
Methoxychlor	NELAP	2080		ND	ua/Ka-drv	250	8/16/2010 4:25:00 AM	HE
Toxaphene	NELAP	3740		ND	ua/Ka-dry	25	8/11/2010 5:11:00 AM	HE
Surr: Decachlorobiphenvl		48-149		118.8	%BEC	25	8/11/2010 5:11:00 AM	HE
Surr: Tetrachloro-m-xvlene		19-145		68.4	%BEC	25	8/11/2010 5:11:00 AM	HE
SW-846 3550B, 8082, POLYCHLO	RINATED BIPHEN	YLS (PC	BS) BY G	C/ECD	,01120	20	0/11/2010 0:11:00 AW	
Arodor 1016	NELAP	187	<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>	ND	ua/Ka-drv	1	8/9/2010 8:06:00 PM	HE
Aroclor 1221	NELAP	187		ND	ua/Ka-drv	1	8/9/2010 8:06:00 PM	HE
Aroclor 1232	NELAP	187		ND	ua/Ka-drv	1	8/9/2010 8:06:00 PM	HE
Aroclor 1242	NELAP	187		ND	µa/Ka-drv	1	8/9/2010 8:06:00 PM	HE
Aroclor 1248	NELAP	187		ND	ua/Ka-drv	1	8/9/2010 8:06:00 PM	HE
Aroclor 1254	NELAP	187		ND	µg/Kg-dry	1	8/9/2010 8:06:00 PM	HE
Aroclor 1260	NELAP	187		ND	µg/Kg-dry	1	8/9/2010 8:06:00 PM	HE
Surr: Decachlorobiphenyl		5-156		89.0	%REC	1	8/9/2010 8:06:00 PM	HE
Surr: Tetrachloro-meta-xylene	7.	35-123		76.5	%REC	1	8/9/2010 8:06:00 PM	HE
SW-846 3550B, 8270C, SEMI-VOLA	ATILE ORGANIC	COMPO	UNDS BY	GC/MS				
1,2,4-Trichlorobenzene	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
1,2-Dichlorobenzene	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
1,3-Dichlorobenzene	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
1,4-Dichlorobenzene	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2,4,5-Trichlorophenol	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2,4,6-Trichlorophenol	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2,4-Dichlorophenol	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2,4-Dimethylphenol	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2,4-Dinitrophenol	NELAP	25.4		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2,4-Dinitrotoluene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2,6-Dinitrotoluene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2-Chloronaphthalene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2-Chlorophenol	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2-Methoxy-4-methylphenol		16.5		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2-Methylnaphthalene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2-Nitroaniline	NELAP	25.4		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
2-Nitrophenol	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
3,3´-Dichlorobenzidine	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
3-Nitroaniline	NELAP	25.4		ND	mg/Kg-drv	5	8/10/2010 12:48:00 PM	DMH
4,6-Dinitro-2-methylphenol	NELAP	25.4		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineer WorkOrder: 10080226 Lab ID: 10080226-015 Report Date: 17-Aug-10		Client Project: BA Landfill 2028-004 Client Sample ID: C-1 Collection Date: 8/4/2010 12:30:00 PM Matrix: SOLID						
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 3550B, 8270C, SEMI-VOLA	TILE ORGANIC	<u>COMPO</u>	UNDS BY	r GC/MS				
4-Bromophenyl phenyl ether	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010*12:48:00 PI	M DMH
4-Chloro-3-methylphenol	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PI	M DMH
4-Chloroaniline	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	I DMH
4-Chlorophenyl phenyl ether	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	/ DMH
4-Nitroaniline	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	/ DMH
4-Nitrophenol	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	/ DMH
Acenaphthene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	/ DMH
Acenaphthylene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	/ DMH
Aniline	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PN	1 DMH
Anthracene	NELAP	8.87		ND	ing/Kg-dry	5	8/10/2010 12:48:00 PN	1 DMH
Azobenzene		8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PN	1 DMH
Benzidine	NELAP	26.8		see note	nng/Kg-dry	5	8/10/2010 12:48:00 PN	1 DMH
Benzo(a)anthracene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PN	1 DMH
Benzo(a)pyrene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	1 DMH
Benzo(b)fluoranthene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	I DMH
Benzo(g,h,i)perylene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PN	I DMH
Benzo(k)fluoranthene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	I DMH
Benzoic acid	NELAP	38.0		ND	nng/Kg-dry	5	8/10/2010 12:48:00 PN	I DMH
Benzyl alcohol	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Bis(2-chloroethoxy)methane	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Bis(2-chloroethyl)ether	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Bis(2-chloroisopropyl)ether	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Bis(2-ethylhexyl)phthalate	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Butyl benzyl phthalate	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Carbazole		12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Chrysene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Dibenzo(a,h)anthracene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Dibenzofuran	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Diethyl phthalate	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Dimethyl phthalate	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Di-n-butyl phthalate	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Di-n-octyl phthalate	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Fluoranthene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
riuorene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Hexachlorobenzene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Hexachlorobutadiene	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Hexachlorocyclopentadiene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH
Hexachloroethane	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	DMH

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ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-015 Report Date: 17-Aug-10 Client Project: BA Landfill 2028-004 Client Sample ID: C-1 Collection Date: 8/4/2010 12:30:00 PM Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 3550B, 8270C, SEMI-VOLA	ATILE ORGANIC	COMPO	UNDS BY	GC/MS				
Indeno(1,2,3-cd)pyrene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PI	M DMH
Isophorone	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PI	M DMH
m,p-Cresol	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PI	M DMF
Naphthalene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PI	M DMH
Nitrobenzene	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	M DMH
N-Nitrosodimethylamine	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	
N-Nitroso-di-n-propylamine	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	
N-Nitrosodiphenylamine	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	
o-Cresol	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	
Pentachlorophenol	NELAP	50.7		ND	ing/Kg-dry	5	8/10/2010 12:48:00 PM	
Phenanthrene	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	
Phenol	NELAP	8.87		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	
Pyrene	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	I DMH
Pyridine	NELAP	12.7		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	
1,2-Diphenylhydrazine		21.3		ND	mg/Kg-dry	5	8/10/2010 12:48:00 PM	
Surr: 2,4,6-Tribromophenol	32	7-130		96.5	%REC	5	8/10/2010 12:48:00 PM	1 DMH
Surr: 2-Fluorobiphenyl	34.	1-116		83.0	%REC	5	8/10/2010 12:48:00 PM	1 DMH
Surr: 2-Fluorophenol	3	0.5 -9 9		83.2	%REC	5	8/10/2010 12:48:00 PN	1 DMH
Surr: Nitrobenzene-d5	34.	1-101		95.5	%REC	5	8/10/2010 12:48:00 PM	I DMH
Surr: Phenol-d5	34.	9-110		89.6	%REC	5	8/10/2010 12:48:00 PM	DMH
Surr: p-Terphenyl-d14	41.	7-124		95.9	%REC	5	8/10/2010 12:48:00 PM	I DMH
SW-846 5030, 8260B, VOLATILE OI	RGANIC COMPOU	INDS BY	Y GC/MS					
1,1,1,2-Tetrachloroethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,1,1-Trichloroethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,1,2,2-Tetrachloroethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,1,2-Trichloro-1,2,2-trifluoroethane		37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,1,2-Trichloroethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,1-Dichloro-2-propanone		371		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,1-Dichloroethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,1-Dichloroethene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,1-Dichloropropene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,2,3-Trichlorobenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,2,3-Trichloropropane	NELAP	74.2		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,2,3-Trimethylbenzene		37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,2,4-Trichlorobenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,2,4-Trimethylbenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,2-Dibromo-3-chloropropane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,2-Dibromoethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE

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March 13, 2017 BROKEN ARROW PLAN DEVELOPMENT

Page 104 of 115

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-015

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: C-1 Collection Date: 8/4/2010 12:30:00 PM

Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 5030, 8260B, VOLATI	LE ORGANIC COMPO	UNDS E	BY GC/MS					
1,2-Dichlorobenzene 1	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,2-Dichloroethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,2-Dichloropropane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,3,5-Trimethylbenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,3-Dichlorobenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,3-Dichloropropane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1,4-Dichlorobenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
1-Chlorobutane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	BWE
2,2-Dichloropropane	NELAP	37.1		ND	µg/Kg-dn/	1	8/6/2010 3:03:00 PM	BWE
2-Butanone	NELAP	371		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
2-Chlorotoluene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
2-Hexanone	NELAP	371		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	BWE
2-Nitropropane	NELAP	371		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	BWE
4-Chlorotoluene	NELAP	37.1		ND	µa/Ka-drv	1	8/6/2010 3:03:00 PM	RWE
4-Methyl-2-pentanone	NELAP	371		ND	ua/Ka-drv	1	8/6/2010 3:03:00 PM	BWE
Acetone	NELAP	371		ND	ua/Ka-drv	1	8/6/2010 3:03:00 PM	RWE
Acrolein	NELAP	742		ND	ua/Ka-drv	1	8/6/2010 3:03:00 PM	BWE
Acrylonitrile	NELAP	74.2		ND	ua/Ko-drv	1	8/6/2010 3:03:00 PM	BW/F
Allyl chloride	NELAP	37.1		ND	ua/Ka-drv	1	8/6/2010 3:03:00 PM	BWE
Benzene	NELAP	7.42		ND	ua/Ka-drv	1	8/6/2010 3:03:00 PM	BWE
Bromobenzene	NELAP	37.1		ND	ua/Ka-drv	1	8/6/2010 3:03:00 PM	BWE
Bromochloromethane	NELAP	37.1		ND	ua/Ka-drv	1	8/6/2010 3:03:00 PM	BWE
Bromodichloromethane	NELAP	37.1		ND	ua/Ka-drv	1	8/6/2010 3:03:00 PM	BWE
Bromoform	NELAP	37.1		ND	µa/Ko-drv	1	8/6/2010 3:03:00 PM	RWE
Bromomethane	NELAP	74.2		ND	ug/Ka-drv	1	8/6/2010 3:03:00 PM	BWE
Carbon disulfide	NELAP	37.1		ND	ua/Ka-drv	1	8/6/2010 3:03:00 PM	BWE
Carbon tetrachloride	NELAP	37.1		ND	ua/Ka-drv	1	8/6/2010 3:03:00 PM	BWE
Chlorobenzene	NELAP	37.1		ND	ua/Ka-drv	1	8/6/2010 3:03:00 PM	BWE
Chloroethane	NELAP	74.2		ND	ua/Ka-drv	1	8/6/2010 3:03:00 PM	RWE
Chloroform	NELAP	37.1		ND	ua/Ka-drv	1	8/6/2010 3:03:00 PM	BWE
Chloromethane	NELAP	74.2		ND	ua/Ka-drv	1	8/6/2010 3:03:00 PM	RWE
cis-1,2-Dichloroethene	NELAP	37.1		ND	ua/Ka-drv	1	8/6/2010 3:03:00 PM	BWE
cis-1,3-Dichloropropene	NELAP	29.7		ND	ua/Ka-drv	3	8/6/2010 3:03:00 PM	RW/E
Cyclohexanone		742		ND	ua/Ka-drv	1	8/6/2010 3:03:00 PM	BW/E
Dibromochloromethane	NELAP	37.1		ND	ua/Ka-dry	1	8/6/2010 3:03:00 PM	RWE
Dibromomethane	NELAP	37.1		ND	ua/Ka-drv	- 1	8/6/2010 3:03:00 PM	RW/E
Dichlorodifluoromethane	NELAP	74.2		ND	ug/Kg-dry	1	8/6/2010 3:03:00 PM	RW/E
Ethyl acetate	NELAP	371		ND	ua/Ka-dry	1	8/6/2010 3:03:00 PM	RWE
-					-99 0.7		0.002010 0.00.001 W	117¥L



5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-015

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: C-1 Collection Date: 8/4/2010 12:30:00 PM

Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 5030, 8260B, VOLATILE	ORGANIC COMPO	UNDS B	BY GC/MS				•	
Ethyl ether	NÉLAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Ethyl methacrylate	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Ethylbenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Heptane		148		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Hexachlorobutadiene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Hexachloroethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
lodomethane	NELAP	74.2		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Isopropylbenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
m,p-Xylenes	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Methacrylonitrile	NELAP	371		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Methyl Methacrylate	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Methyl tert-butyl ether	NELAP	14.8		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Methylacrylate		74.2		ND	µg/Kg-dry	10	8/6/2010 3:03:00 PM	RWE
Methylene chloride	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Naphthalene	NELAP	74.2		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
n-Butylbenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
n-Hexane		148		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Nitrobenzene	NELAP	742		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
n-Propylbenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
o-Xylene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Pentachloroethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
p-Isopropyltoluene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Propionitrile	NELAP	371		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
sec-Butylbenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Styrene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
tert-Butylbenzene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Tetrachloroethene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Tetrahydrofuran	NELAP	371		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Toluene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
trans-1,2-Dichloroethene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
trans-1,3-Dichloropropene	NELAP	29.7		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Trichloroethene	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Trichlorofluoromethane	NELAP	37.1		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Vinyl acetate	NELAP	371		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Vinyl chloride	NELAP	14.8		ND	µg/Kg-dry	1	8/6/2010 3:03:00 PM	RWE
Surr: 1,2-Dichloroethane-d4	72.5	2-131		104.9	%REC	1	8/6/2010 3:03:00 PM	RWE
Surr: 4-Bromofluorobenzene	82.1	1-116		100.2	%REC	1	8/6/2010 3:03:00 PM	BWE
Surr: Dibromofluoromethane	77.3	7-120		107.7	%REC	1	8/6/2010 3:03:00 PM	RWE

RECEIVED

March 13, 2017 **BROKEN ARROW** PLAN DEVELOPMENT

Page 106 of 115

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineeri	ng			Client F	roject: BA	oject: BA Landfill 2028-004				
WorkOrder: 10080226				Client Sam	ple ID: C-1					
Lab ID: 10080226-015				Collection	Collection Date: 8/4/2010 12:30:00 PM					
Report Date: 17-Aug-10				Ν	fatrix: SO	LID				
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed Analyst			
SW-846 5030, 8260B, VOLATILE OR	GANIC COMP	OUNDS E	BY GC/MS	<u>S</u>						
Surr: Toluene-d8		86-116		94.3	%REC	1	8/6/2010 3:83:00 PM RWE			
<u>SW-846 7471A</u> Mercury SW 846 9045C	NELAP	0.050	J	0.018	mg/Kg-dry	1	8/6/2010 MEK			
pH (1:1)	NELAP	1.00		7.48		1	8/6/2010 8:46:00 AM KNS			

Sample Narrative

SW-846 3050B, 6010B, Metals by ICP

Se - Elevated reporting limit due to high levels of target and/or non-target analytes.

SW-846 3550B, 8081A, Chlorinated Pesticides by GC/ECD

Elevated reporting limit due to sample composition.

SW-846 3550B, 8270C, Semi-Volatile Organic Compounds by GC/MS

Note: Benzidine is currently not reportable while extraction efficiency and recovery are investigated.

LCS was outside upper QC limits. Sample results are below reporting limit - data is reportable.

Elevated reporting limit due to high levels of target and/or non-target analytes.

SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS

RPD was outside of QC limit on 1,1-Dichloro-2-propanone in the LCSD. Marginal Exceedance on Trichloroethene in the LCS is verified per NELAC Appendix D 1.1.2



ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

WorkOrder: 100800226-016 Client Sample ID: C-2 Lab ID: 100800226-016 Collection Date: 8/4/2010 12:30:00 PM Analyses Certification RL Qual Result Units DF Date Analyzed Analyzed EPA 600 278-654 METHOD 3.2.18.1 Statistics Distantics Distantics Distantics Number of the	Client: A&M Eng	ineering			Client I	Project: BA	Landfi	2028-004	
Lab ID: 10080026-016 Collection Date: 8/4/2010 12:30:00 PM Report Date: 17-Aug-10 Matrix: SOLID Analyses Certification RL Qual Result Units DF Date Analyzed Analyset EPA.609.278.654 METHOD 32.18.1 Specific Conductance, Sold 1 958 µmhos/cm 1 8/9/2010 NJM EPA.509.43550.2035A.ASTM D2974 0.1 69.2 % 1 8/9/2010 NJM Total Solds 0.1 30.8 % 1 8/9/2010 NJM Arrithmony NELAP 5.00 < 5.00	WorkOrder: 10080226	5			Client Sam	ple ID: C-2	2		
Report Date: 17-Aug-10 Natrix: SQLID Analyses Certification RL Qual Result Units DF Date Analysed Analyse EPA 600 2.78-854 METHOD 3.2.18.1 Specific Conductance, Solid 1 958 µmhoslem 1 8/9/2010 NJ/k Percent Mosture 0.1 69.2 % 1 8/5/2010 2:00:00 PM MK Str.ANARD NETHOD 3.2.18.1 0.1 30.8 % 1 8/5/2010 2:00:00 PM MK Str.ANARD NETHOD 3.2.18.1 0.1 30.8 % 1 8/5/2010 2:00:00 PM MK Str.Analog NELAP 0.1 30.8 % 1 8/5/2010 2:00:00 PM MK Charsing NELAP 0.01 30.8 % 1 8/5/2010 2:00:00 PM MK Charsing NELAP 0.03 2:14 mg/Kg-dry 1 8/1/22010 1:03:41 PM LAL Codmium NELAP 18.5 2:13 mg/Kg-dry 2<	Lab ID: 10080226	6-016			Collectio	- n Date: 8/4	/2010 -	12:30:00 PM	
Analyses Certification RL Qual Result Units DF Date Analyzed Analyset EPA 600 2-78-954 METHOD 3.2.18.1 Spedific Conductance, Solid 1 958 µmhos/cm 1 8/9/2010 Nuk EPA 500 2-78-954 METHOD 3.2.18.1 Spedific Conductance, Solid 1 958 µmhos/cm 1 8/9/2010 Nuk EPA 500 2-78-954 METHOD 3.2.18.1 Spedific Conductance, Solid 0.1 69.2 % 1 8/5/2010 2:00:00 PM MK EPA 500 2-78-954 METHOD 3.2.18.1 Spedific Conductance, Solid 0.1 30.8 % 1 8/5/2010 2:00:00 PM MK STANDARD METHODS 18TH ED, 2540 G Total Solids 0.1 30.8 % 1 8/5/2010 2:00:00 PM MK Standard NELAP 5:00 <5:00 mg/kg-dry 1 8/1/2010 1:00:37 PM LAL Cadmium NELAP 0.53 2:14 mg/kg-dry 20 8/11/2010 1:41:24 AM JMM Copper NELAP 18.5 37.1 mg/kg-dry	Report Date: 17-Aug-10	0			l	Matrix: SO	LID		
EPA 600 2-78-054 METHOD 3.2.18.1 specific Conductance, Solid 1 958 µmhos/cm 1 8/9/2010 NJM EPA 500 2-78-054 METHOD 3.2.18.1 0.1 952 1 8/5/2010 2:00:00 PM MK Percent Misture 0.1 69.2 % 1 8/5/2010 2:00:00 PM MK STANDARD METHODS 18TH ED. 2540 G 0.1 30.8 % 1 8/5/2010 2:00:00 PM MK SYM-36 05081, 6010B, METALS BY ICP Antimony NELAP 46.3 46.3 mg/Kg-dry 1 8/5/2010 2:00:00 PM LAL Assenic NELAP 0.09 5.45 mg/Kg-dry 1 8/6/2010 1:00:57 PM LAL Cabrinum NELAP 0.19 3.16 mg/Kg-dry 1 8/1/2010 1:00:57 PM LAL Cabrentum NELAP 18.5 37.1 mg/Kg-dry 20 8/1/2010 1:00:57 PM LAL Laad NELAP 18.5 37.1 mg/Kg-dry 20 8/1/2010 1:00:57 PM LAL Laad NELAP 18.5	Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
End Subscription Second Stress 1 8/9/2010 Number Stress Percent Molsture 0.1 69.2 % 1 8/9/2010 2:00:00 PM MK STANDARD NIETHODS ISTH ED, 2540 C Total Solids 0.1 30.8 % 1 8/5/2010 2:00:00 PM MK SW-346 3050B. GOIDB. METALS BY ICP Total Solids 0.1 30.8 % 1 8/5/2010 2:00:00 PM MK Antimony NELAP 46.3 48.3 mg/Kg-dry 1 8/6/2010 1:00:3/57 PM LAL Assenic NELAP 0.09 5.45 mg/Kg-dry 1 8/1/2010 1:00:57 PM LAL Cadmium NELAP 0.33 21.4 mg/Kg-dry 20 8/11/2010 1:00:57 PM LAL Cadmium NELAP 18.5 401 mg/Kg-dry 20 8/11/2010 1:00:57 PM LAL Cadmium NELAP 18.5 401 mg/Kg-dry 20 8/11/2010 1:0:5:7 PM LAL <td></td> <td>10.1</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td>		10.1				-			
Decision Control Decision T Biss printbaren T Biss Biss Dist Biss Dist Biss Dist Biss Dist Dist Biss Dist Dist <thdist< th=""> Dist <thdist< th=""> <thdis< td=""><td>EPA 600 2-78-034 METHOD 3.2 Specific Conductance, Solid</td><td><u>2.18.1</u></td><td>4</td><td></td><td>050</td><td></td><td></td><td>0/0/00/0</td><td></td></thdis<></thdist<></thdist<>	EPA 600 2-78-034 METHOD 3.2 Specific Conductance, Solid	<u>2.18.1</u>	4		050			0/0/00/0	
Bartoniani, Solitation Description Solitation Solitation MK STANDARD METHODS ISTH ED. 2540 G 0.1 30.8 % 1 8/5/2010 2:00:00 PM MK SW-846 3050B, 6010B, METALS BY ICP 0.1 30.8 % 1 8/5/2010 2:00:00 PM MK SW-846 3050B, 6010B, METALS BY ICP Antimony NELAP 46.3 48.3 mg/Kg-dry 1 8/10/2010 5:26:11 PM LAL Assenic NELAP 0.09 5.45 mg/Kg-dry 1 8/10/2010 5:26:11 PM LAL Cadmium NELAP 0.19 3.16 mg/Kg-dry 1 8/10/2010 5:26:11 PM LAL Copper NELAP 18.5 21.3 mg/Kg-dry 20 8/11/2010 1:00:57 PM LAL Lead NELAP 18.5 401 mg/Kg-dry 20 8/11/2010 1:00:57 PM LAL Selenium NELAP 74.1 J 43 mg/Kg-dry 20 8/11/2010 1:00:57 PM LAL Silvar NELAP 18.5 906	FDA SW'846 3550C 5035A A ST	ጓለ ጉንበማ ለ	1		956	µmnos/cm	1	8/9/2010	NJM
STANDARD METHODS 18TH ED. 2540 C Out of the second se	Percent Moisture	M D2714	0.1		69.2	0	٩	8/5/2010 2-00-00 PM	h alic
Total Solids 0.1 30.8 % 1 8/5/2010 2:00:00 PM MK SW-846 3050B, 6010B, METALS BY ICP Antimony NELAP 5.00 rg/Kg-dry 1 8/6/2010 11:03:41 PM LAL Antimony NELAP 46.3 48.3 rg/Kg-dry 1 8/7/2010 1:00:57 PM LAL Beryllum NELAP 0.99 5.45 rg/Kg-dry 1 8/10/2010 1:41:24 AM JMM Cadmium NELAP 0.93 21.4 rg/Kg-dry 1 8/10/2010 1:20:57 PM LAL Copper NELAP 18.5 21.3 rg/Kg-dry 20 8/11/2010 1:00:57 PM LAL Nickel NELAP 18.5 37.1 rg/Kg-dry 20 8/11/2010 1:00:57 PM LAL Nickel NELAP 0.51 2.06 rg/Kg-dry 20 8/11/2010 1:00:57 PM LAL Silver NELAP 0.51 2.06 rg/Kg-dry 20 8/11/2010 1:00:57 PM LAL SW-846 3050B, METALS BY GFAA NELAP 129 <td>STANDARD METHODS 18TH</td> <td>ED. 2540 G</td> <td>0.1</td> <td></td> <td>03.2</td> <td>70</td> <td>1</td> <td>0/3/2010 2.00.00 FM</td> <td>IVIN</td>	STANDARD METHODS 18TH	ED. 2540 G	0.1		03.2	70	1	0/3/2010 2.00.00 FM	IVIN
SW-846 3050B, 6010B, METALS BY ICP Antimony NELAP 5.00 rg/Kg-dry 1 B/B/2010 11:03:41 PM LAL Arsenic NELAP 46.3 mg/Kg-dry 1 B/B/2010 11:03:41 PM LAL Beryllium NELAP 0.09 5.45 mg/Kg-dry 1 B/10/2010 5:26:11 PM LAL Cadmium NELAP 0.19 3.16 mg/Kg-dry 1 B/10/2010 5:26:11 PM LAL Cadmium NELAP 0.33 21.4 mg/Kg-dry 1 B/10/2010 5:26:11 PM LAL Copper NELAP 18.5 21.3 mg/Kg-dry 2 B/11/2010 1:00:57 PM LAL Lead NELAP 18.5 21.1 mg/Kg-dry 2 B/11/2010 1:00:57 PM LAL Selenium NELAP 18.5 37.1 mg/Kg-dry 2 B/11/2010 1:00:57 PM LAL Silver NELAP 18.5 906 mg/Kg-dry 2 B/11/2010 1:00:57 PM LAL Silver NELAP 18.5 906<	Total Solids	<u>EDIADIO G</u>	0.1		30.8	%	1	8/5/2010 2:00:00 PM	МК
Antimony NELAP 5.00 < 5.00 mg/Kg-dry 1 8/8/2010 11:03:41 PM LAL Arsenic NELAP 46.3 46.3 mg/Kg-dry 20 8/11/2010 1:00:57 PM LAL Beryllium NELAP 0.09 5.45 mg/Kg-dry 1 8/10/2010 5:26:11 PM LAL Cadmium NELAP 0.93 21.4 mg/Kg-dry 1 8/10/2010 5:26:11 PM LAL Copper NELAP 18.5 21.3 mg/Kg-dry 20 8/11/2010 1:00:57 PM LAL Lead NELAP 18.5 37.1 mg/Kg-dry 20 8/11/2010 1:00:57 PM LAL Nickel NELAP 74.1 J 43 mg/Kg-dry 20 8/11/2010 1:00:57 PM LAL Silver NELAP 74.1 J 43 mg/Kg-dry 20 8/11/2010 1:00:57 PM LAL SW-846 3050B, METALS BY GFA4 Thalium NELAP 0.200 mg/Kg-dry 20 8/11/2010 5:00:48 PM MEK SW-846 3050B,	SW-846 3050B, 6010B, METALS	S BY ICP				74	•	0.0.2010 2.00.001 M	TALL &
Arsenic NELAP 46.3 48.3 mg/Kg-dry 20 B11/2010 1:00:57 PM LAL Beryllum NELAP 0.09 5.45 mg/Kg-dry 1 B/10/2010 5:26:11 PM LAL Cadmium NELAP 0.93 21.4 mg/Kg-dry 1 B/10/2010 5:26:11 PM LAL Copper NELAP 18.5 21.3 mg/Kg-dry 20 B/11/2010 1:00:57 PM LAL Lead NELAP 18.5 21.3 mg/Kg-dry 20 B/11/2010 1:00:57 PM LAL Lead NELAP 18.5 37.1 mg/Kg-dry 20 B/11/2010 1:00:57 PM LAL Lead NELAP 74.1 J 43 mg/Kg-dry 20 B/11/2010 1:00:57 PM LAL Stiver NELAP 0.51 2.06 mg/Kg-dry 20 B/11/2010 5:06:04B PM MELA Stive 46 3050B, METALS BY GFAA MELAP 0.200 mg/Kg-dry 25 B/11/2010 5:34:00 AM HE A/4:DDT NELAP 129	Antimony	NELAP	5.00		< 5.00	ma/Ka-drv	1	8/8/2010 11:03:41 PM	IAI
Beryllum NELAP 0.09 5.45 mg/Kg-dry 1 8/10/2010 5:28:11 PM LAL Cadmium NELAP 0.19 3.16 mg/Kg-dry 1 8/10/2010 5:28:11 PM LAL Chromium NELAP 0.93 21.4 mg/Kg-dry 1 8/10/2010 5:28:11 PM LAL Copper NELAP 18.5 21.3 mg/Kg-dry 20 8/11/2010 1:00:57 PM LAL Lead NELAP 18.5 401 mg/Kg-dry 20 8/11/2010 1:00:57 PM LAL Selenium NELAP 74.1 J 43 mg/Kg-dry 20 8/11/2010 1:00:57 PM LAL Silver NELAP 0.51 2.06 mg/Kg-dry 20 8/11/2010 1:00:57 PM LAL SW-846 3050B. METALS BY GFAA T mg/Kg-dry 20 8/11/2010 5:0:0:48 PM MELAP Zinc NELAP 129 ND µg/Kg-dry 25 8/11/2010 5:3:4:00 AM HE 4.4'-DDT NELAP 129 ND <td< td=""><td>Arsenic</td><td>NELAP</td><td>46.3</td><td></td><td>48.3</td><td>ma/Ka-drv</td><td>20</td><td>8/11/2010 1:00:57 PM</td><td>LAL</td></td<>	Arsenic	NELAP	46.3		48.3	ma/Ka-drv	20	8/11/2010 1:00:57 PM	LAL
Cadmium NELAP 0.19 3.16 mg/Kg-dry 1 St/122010 11:41:24 AM JMM Chromium NELAP 0.93 21.4 mg/Kg-dry 1 8/102010 5:26:11 PM LAL Copper NELAP 18.5 21.3 mg/Kg-dry 20 8/11/2010 10:0:57 PM LAL Nickel NELAP 18.5 37.1 mg/Kg-dry 20 8/11/2010 1:0:0:57 PM LAL Nickel NELAP 18.5 401 mg/Kg-dry 20 8/11/2010 1:0:0:57 PM LAL Silver NELAP 0.51 2.06 mg/Kg-dry 20 8/11/2010 1:0:0:57 PM LAL SW-846 3050B. METALS BY GFAA T 8/4 MMK MMK MMK SW-846 3550B. 8081A, CHLORINATED PESTICIDES BY GC/CCD YMELAP 129 ND µg/Kg-dry 25 8/11/2010 5:34:00 AM HE 4,4'-DDT NELAP 129 ND µg/Kg-dry 25 8/11/2	Beryllium	NELAP	0.09		5.45	ma/Ka-drv	1	8/10/2010 5:26:11 PM	LAI
Chromium NELAP 0.93 21.4 mg/Kg-dry 1 8/10/2010 5:28:11 PM LAL Copper NELAP 18.5 21.3 mg/Kg-dry 20 8/11/2010 10:00:57 PM LAL Lead NELAP 18.5 37.1 mg/Kg-dry 20 8/11/2010 10:00:57 PM LAL Nickel NELAP 18.5 401 mg/Kg-dry 20 8/11/2010 10:00:57 PM LAL Silver NELAP 0.51 2.06 mg/Kg-dry 20 8/11/2010 10:00:57 PM LAL Silver NELAP 0.51 2.06 mg/Kg-dry 20 8/11/2010 5:00:48 PM MEK SW-846 3050B, METALS BY GFAA T NELAP 129 ND µg/Kg-dry 25 8/11/2010 5:34:00 AM HE 4,4'-DDT NELAP 129 ND µg/Kg-dry 25 8/11/2010 5:34:00 AM HE 4,4'-DDT NELAP 129 ND µg/Kg-dry 25 8/11/2010 5:34:00 AM HE Aldrin NELAP <	Cadmium	NELAP	0.19		3.16	mg/Kg-dry	1	8/12/2010 11:41:24 AM	I JMW
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Lead NELAP 18.5 37.1 mg/Kg-dry 5 8/11/2010 12:20:47 PM LAL Nickel NELAP 18.5 401 mg/Kg-dry 20 8/11/2010 1:00:57 PM LAL Selenium NELAP 0.51 2.06 mg/Kg-dry 20 8/11/2010 1:00:57 M LAL Silver NELAP 0.51 2.06 mg/Kg-dry 20 8/11/2010 1:00:57 M LAL SW:846 3050B, METALS BY GFAA V N N 9/Kg-dry 20 8/11/2010 5:00:48 M MEK SW-846 3050B, METALS BY GFAA N Ng/Kg-dry 25 8/11/2010 5:34:00 AM HE 4.4'-DDD NELAP 129 ND µg/Kg-dry 25 8/11/2010 5:34:00 AM HE A/4-DDT NELAP 129 ND µg/Kg-dry 25 8/11/2010 5:34:00 AM HE A/4-DDT NELAP 129	Copper	NELAP	18.5		21.3	mg/Kg-dry	20	8/11/2010 1:00:57 PM	LAL
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Selenium NELAP 74.1 J 43 mg/Kg-dny 20 8/11/2010 1:00:57 PM LAL Silver NELAP 0.51 2.06 mg/Kg-dny 1 8/12/2010 1:1:41:24 AM JMW Zinc NELAP 18.5 906 mg/Kg-dny 20 8/11/2010 1:00:57 PM LAL SW-846 3050B, METALS BY GFAA T NELAP 0.200 c0.200 mg/Kg-dny 1 8/12/2010 5:00:48 PM MELAP Thallium 7841 NELAP 0.200 c0.200 mg/Kg-dny 25 8/11/2010 5:34:00 AM HE 4,4 -DDD NELAP 129 ND µg/Kg-dny 25 8/11/2010 5:34:00 AM HE 4,4 -DDT NELAP 129 ND µg/Kg-dny 25 8/11/2010 5:34:00 AM HE Aldrin NELAP 129 ND µg/Kg-dny 25 8/11/2010 5:34:00 AM HE alpha-BHC NELAP 129 ND µg/Kg-dny 25 8/11/2010 5:34:00 AM HE	Nickel	NELAP	18.5		401	mg/Kg-dry	20	8/11/2010 1:00:57 PM	LAL
Silver NELAP 0.51 2.06 mg/kg-dry 1 8/12/2010 11:41:24 AM JMW Zinc NELAP 18.5 906 mg/kg-dry 20 8/11/2010 1:00:57 PM LAL SW-846 3050B, METALS BY GFA3 NELAP 0.200 c0.200 mg/kg-dry 25 8/12/2010 5:00:48 PM ME Thallium 7841 NELAP 129 ND µg/kg-dry 25 8/11/2010 5:34:00 AM HE 4,4 - DDC NELAP 129 ND µg/kg-dry 25 8/11/2010 5:34:00 AM HE 4,4 - DDT NELAP 129 ND µg/kg-dry 25 8/11/2010 5:34:00 AM HE Aldrin NELAP 129 ND µg/kg-dry 25 8/11/2010 5:34:00 AM HE alpha-BHC NELAP 129 ND µg/kg-dry 25 8/11/2010 5:34:00 AM HE alpha-Chlordane NELAP 129 ND µg/kg-dry 25 8/11/2010 5:34:00 AM HE delta-BHC NELAP 129 ND µg/kg-dry 25 8/11/2010 5:34:00 AM HE <td>Selenium</td> <td>NELAP</td> <td>74.1</td> <td>J</td> <td>43</td> <td>mg/Kg-dry</td> <td>20</td> <td>8/11/2010 1:00:57 PM</td> <td>LAL</td>	Selenium	NELAP	74.1	J	43	mg/Kg-dry	20	8/11/2010 1:00:57 PM	LAL
Zinc NELAP 18.5 906 mg/Kg-dry 20 8/11/2010 1:00:57 PM LAL SW-846 3050B, METALS BY GFAA Thalium 7841 NELAP 0.200 <0.200	Silver	NELAP	0.51		2.06	mg/Kg-dry	1	8/12/2010 11:41:24 AM	JMW
SW-846 3050B, METALS BY GFAA Thallium 7841 NELAP 0.200 < 0.200 mg/Kg-dry 1 8/12/2010 5:00:48 PM MEK 4,4'-DDD NELAP 129 ND µg/Kg-dry 25 8/11/2010 5:34:00 AM HE 4,4'-DDC NELAP 129 ND µg/Kg-dry 25 8/11/2010 5:34:00 AM HE 4,4'-DDT NELAP 129 ND µg/Kg-dry 25 8/11/2010 5:34:00 AM HE Alachlor NELAP 129 ND µg/Kg-dry 25 8/11/2010 5:34:00 AM HE Aldrin NELAP 129 ND µg/Kg-dry 25 8/11/2010 5:34:00 AM HE alpha-BHC NELAP 129 ND µg/Kg-dry 25 8/11/2010 5:34:00 AM HE beta-BHC NELAP 129 ND µg/Kg-dry 25 8/11/2010 5:34:00 AM HE chidrian NELAP 129 ND µg/Kg-dry 25 8/11/2010 5:34:00 AM HE	Zinc	NELAP	18.5		906	mg/Kg-dry	20	8/11/2010 1:00:57 PM	LAL
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Endrin ketone NELAP 129 ND μg/Kg-dry 25 8/11/2010 5:34:00 AM HE gamma-BHC NELAP 129 ND μg/Kg-dry 25 8/11/2010 5:34:00 AM HE	Endrin aldehyde	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
gamma-BHC NELAP 129 ND µg/Kg-dry 25 8/11/2010 5:34:00 AM HE	Endrin ketone	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
	gamma-BHC	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE



March 13, 2017

BROKEN ARROW PLAN DEVELOPMENT

Page 108 of 115

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineeri WorkOrder: 10080226 Lab ID: 10080226-016 Report Date: 17-Aug-10	ing			Client I Client Sam Collectio	Project: BA nple ID: C-2 n Date: 8/4 Matrix: SO	Landfill 2 /2010 1 LID	2028-004 2:30:00 PM	
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 3550B, 8081A, CHLORINATI	ED PESTICIDES	S BY GC	/ECD					
gamma-Chlordane	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	I HE
Heptachlor	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
Heptachlor epoxide	NELAP	129		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
Methoxychlor	NELAP	1290		ND	µg/Kg-dry	250	8/16/2010 4:49:00 AM	HE
Toxaphene	NELAP	2320		ND	µg/Kg-dry	25	8/11/2010 5:34:00 AM	HE
Surr: Decachlorobiphenyl		48-149		120.4	%REC	25	8/11/2010 5:34:00 AM	HE
Surr: Tetrachloro-m-xylene		19-145		70.9	%REC	25	8/11/2010 5:34:00 AM	HE
SW-846 3550B, 8082, POLYCHLORIN	ATED BIPHEN	YLS (PC	BS) BY G	C/ECD				
Aroclor 1016	NELAP	116		ND	µg/Kg-dry	1	8/9/2010 8:23:00 PM	HE
Aroclor 1221	NELAP	116		ND	µg/Kg-dry	1	8/9/2010 8:23:00 PM	HE
Aroclor 1232	NELAP	116		ND	µg/Kg-dry	1	8/9/2010 8:23:00 PM	HE
Aroclor 1242	NELAP	116		ND	µg/Kg-dry	1	8/9/2010 8:23:00 PM	HE
Aroclor 1248	NELAP	116		ND	µg/Kg-dry	1	8/9/2010 8:23:00 PM	HE
Aroclor 1254	NELAP	116		ND	µg/Kg-dry	1	8/9/2010 8:23:00 PM	HE
Aroclor 1260	NELAP	116		ND	µg/Kg-dry	1	8/9/2010 8:23:00 PM	HE
Surr: Decachlorobiphenyl		5- 156		82.1	%REC	1	8/9/2010 8:23:00 PM	HE
Surr: Tetrachloro-meta-xylene	7.	35-123		68.8	%REC	1	8/9/2010 8:23:00 PM	HE
SW-846 3550B, 8270C, SEMI-VOLATI	LE ORGANIC	COMPO	UNDS BY (GC/MS				
1,2,4-Trichlorobenzene	NELAP	8.06		ND	ma/Ka-drv	5	8/10/2010 1:20:00 PM	DMH
1,2-Dichlorobenzene	NELAP	8.06		ND	ma/Ka-drv	5	8/10/2010 1:20:00 PM	DMH
1,3-Dichlorobenzene	NELAP	8.06		ND	ma/Ka-drv	5	8/10/2010 1:20:00 PM	DMH
1,4-Dichlorobenzene	NELAP	8.06		NÐ	ma/Ka-drv	5	8/10/2010 1·20·00 PM	DMH
2,4,5-Trichlorophenol	NELAP	5.64		ND	ma/Ka-dry	5	8/10/2010 1:20:00 PM	DMH
2,4,6-Trichlorophenol	NELAP	5.64		ND	ma/Ka-dry	5	8/10/2010 1:20:00 PM	DMH
2.4-Dichlorophenol	NELAP	8.06		ND	ma/Ka-day	5	8/10/2010 1:20:00 PM	
2.4-Dimethylphenol	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	
2.4-Dinitrophenol	NELAP	16.1		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	
2.4-Dinitrotoluene	NELAP	5 64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	
2.6-Dinitrotoluene	NELAP	5 64		ND	mg/Kg-dry	5	9/10/2010 1.20.00 PM	
2-Chloronaphthalene		5.64		ND	mg/Kg-dry	5	9/10/2010 1.20.00 FW	
2-Chlorophenol		8.06		ND	mg/Kg-dry	5	0/10/2010 1:20:00 PM	
2-Methoxy-4-methylobenol		10.5			mg/Kg-dry	5	6/10/2010 1:20:00 PM	
2-Methylnanhthalono		5.64			mg/r.g-ary	ວ =	6/10/2010 1:20:00 PM	DMH
2 Misaryinaprinalene 2 Nitroaniline		16 4		ND	mg/ r.g-ary	5	6/10/2010 1:20:00 PM	DMH
2-Nitronhanol		10.1		ND	mg/kg-ary	5	8/10/2010 1:20:00 PM	DMH
2-Mill ophonol		5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
o,o -bighiorobenzidine 2 Nitroapiliaa		5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
		16.1		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
4,0-Dinitro-2-metnyiphenol	NELAP	16.1		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH

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PLAN DEVELOPMENT

Page 109 of 115

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-016

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: C-2 Collection Date: 8/4/2010 12:30:00 PM Matrix: SOLID

Analyses Certification RL Oual Result Units DF **Date Analyzed Analyst** SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS 4-Bromophenyl phenyl ether NELAP 5.64 ND 5 mg/Kg-dry 8/10/2010 1:20:00 PM DMH 4-Chloro-3-methylphenol NELAP 8.06 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH 4-Chloroaniline NELAP 8.06 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH 4-Chlorophenyl phenyl ether NELAP 5.64 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH 4-Nitroaniline **NELAP** 8.06 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH 4-Nitrophenol NELAP 5.64 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Acenaphthene NELAP 5.64 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Acenaphthylene NELAP 5.64 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Aniline NELAP 8.06 mg/Kg-dry ND 5 8/10/2010 1:20:00 PM DMH Anthracene NELAP 5.64 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Azobenzene 5.64 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Benzidine NELAP 17.0 mg/Kg-dry 5 see note 8/10/2010 1:20:00 PM DMH Benzo(a)anthracene NELAP 5.64 5 ND mg/Kg-dry 8/10/2010 1:20:00 PM DMH Benzo(a)pyrene NELAP 5.64 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Benzo(b)fluoranthene NELAP 5.64 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Benzo(g,h,i)perylene mg/Kg-dry NELAP 5.64 ND 5 8/10/2010 1:20:00 PM DMH Benzo(k)fluoranthene NELAP 5.64 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Benzoic acid mg/Kg-dry NELAP 24.2 ND 5 8/10/2010 1:20:00 PM DMH Benzyl alcohol NELAP 8.06 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Bis(2-chloroethoxy)methane NELAP 5.64 mg/Kg-dry ND 5 8/10/2010 1:20:00 PM DMH Bis(2-chloroethyl)ether NELAP 8.06 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Bis(2-chloroisopropyl)ether NELAP 5.64 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Bis(2-ethylhexyl)phthalate NELAP 5.64 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Butyl benzyl phthalate NELAP 5.64 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Carbazole 8.06 mg/Kg-dry ND 5 8/10/2010 1:20:00 PM DMH Chrysene NELAP 5.64 mg/Kg-dry ND 5 8/10/2010 1:20:00 PM DMH Dibenzo(a,h)anthracene NELAP 5.64 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Dibenzofuran NELAP 5.64 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Diethyl phthalate NELAP 8.06 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Dimethyl phthalate NELAP 5.64 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Di-n-butyl phthalate NELAP 5.64 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Di-n-octyl phthalate NELAP 5.64 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Fluoranthene NELAP 5.64 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Fluorene NELAP 5.64 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Hexachlorobenzene NELAP 5.64 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Hexachlorobutadiene NELAP 8.06 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Hexachlorocyclopentadiene NELAP 5.64 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH Hexachloroethane NELAP 8.06 ND mg/Kg-dry 5 8/10/2010 1:20:00 PM DMH

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engined WorkOrder: 10080226 Lab ID: 10080226-01 Report Date: 17-Aug-10	ering 6			Client I Client Sam Collectio	Project: BA pple ID: C-2 n Date: 8/4 Matrix: SO	Landfil 2 /2010 ⁻ LID	I 2028-004 I 2:30:00 PM	
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 3550B, 8270C, SEMI-VOL	ATILE ORGANIC	СОМРО	UNDS B	Y GC/MS				
Indeno(1,2,3-cd)pyrene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	I DMH
Isophorone	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	I DMH
m,p-Cresol	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Naphthalene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Nitrobenzene	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
N-Nitrosodimethylamine	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
N-Nitroso-di-n-propylamine	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
N-Nitrosodiphenylamine	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
o-Cresol	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Pentachlorophenol	NELAP	32.2		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Phenanthrene	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Phenol	NELAP	5.64		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Pyrene	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Pyridine	NELAP	8.06		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
1,2-Diphenylhydrazine		13.5		ND	mg/Kg-dry	5	8/10/2010 1:20:00 PM	DMH
Surr: 2,4,6-Tribromophenol	32	.7-130		80.9	%REC	5	8/10/2010 1:20:00 PM	DMH
Surr: 2-Fluorobiphenyl	34	.1-116		81.5	%REC	5	8/10/2010 1:20:00 PM	DMH
Surr: 2-Fluorophenol	3	0.5-99		81.1	%REC	5	8/10/2010 1:20:00 PM	DMH
Surr: Nitrobenzene-d5	34	.1-101		88.0	%REC	5	8/10/2010 1:20:00 PM	DMH
Surr: Phenol-d5	34	.9-110		85.7	%REC	5	8/10/2010 1:20:00 PM	DMH
Surr: p-Terphenyl-d14	41	.7 -1 24		87.7	%REC	5	8/10/2010 1:20:00 PM	DMH
SW-846 5030, 8260B, VOLATILE OF	RGANIC COMPO	UNDS B	Y GC/MS					
1,1,1,2-Tetrachloroethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,1,1-Trichloroethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,1,2,2-Tetrachloroethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,1,2-Trichloro-1,2,2-trifluoroethane		26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,1,2-Trichloroethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,1-Dichloro-2-propanone		269		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,1-Dichloroethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,1-Dichloroethene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,1-Dichloropropene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,2,3-Trichlorobenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,2,3-Trichloropropane	NELAP	53.8		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,2,3-Trimethylbenzene		26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,2,4-Trichlorobenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,2,4-Trimethylbenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,2-Dibromo-3-chloropropane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
1,2-Dibromoethane	NELAP	26.9		ND	µg∕Kg-dry	1	8/6/2010 3:31:00 PM	RWE

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PLAN DEVELOPMENT Page 111 of 115

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client:	A&M Engineering	Client Project:	BA Landfill 2028-004
WorkOrder:	10080226	Client Sample ID:	C-2
Lab ID:	10080226-016	Collection Date:	8/4/2010 12:30:00 PM
Report Date:	17-Aug-10	Matrix:	SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATI	LE ORGANIC COMPO	UNDS E	BY GC/MS					
1,2-Dichlorobenzene	NELAP	26.9		 ND 	µg/Kg-dry	1	8/6/2010 3:31:00 P	M RWE
1,2-Dichloroethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 P	M RWE
1,2-Dichloropropane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 P	M RWE
1,3,5-Trimethylbenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 P	M RWE
1,3-Dichlorobenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 P	M RWE
1,3-Dichloropropane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 P	M RWE
1,4-Dichlorobenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 P	M RWE
1-Chlorobutane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 P	M RWE
2,2-Dichloropropane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 P	M RWE
2-Butanone	NELAP	269		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PI	M RWE
2-Chlorotoluene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PI	M RWE
2-Hexanone	NELAP	269		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PI	M RWE
2-Nitropropane	NELAP	269		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PI	M RWE
4-Chlorotoluene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PI	M RWE
4-Methyl-2-pentanone	NELAP	269		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PI	M RWE
Acetone	NELAP	269		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PI	M RWE
Acrolein	NELAP	53 8		ND	µg/Kg-dry	1	8/6/2010 3:31:00 Pt	M RWE
Acrylonitrile	NELAP	53. 8		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	M RWE
Allyl chloride	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	M RWE
Benzene	NELAP	5.38		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	W RWE
Bromobenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	M RWE
Bromochloromethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	A RWE
Bromodichloromethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	A RWE
Bromoform	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	A RWE
Bromomethane	NELAP	5 3.8		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	A RWE
Carbon disulfide	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	A RWE
Carbon tetrachloride	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	A RWE
Chlorobenzene	NELAP	26.9		ND	µg/Kg-dry		8/6/2010 3:31:00 PM	A RWE
Chloroethane	NELAP	53.8		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	A RWE
Chloroform	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	A RWE
Chioromethane	NELAP	53.8		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PN	RWE
cis-1,2-Dichloroethene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	A RWE
cis-1,3-Dichloropropene	NELAP	21.5		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	I RWE
Cyclohexanone		538		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	1 RWE
Dibromochloromethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	1 RWE
Dibromomethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	1 RWE
Dichlorodifluoromethane	NELAP	53.8		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Ethyl acetate	NELAP	269		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	I RWE

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BROKEN ARROW PLAN DEVELOPMENT

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10080226

Lab ID: 10080226-016

Report Date: 17-Aug-10

Client Project: BA Landfill 2028-004 Client Sample ID: C-2 Collection Date: 8/4/2010 12:30:00 PM

Matrix: SOLID

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed A	nalyst
SW-846 5030, 8260B, VOLATILE	ORGANIC COMPO	UNDS E	BY GC/MS					
Ethyl ether	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Ethyl methacrylate	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Ethylbenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Heptane		108		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Hexachlorobutadiene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Hexachloroethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
lodomethane	NELAP	53.8		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
lsopropylbenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
m,p-Xylenes	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Methacrylonitrile	NELAP	269		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Methyl Methacrylate	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Methyl tert-butyl ether	NELAP	10.8		ND	µg/Kg-dry	10	8/6/2010 3:31:00 PM	RWE
Methylacrylate		53.8		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Methylene chloride	NELAP	26.9	J	18	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Naphthalene	NELAP	53.8		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
n-Butylbenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
n-Hexane		108		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Nitrobenzene	NELAP	538		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
n-Propylbenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
o-Xylene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	BWE
Pentachloroethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
p-Isopropyitoluene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Propionitrile	NELAP	269		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
sec-Butylbenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Styrene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
tert-Butylbenzene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Tetrachloroethene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Tetrahydrofuran	NELAP	269		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Toluene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
trans-1,2-Dichloroethene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
trans-1,3-Dichloropropene	NELAP	21.5		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Trichloroethene	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Trichlorofluoromethane	NELAP	26.9		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Vinyl acetate	NELAP	269		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Vinyl chloride	NELAP	10.8		ND	µg/Kg-dry	1	8/6/2010 3:31:00 PM	RWE
Surr: 1,2-Dichloroethane-d4	72.	2-131		102.7	%REC	1	8/6/2010 3:31:00 PM	RWE
Surr: 4-Bromofluorobenzene	82.	1-116		96.7	%REC	1	8/6/2010 3:31:00 PM	BWE
Surr: Dibromofluoromethane	77.	7-120		109.4	%REC	1	8/6/2010 3:31:00 PM	RWE



Page 113 of 115

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineer	ing			Client P	roject: BA	Landfil	2028-004	
WorkOrder: 10080226				Client Sam	ple ID: C-2	2		
Lab ID: 10080226-016				Collection	1 Date: 8/4	/2010 1	2:30:00 PM	
Report Date: 17-Aug-10				N	latrix: SO	LID		
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE OR	GANIC COMPO	DUNDS I	BY GC/MS	<u>}</u>				
Surr: Toluene-d8		86-116		96.6	%REC	1	8/6/2010 3:31:00 F	M RWE
<u>SW-846 7471A</u>								
Mercury	NELAP	0.033		< 0.033	mg/Kg-dry	1	8/6/2010	MEK
<u>SW-846 9045C</u> pH (1:1)	NELAP	1.00		7.82		1	8/6/2010 8:46:00 A	M KNS

Sample Narrative

SW-846 3050B, 6010B, Metals by ICP

Se - Elevated reporting limit due to high levels of target and/or non-target analytes.

SW-846 3550B, 8081A, Chlorinated Pesticides by GC/ECD

Elevated reporting limit due to sample composition.

SW-846 3550B, 8270C, Semi-Volatile Organic Compounds by GC/MS

Note: Benzidine is currently not reportable while extraction efficiency and recovery are investigated.

LCS was outside upper QC limits. Sample results are below reporting limit - data is reportable.

Elevated reporting limit due to high levels of target and/or non-target analytes.

SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS

RPD was outside of QC limit on 1,1-Dichloro-2-propanone in the LCSD. Marginal Exceedance on Trichloroethene in the LCS is verified per NELAC Appendix D 1,1,2

			TEL: 618-344-1004
Client: A&M Engineering Project: BA Landfill 2028-004 Lab Order: 10080226 Report Date: 17-Aug-10		2	RECEIVING CHECK LIST
Carrier: FedEx	Re	ceived By: MI	D
Completed by: Marin L. Darling II On: 05-Aug-10 Marvin L. Darling	R 05	eviewed by: On: -Aug-10	Richard H. Mannz
Pages to follow: Chain of custody 2	xtra pages includ	led 0	
Shipping container/cooler in good condition? Type of thermal preservation? Chain of custody present? Chain of custody signed when relinquished and received? Chain of custody agrees with sample labels?	Yes V None V Yes V Yes V	No Contraction No Contractio No Contractio No Contraction No Contraction No Contr	Not Present Temp *C 5.8 Blue Ice Dry Ice
Samples in proper container/bottle? Sample containers intact? Sufficient sample volume for indicated test?	Yes V Yes V	No No No No	
All samples received within holding time? Reported field parameters measured: Container/Temp Blank temperature in compliance?	Yes ♥ Field Yes ♥	No Lab 🖌 No	NA (II)
When thermal preservation is required, samples are compliant w	vith a temperatur ay as collected.	e between	
0.1°C - 6.0°C, or when samples are received on ice the same da			
0.1°C - 6.0°C, or when samples are received on ice the same da Water - VOA vials have zero headspace?	Yes 🖌	No	No VOA vials
0.1°C - 6.0°C, or when samples are received on ice the same da Water - VOA vials have zero headspace? Water - TOX containers have zero headspace?	Yes 🗸	No	No VOA vials

Additional nitric acid was needed upon arrival at the laboratory for PZ-1 and PZ-4. DB 8/5/10

Samples were filtered and preserved for the dissolved parameters upon arrival at the laboratory.

QUOTEH

CHAI F CUSTODY RECORD

Page:

10080226 0

Customer	Information	Projact Informati				
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5445 Horseshoe Leke Road Collinsville, 11. 62234		Project Manager:	թեր իւթուս։				Phone: 877.34	H4, 1003	Fax: 619.34	l4,1005

Project Manager: Rich Mannz

	B.	NC		CHAN	CUSTODY	RECORD		Page:	0	
ENVIRONMENTAL T	ESTING LA	(BORATORY		QUOTER					100	80226
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Phone: 918.885.6575			Phone:						8	
Fax: 918.665.6576			Fax:				, ſ			
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TEKLAB, IN C. 5445 Horseshoe Leke Roed Collinsville, IL, 62234		Project Manager	. Rich Mannz				Phone: 877.34	14 ,1003	Fax: 618.3	H. (005

RECEIVED March 13, 2017 BROKEN ARROW PLAN DEVELOPMENT

ENVIRONMENTAL TESTING LABORATORY

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

> TEL: 618-344-1004 FAX: 618-344-1005

November 03, 2010

Abby Lazar A&M Engineering 10010 E. 16th St. Tulsa, OK 74128 TEL: (918) 665-6575 FAX: (918) 665-6576

RE: 2028-004

STORED IN ACCORDANCE

NELAP Accredited #100226

WorkOrder: 10110003

Dear Abby Lazar:

TEKLAB, INC received 7 samples on 10/30/2010 10:10:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. IL ELAP and NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Rection of any

Richard H. Mannz Project Manager (618)344-1004 ex 38

ENVIRONMENTAL TESTING LABORATORY

Client: A&M Engineering Project: 2028-004 LabOrder: 10110003 Report Date: 03-Nov-10

State accreditations:

KS: NELAP #E-10347 | KY: UST #0073 | MO: DNR #00930 | AR: ADEQ #70-028-0

Qualifiers DF - Dilution Factor B - Analyte detected in the associated Method Blank C - Client requested RL below PQL J - Analyte detected below reporting limits RL - Reporting Limit D - Diluted out of sample ND - Not Detected at the Reporting Limit **R** - RPD outside accepted recovery limits E - Value above quantitation range Surr - Surrogate Standard added by lab ${\bf S}\,$ - Spike Recovery outside accepted recovery limits H - Holding time exceeded TNTC - Too numerous to count (> 200 CFU) X - Value exceeds Maximum Contaminant Level MI - Matrix interference Q - QC criteria failed or noncompliant CCV # - Unknown hydrocarbon DNI - Did not ignite NELAP - IL ELAP and NELAP Accredited Field of Testing IDPH - IL Dept. of Public Health

> RECEIVED March 13, 2017 BROKEN ARROW PLAN DEVELOPMENT Page 2 of 10

TEL: 618-344-1004 FAX: 618-344-1005

CASE NARRATIVE

Cooler Receipt Temp: 1.6 °C

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering				Client Project: 2028-004							
Lab ID: 10110003-001					Collection Date: 10/28/2010 1:56:00 PM						
Report Date: 03-Nov-10					Matrix: GROUNDWATER						
A	nalyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst		
<u>SW-846 3020</u> Antimony	A, METALS BY GF 7041	AA (TOTAL) NELAP	0.0050		< 0.0050	mg/L	1	11/3/2010 9:46:26	AM MEK		

Sample Narrative

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineering WorkOrder: 10110003									
					Client Sample ID: PZ02				
Lab ID:			Collection Date: 10/28/2010 12:00:00 PM						
Report Date:			Matrix: GROUNDWATER						
Analyses		Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3020A, MET	ALS BY GFAA (TO	OTAL)							
Antimony 704	1	NELAP	0.0050		< 0.0050	mg/L	1	11/3/2010 9:49:42	AM MEK

Sample Narrative
ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

C	lient: A&M Engi	neering			Client P	roject: 20	28-004		
Work	Order: 10110003				Client Samp	le ID: PZ	203		
La	b ID: 10110003	-0 03			Collection	Date: 10	/28/201	0 10:25:00 AM	
Report	Date: 03-Nov-10				M	fatrix: GF	ROUNDW	/ATER	
Ar	nalyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3020	A, METALS BY GF 7041	EAA (TOTAL) NELAP	0.0050		< 0.0050	mg/L	1	11/3/2010 9:52:56	AM MEK

Sample Narrative

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

(Client: A&M Eng	gineering			Client P	roject: 20	28-004		
Work	Order: 1011000	3			Client Samp	ole ID: PZ	:04		
La	ab ID: 1011000	3-004			Collection	Date: 10	/28/201	0 9:20:00 AM	
Report	Date: 03-Nov-1	10			Μ	latrix: GF	IOUNDV	/ATER	
A	nalyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3020</u>	A, METALS BY (GFAA (TOTAL)							
Antimony	7041	NELAP	0.0050		< 0.0050	mg/L	1	11/3/2010 10:22:42	AM MEK

Sample Narrative

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

(Client: A&M Eng	gineering			Client P	roject: 20	28-004		
Work	Order: 1011000	3			Client Sam	ole ID: CV	V01		
La	ab ID: 1011000	3-005			Collection	Date: 10	/28/201	0 3:00:00 PM	
Report	Date: 03-Nov-1	0			M	latrix: GF	ROUNDW	VATER	
A	nalyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 3020	A, METALS BY (GFAA (TOTAL)							
Antimony	7041	NELAP	0.0050		< 0.0050	۰ mg/L	1	11/3/2010 10:06:10	AM MEK

Sample Narrative

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

(Client: A&M Eng	lineering			Client Pr	oject: 20	28-004			
Work	Order: 10110003	3			Client Samp	le ID: CV	V02			
La	ab ID: 10110003	3-0 06			Collection	Date: 10	/28/201	0 2:45:00 PM		
Report	Date: 03-Nov-1	0			М	atrix: GF	IOUNDW	ATER		
A	nalyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analy	yst
SW-846 3020	A, METALS BY G	FAA (TOTAL)								
Antimony	7041	NELAP	0.0050		< 0.0050	mg/L	1	11/3/2010 10:16:04	AM N	VIEK

Sample Narrative

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

	Client: A&M Engi	neering			Client P	roject: 20	28-004		
Worl	kOrder: 10110003				Client Samp	ole ID: DL	JP		
Ι	ab ID: 10110003	-0 07			Collection	Date: 10	/28/201	0	
Repor	t Date: 03-Nov-10)			M	latrix: GF	ROUNDW	/ATER	
A	Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 302</u> Antimony	0A, METALS BY GI 7041	F <u>AA (TOTAL)</u> NELAP	0.0050		< 0.0050	mg/L	1	11/3/2010 10:19:22	AM MEK

Sample Narrative

VVIRONMENTAL TESTING LABORATORY			T F	EL: 618-344-1004 AX: 618-344-1005
Client: A&M Engineering Project: 2028-004			RECEIVING	CHECK LIST
Lab Order: 10110003				
Report Date: 03-NOV-10				
Carrier: FedEx	Rec	eived By: DE	3	
Completed by: On: 01-Nov-10 Timothy W. Mathis	R e 01-	wiewed by: On: Nov-10	Elizabeth A. Hurley	Hurley
Pages to follow: Chain of custody 1	Extra pages include	ed 0		
Shipping container/cooler in good condition?	Yes 🖌	No	Not Present	Temp °C 1.6
Type of thermal preservation?	None	ce 🗸	Blue Ice	Dry Ice
Chain of custody present?	Yes 🖌	No		-
Chain of custody signed when relinquished and received?	Yes 💌	No		
Chain of custody agrees with sample labels?	Yes 🖌	No		
Samples in proper container/bottle?	Yes 🖌	No		
Sample containers intact?	Yes 🖌	No		
Sufficient sample volume for indicated test?	Yes 🖌	No		
All samples received within holding time?	Yes 💜	No	1 = 21	
Reported field parameters measured:	Field	Lab	NA 🗹	
When thermal preservation is required, samples are compliance? 0.1°C - 6.0°C, or when samples are received on ice the sam	Yes 😢 ant with a temperature te day as collected.	No between		
Water - vials have zero headspace?	Yes	No	No VOA vials	
Water - TOX containers have zero headspace?	Yes	No	No TOX containers	
•				

Any No responses must be detailed below or on the COC.

Custody seal(s) intact on shipping container/cooler. DB 10/30/10

Work Order # 101/0003-	04 ~ Fax: (618) 344-1005			175 1970/10	ž		MT NEEDS TO	R LESS		ANAL YSIS KEQUESTED	· · · · · · · · · · · · · · · · · · ·												Date / Time	10/30/10 1010					- LAB PINK - SAMPI FR'S CODV
Y pg. of	2234 ~ Phone: (618) 344-10	ton: W Ina FT Rina Ina TT N		as which seal in the	*	Its	DETECTION LA	E 0.000 m3/L			20	915E)	ijos M. da	4 ×				· · · · · · · · · · · · · · · · · · ·	×	×			Received By	15 the same				ds the terms and writte & ver 1 ow	
CHAIN OF CUSTOD	Lake Road ~ Collinsville, IL 6	Samples	Preserve	Lab Nati	0-605-6575	10-1005-05710 Commen	Targe will apply. T Yes Xino	nalysis? If yes, please provide	oliector's Name NAT		# and Type of Containers	6uin 14 70	Marce Marce Marce Marce Marce Marce Marce Marce Marce Marce Marce Marce Marce Marce		×	×	X	×	× ×	X			Date / Time	1/2010 6 1030m//X				dges that he/she has read and understand has the authority to sion on behalf of clien	ווהם מוס ההמינהות אי מואוו מוו מפוומוו מו מוומו
	C. 5445 Horseshoe	ENGINEELING	EIDST	- OK 74105	AL Phone: 91	engineeringx:	olved in litigation? If yes, a surcl	ardous? ☐ Yes CXNo lifs to be met on the requested a □ No	r Sample C	Approv	Billing Instructions	Irge)	ication Date/Time Sample	10128110 125k	1200	1025	720	1500	1445	>				M 20	EC	EIVE	ED 2017	nt on behalf of client acknowle	
	TEKLAB, INC	Client: Ad M (Address: 10010	City / State / Zip: TULSA	Contact: ABBY LAZ	E-Mall: alazareaandm	 Are these samples known to be involution 	 Are these samples known to be haz Are there any required reporting lim Imits in comment section. TYes 	Project Name / Numbe	2038-004	Results Requested	Chandard D 1-2 Day (100% Surcha	Lab Use Only Sample Identif	1010003 001 P2-1	001 22-3	003 P2-3	004 PZ-4	000 CW- 1	OCO CN' P	007 DUP		Dalinaniaha nt D .		BR		I AR	MEN	The individual signing this agreemen conditions of this agreement, on the	

5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

November 18, 2010

Abby Lazar A&M Engineering 10010 E. 16th St. Tulsa, OK 74128 TEL: (918) 665-6575 FAX: (918) 665-6576

RE: 2028-004

A DELOCORO

NELAP Accredited #100226

WorkOrder: 10110538

Dear Abby Lazar:

TEKLAB, INC received 2 samples on 11/11/2010 11:25:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. IL ELAP and NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Rection on any

Richard H. Mannz Project Manager (618)344-1004 ex 38



Client: A&M Engineering Project: 2028-004 LabOrder: 10110538 Report Date: 18-Nov-10 5445 HORSESHOE LAKE ROAD COLLINSVILLE, ILLINOIS 62234

TEL: 618-344-1004 FAX: 618-344-1005

CASE NARRATIVE

Cooler Receipt Temp: 3.8 °C

State accreditations:

KS: NELAP #E-10347 | KY: UST #0073 | MO: DNR #00930 | AR: ADEQ #70-028-0 | LA: NELAP #166493

	Qualifiers	
DF - Dilution Factor	B - Analyte detected in the associated Method Blank	C - Client requested RL below PQL
RL - Reporting Limit	J - Analyte detected below reporting limits	D - Diluted out of sample
ND - Not Detected at the Reporting Limit	R - RPD outside accepted recovery limits	E - Value above quantitation range
Surr - Surrogate Standard added by lab	 S - Spike Recovery outside accepted recovery limits 	H - Holding time exceeded
TNTC - Too numerous to count (> 200 CFU)	X - Value exceeds Maximum Contaminant Level	MI - Matrix interference
Q - QC criteria failed or noncompliant CCV	# - Unknown hydrocarbon	DNI - Did not ignite
NELAP - IL ELAP and NELAP Accredited Field	of Testing IDPH - IL Dept. of Public Health	

RECEIVED

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004 FAX: 618-344-1005

LABORATORY RESULTS

Client: A&M Engineer	ng			Client I	Project: 202	28-004		
WorkOrder: 10110538				Client Sam	ple ID: CS	-1		
Lab ID: 10110538-001				Collectio	n Date: 11/	10/201	0 12:35:00 PM	
Report Date: 18-Nov-10				1	Matrix: SO	LID		
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3050B, METALS BY GFAA</u> Thallium 7841	NELAP	0.137	 L	0.099	mg/Kg-dry	1	11/16/2010 1:02:32	PM MEł

Sample Narrative

ENVIRONMENTAL TESTING LA	BORATORY						TEL: 618-344-1	004
5							FAX: 618-344-1	005
To	LA	BORA	TOR	Y RESUI	LTS			
Client: A&M Engine	ering			Client I	Project: 202	28-004		
WorkOrder: 10110538				Client Sam	ple ID: CS	-2		
Lab ID: 10110538-00	2			Collectio	n Date: 11/	10/201	0 1:00:00 PM	
Report Date: 18-Nov-10				Γ	Aatrix: SO	LID		
Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
<u>SW-846 3050B, METALS BY GFAA</u>	<u>\</u>							
Thallium 7841	NELAP	0.132	J	0,099	mg/Kg-dry	1	11/16/2010 1:05:54	PM MEK

Sample Narrative

ENVIRONMENTAL TESTING LABORATORY	TEL: 618-344-1004 FAX: 618-344-1005
Client: A&M Engineering Project: 2028-004 Lab Order: 10110538 Report Date: 18-Nov-10	RECEIVING CHECK LIST
Carrier: FedEx	Received By: DB
Completed by: On: 11-Nov-10 Timothy W. Mathis	Reviewed by: Elizabeth & Hurley On: 11-Nov-10 Elizabeth A. Hurley
Pages to follow: Chain of custody 1	Extra pages included 0
Shipping container/cooler in good condition? Type of thermal preservation? Chain of custody present? Chain of custody signed when relinquished and received? Chain of custody agrees with sample labels?	Yes No Not Present Temp °C 3.8 None Ice Blue Ice Dry Ice Yes No Yes No Yes No No
Samples in proper container/bottle? Sample containers intact? Sufficient sample volume for indicated test?	Yes V No Yes No Yes No
All samples received within holding time? Reported field parameters measured: Container/Temp Blank temperature in compliance?	Yes V No Field Lab NA V Yes V No
When thermal preservation is required, samples are complian 0.1°C - 6.0°C, or when samples are received on ice the same	t with a temperature between day as collected.
Water - vials have zero headspace?	Yes No No VOA vials
Water - TOX containers have zero headspace?	Yes No TOX containers
Water - pH acceptable upon receipt?	Yes 🖌 No

Any No responses must be detailed below or on the COC.

Custody seal(s) intact on shipping container/cooler. DB 11/11/10

UTAIN OF CUSIODI

pg. _____ of ____ Work Order # 1010538

445 Horseshoe Lake Road ~ Collinsville, IL 62234 ~ Phone: (618) 344-1004 ~ Fax: (518) 344-1005

INEDRING								Samples on: Pice D Blue Ice D No Ice 3-8 "C																			
L' T ST									Preserved in: D Lab D Field FOR LAB USE ONLY																		
OK 74128										les	: (m5	hot	2 5	eul	ι۸	fac	+ 0	\sim	co	oie	r C	ß	111	r <i>o</i>		
- Phone: 918 665 6575													<u> </u>														
rer/horax: 918 6656576									nmi	enti	S:																
itigation? If yes, a surcharge will apply. I Yes XNo I Yes XNo met on the requested analysis? If yes, please provide									TO BE UNDER 0.14 mg/kg																		
Sample Collector's Name									MA	TR	IX.		97		<u></u>	NDIC	ATE	ANA	ALYS	SIS R	EQU	EST	<u>SD</u>	r			
THEREY LA'SATK									ater			Ste	Σ														
3illing Instructions # and Type of Containers									N BI				3	ĺ													
Date/Time Sample	p UNPRE:	HNO ₃	NaOH	HCL	MeOH	NaHSO.	Other	Water	Drinkin	Soil	Sludge	Sp. Wa	THAL		-												
11/10/10 123	S									Y			\boldsymbol{x}				<u>†</u>										
11/10/10 130	>									7			×							1	-						
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Date / Time										Received By										Date / Time							
										Lalt_										11/11/10 1425							

half of client acknowledges that he/she has read and understands the terms and side, and that he/she has the authority to sign on behalf of client.

WHITE & YELLOW - LAB PINK - SAMELER'S COPY

